Asset Management Plan 2025

MUNICIPALITY OF HURON EAST

May 2025

psdcitywide

This Asset Management Plan was prepared by:

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

Key Statistics

$363.5m	2023 Replacement Cost of Asset Portfolio
$93k	Replacement Cost of Infrastructure Per Household
66%	Percentage of Assets in Fair or Better Condition
92%	Percentage of Assets with Assessed Condition Data
$3.3m	Annual Capital Infrastructure Deficit
15-20 Years	Recommended Timeframe for Eliminating Annual Infrastructure Deficit
2.41%	Target Reinvestment Rate
1.48%	Actual Reinvestment Rate

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1. Executive Summary

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

1.1 Scope

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

This AMP include the following asset categories:

Figure 1 Core and Non-Core Asset Categories

1.2 O. Reg. 588/17 Compliance

With the development of this AMP the Municipality has achieved compliance with July 1, 2025, requirements under O. Reg. 588/17. This includes requirements for levels of service and inventory reporting for all asset categories. More detail on compliance can be found in section 2.5.1 O. Reg. 588/17 Compliance Review.

1.3 Findings

The overall replacement cost of the asset categories included in this AMP totals $363.5 million. 66% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 92% of assets. For the remaining 8% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities (3.2.3 . 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 and replacement only strategies to determine the lowest cost option to achieve the proposed (10-year) level of service.

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the Municipality's average annual capital requirement totals $8.7 million. Based on a historical analysis of sustainable capital funding sources, the Municipality is committing approximately $5.4 million towards capital projects or reserves per year. As a result, there is currently an annual funding gap of $3.3 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 Municipality. Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.

1.4 Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax/rate change required to eliminate the Municipality's infrastructure deficit.

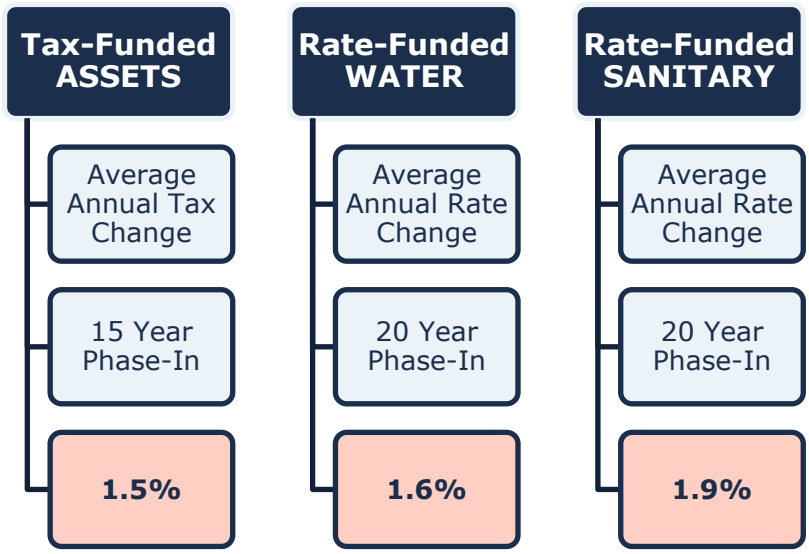


Figure 2 Proposed Tax/Rate Changes

2. Introduction & Context

2.1 Community Profile

Census Characteristic	Municipality of Huron East	Ontario
Population 2021	9,512	14,223,942
Population Change 2016-2021	4.1%	5.8%
Total Private Dwellings	3,912	5,929,250
Population Density	14.2/km^2	15.9/km^2
Land Area	669.15 km^2	892,411.76 km^2

Table 1 Municipality of Huron East Community Profile

The Municipality of Huron East is a lower-tier municipality, part of Huron County located in southwestern Ontario and is situated east of Lake Huron.

The Municipality of Huron East was incorporated in 2001, as part of Ontario's municipal restructuring initiative. This amalgamation combined the former Town of Seaforth, the Villages of Brussels and Vanastra, and the Townships of Grey, McKillop, Tuckersmith, and Usborne. The consolidation aimed to streamline administrative processes and enhance service delivery by creating larger, more efficient governance units.

The area around the Municipality of Huron East features wide-open agricultural lands dotted with small towns and rural communities. It's mostly rural, with large farms and fields shaping the local landscape. This farming backdrop is enhanced by historical buildings and quiet streets in its towns, showing off the area's rich history.

The local economy in Huron East mainly depends on agriculture, which is a key economic driver. The fertile soil is ideal for various farming activities, like growing crops and raising livestock, which support the agricultural industry and related businesses. There's also an increasing interest in tourism, with visitors attracted to farm tours, local markets, and historical sites that showcase the area's farming roots and scenic beauty. This mix of steady agriculture and growing tourism helps drive economic growth, bringing in new residents and tourists.

Huron East’s infrastructure priorities focus on enhancing municipal services to support growth across its varied settlement areas. The Primary

Settlement Areas like Seaforth and Brussels are set for significant development, requiring extensive upgrades to water and sewer systems. Secondary Settlement Areas will receive moderate improvements to accommodate some residential growth, while Tertiary Settlement Areas are geared for minimal upgrades, primarily to support infill development. This tiered approach ensures that infrastructure development aligns with the specific needs and growth potential of each area.

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 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 Huron East Climate Profile

The Municipality of Huron East is situated in southwestern Ontario within Huron County. The area is expected to experience notable effects of climate change which include higher average annual temperatures, an increase in total annual precipitation, and an increase in the frequency and severity of

extreme events. According to Climatedata.ca – a collaboration supported by Environment and Climate Change Canada (ECCC) – the Municipality of Huron East may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 6.9 ºC
- Under a high emissions scenario, the annual average temperatures are projected to increase to 11.5 ºC by the year 2050 and over 13.3 ºC by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Huron East is projected to experience a 12% increase in precipitation by the year 2050 and a 16% increase by the end of the century.

Increase in Frequency of Extreme Weather Events:

- It is expected that the frequency and severity of extreme weather events will change.
- In some areas, extreme weather events will occur with greater frequency and severity than others, especially those close to or on Lake Ontario.

2.2.2 Lake Huron

The Great Lakes are one of the largest sources of fresh water on earth, containing 21 percent of the world's surface freshwater. There are 35 million people living in the Great Lakes watershed and Lake Huron is the second largest of the Great Lakes. The area of Lake Huron Watershed is approximately 131,100 km^2. The physical impacts of climate change are most noticeable from: flooding, extreme weather events such as windstorms and tornados, and/or rising water levels eroding shorelines and natural spaces. Erosion and flooding pose a threat to the surrounding built infrastructure such as park assets, bridges, and roads. Communities located in the Great Lakes region may experience more severe windstorms or tornados due to climate change, causing damage to both the natural and built environment.

Public health and safety depend on the stability and predictability of the ecosystem in the Great Lakes watershed. The quality of water is threatened by anthropogenic climate change due to blue-green algae blooms, soil erosion, and agricultural, stormwater, and wastewater runoff. These phenomena put undue stress on regional water filtering and treatment systems. The safety of the public is threatened by the physical impacts of

flooding such as flooding and erosion. In some cases, homeowners located near the lakeshore are already at risk of losing their homes.

2.2.3 Integration of 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 due to climate change impacts such as flooding, high heat, drought, and more frequent and intense storms.

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.

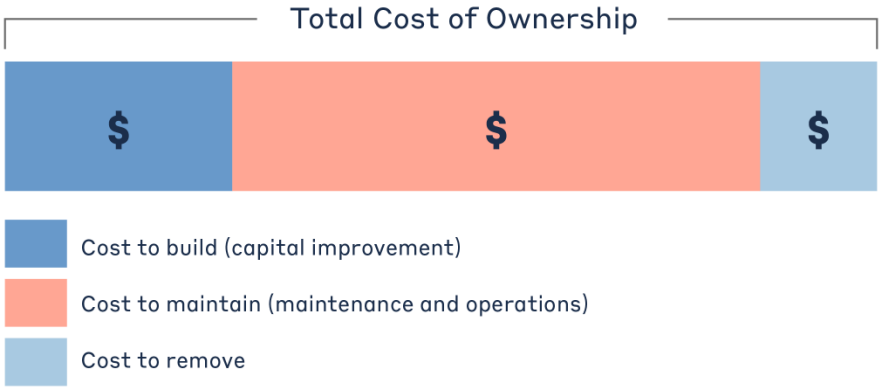


Figure 3 Total Cost of Asset Ownership

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

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

2.3.1 Foundational Asset Management Documentation

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

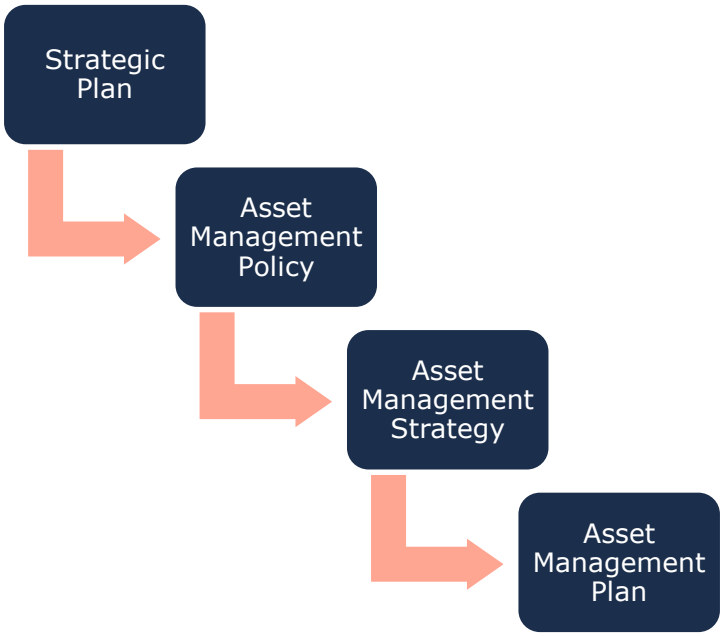


Figure 4 Foundational Asset Management Documents

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

Asset Management Policy

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

The Municipality adopted "Municipality of Huron East Strategic Asset Management Policy 1.22" on July 10th, 2018, in accordance with Ontario Regulation 588/17. The asset management plan satisfies policy statement 4:

> *"The Municipality will develop an asset management plan that incorporates all infrastructure categories and municipal infrastructure assets that meet the capitalization threshold outlined in the organization's Tangible Capital Asset Policy 1.21. It will be updated at least every five years in accordance with O. Reg. 588/17 requirements, to promote, document and communicate continuous improvement of the asset management program."*

Asset Management Strategy

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

The Huron East Strategic Action Plan outlines a clear vision for enhancing municipal services, economic development, community well-being, and organizational excellence from 2024 to 2027. The plan, shaped by public input from a citizen questionnaire and focus groups, identifies four core goals: Financial Stability, a Friendly & Welcoming Community, a Resilient & Vibrant Local Economy, and a Culture of Working Together. Through a mix of targeted actions and timelines, the Municipality aims to ensure long-term sustainability, community pride, economic opportunity, and effective governance. The goals outlined in the plan are summarized below:

1. **Financial Stability**
    a. Create a long-term financial plan including updated policies for budget, tax, reserves, purchasing, and investment (by Q4 2024)
    b. Develop a standard business plan template for any debt-financed projects

   c. Link asset management planning to budgeting for better infrastructure investment decisions
   d. Pursue alternate revenues like grants, partnerships, and shared services with other municipalities

2. **Friendly & Welcoming Community**
   a. Enhance parks and recreation with new equipment and programs through community partnerships and improved software
   b. Support diverse housing development by updating bylaws and streamlining approvals for affordable and multi-residential options
   c. Improve neighbourhood appearance with better maintenance, staff resourcing, and coordinated community cleanup efforts
3. **Resilient & Vibrant Local Economy**
   a. Attract businesses by surveying community needs, marketing property portfolios, and improving transportation access
   b. Promote agriculture through marketing campaigns and showcasing local innovation
   c. Revitalize downtowns via the Community Improvement Plan, stronger property standards, and beautification projects
   d. Support local businesses with better data, recognition, business visits, and a digital community hub
4. **Working Together**
   a. Improve communication by launching a central info hub (What's Up" page), Council summaries, and a municipal branding project
   b. Modernize operations with a staff-led innovation initiative, interactive budget tools, and better HR systems
   c. Celebrate staff efforts through recognition programs, town halls, and a new appreciation committee ("Huron East Rocks")

Asset Management Plan

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

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

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

2.3.2 Key Concepts in Asset Management

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

Lifecycle Management Strategies

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

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

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

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

Lifecycle Activity	Cost	Typical Associated Risks
Maintenance 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 Municipality's approach to lifecycle management is described within each asset category outlined in this AMP. Staff will continue to evolve and innovate current practices for developing and implementing proactive lifecycle strategies to determine which activities to perform on an asset and

when they should be performed to maximize useful life at the lowest total cost of ownership.

Risk & Criticality

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

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

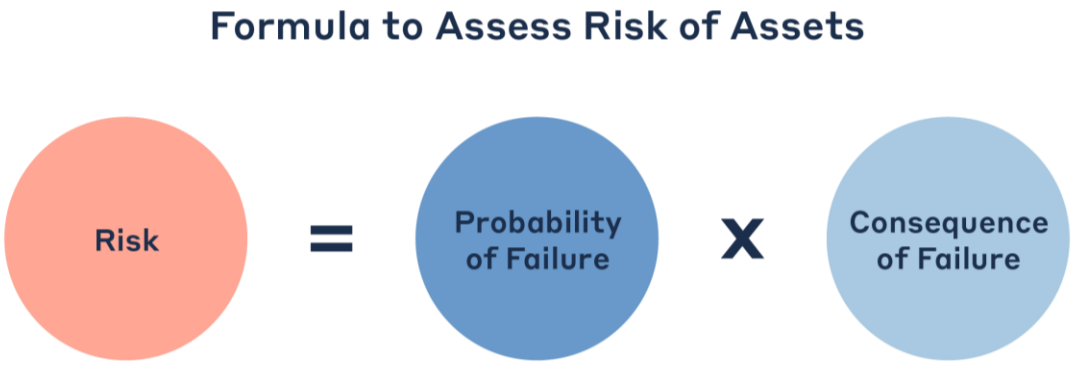


Figure 5 Risk Equations

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

Probability of Failure

Several factors can help decision-makers estimate the probability or likelihood of an asset's failure, including its condition, age, previous

performance history, and exposure to extreme weather events, such as flooding and ice jams—both a growing concern for municipalities in Canada.

Consequence of Failure

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

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

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

Table 3 Risk Analysis: Types of Consequences of Failure

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

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

Levels of Service

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

The Municipality measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service. This AMP includes those LOS that are required under O. Reg. 588/17 as well as any additional metrics the Municipality wishes to track.

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

Technical Levels of Service

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

For core asset categories as applicable (Roads, Bridges & Culverts, Storm Water, Water, and Sanitary) 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

Proposed levels of service should be realistic and achievable within the timeframe outlined by the Municipality. They should also be determined with consideration of a variety of community expectations, fiscal capacity, regulatory requirements, corporate goals and long-term sustainability. Once proposed levels of service have been established, and prior to July 2025, the Municipality must identify a lifecycle management and financial strategy which allows these targets to be achieved.

Core Values

The core values behind levels of service reflect the Municipality's commitment to delivering services that meet community needs in a fair, responsible, and sustainable way. These values help guide how infrastructure is managed and how service expectations are set. By aligning asset management decisions with these values, the Municipality can provide services that people trust.

Value	Description
Accessible	Services are available and accessible for customers who require them
Reliable	Services are provided with minimal service disruption and are available to customers in line with needs and expectations
Safe	Services are delivered such that they minimize health, safety, and security risks
Affordable	Services are delivered at an affordable cost for both the organization and customer
Sustainable	Services are designed to be used efficiently. Long-term plans are in place to ensure that they are available to all customers into the future

Table 4 Levels of Service: Core Values

Public Engagement

In 2023-2024, a public engagement questionnaire was undertaken as part of a collaborative effort between the Municipality of Huron East, Linton Consulting Ltd. and PSD Citywide for the development of an updated Strategic Plan and the 2025 Asset Management Plan.

The 2025 Huron East Citizen Questionnaire provided clear, actionable insights that directly support the goals of asset management planning. Residents strongly emphasized the importance of reliable core infrastructure, particularly roads, water systems, and emergency services. These were ranked as the most critical services and received the highest support for future investment. This aligns with ongoing efforts to prioritize risk-based renewal and preservation of foundational assets.

Digital connectivity emerged as a cross-cutting need, with broadband internet access ranking highly as both a desired service and a capital

priority. This suggests the Municipality should continue to consider modern infrastructure needs alongside traditional ones when planning long-term investments. Residents also highlighted cost-effectiveness, sustainability, and community-wide benefit as important decision-making criteria. These principles echo asset management best practices, such as lifecycle costing, level of service optimization, and fiscal responsibility.

Though fewer respondents provided open-text feedback, the overall sentiment indicated a desire to maintain Huron East's rural identity while supporting strategic growth.

The results confirm that residents are engaged and generally supportive of responsible, transparent infrastructure planning. The questionnaire findings help align technical priorities with community expectations and offer a valuable lens for defining levels of service and guiding future capital planning. See Appendix D for more information.

2.4 Scope & Methodology

2.4.1 Asset Categories for this AMP

This asset management plan for the Municipality of Huron East is produced in compliance with O. Reg. 588/17. The July 2025 deadline under the regulation—the last of three AMPs—requires analysis of core and non-core asset categories, along with the proposed levels of service for the following ten years

The AMP summarizes the state of the infrastructure for the Municipality's asset portfolio, establishes 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.

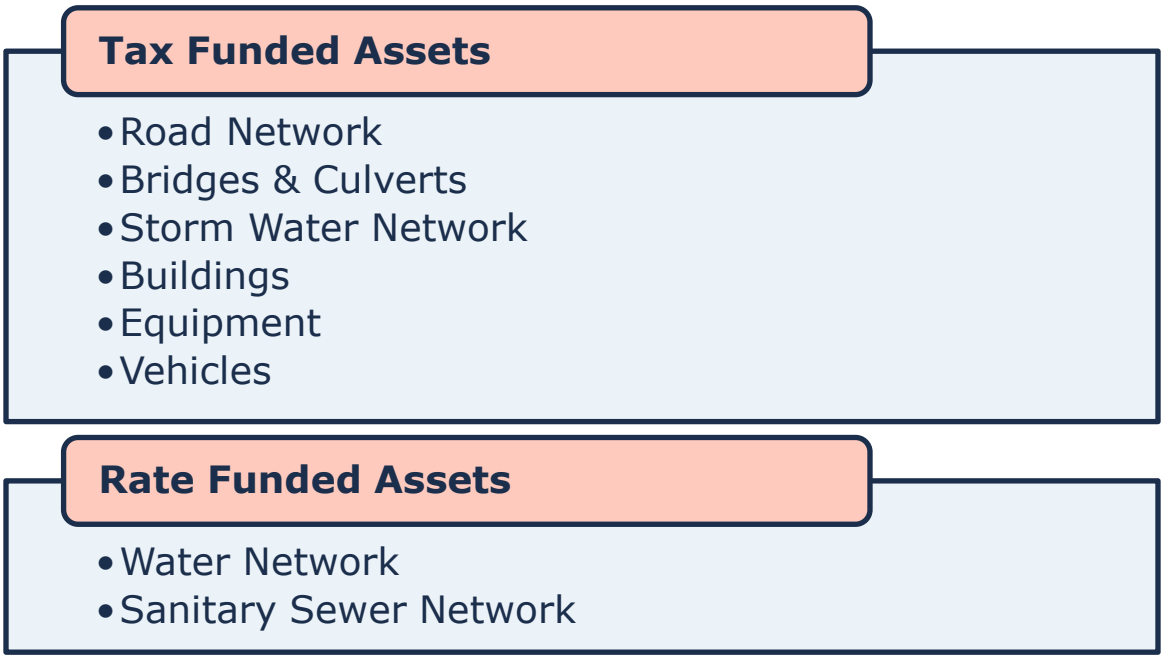


Figure 6 Tax Funded and Rate Funded Asset Categories

2.4.2 Data Effective Date

It is important to note that this plan is based on data as of **December 2023**; therefore, it represents a snapshot in time using the best available processes, data, and information at the Municipality. Strategic asset management planning is an ongoing and dynamic process that requires continuous data updates and dedicated data management resources.

2.4.3 Deriving Replacement Costs

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

User-Defined Cost and Cost Per Unit

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

Cost Inflation / CPI Tables

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

User-defined costs based on reliable sources are a reasonably accurate and reliable way to determine asset replacement costs. Cost inflation is typically

used in the absence of reliable replacement cost data. It is a reliable method for recently purchased and/or constructed assets where the total cost is reflective of the actual costs that the Municipality incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.4.4 Estimated Service Life & Service Life Remaining

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

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

Figure 7 Service Life Remaining Calculation

2.4.5 Reinvestment Rate

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

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

Figure 8 Target Reinvestment Rate Calculation

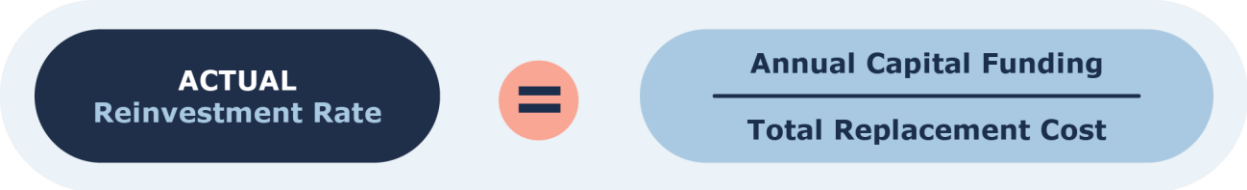


Figure 9 Actual Reinvestment Rate Calculation

2.4.6 Deriving Asset Condition

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

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

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

Table 5 Standard Condition Rating Scale

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

2.5 Ontario Regulation 588/17

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

[1] 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.

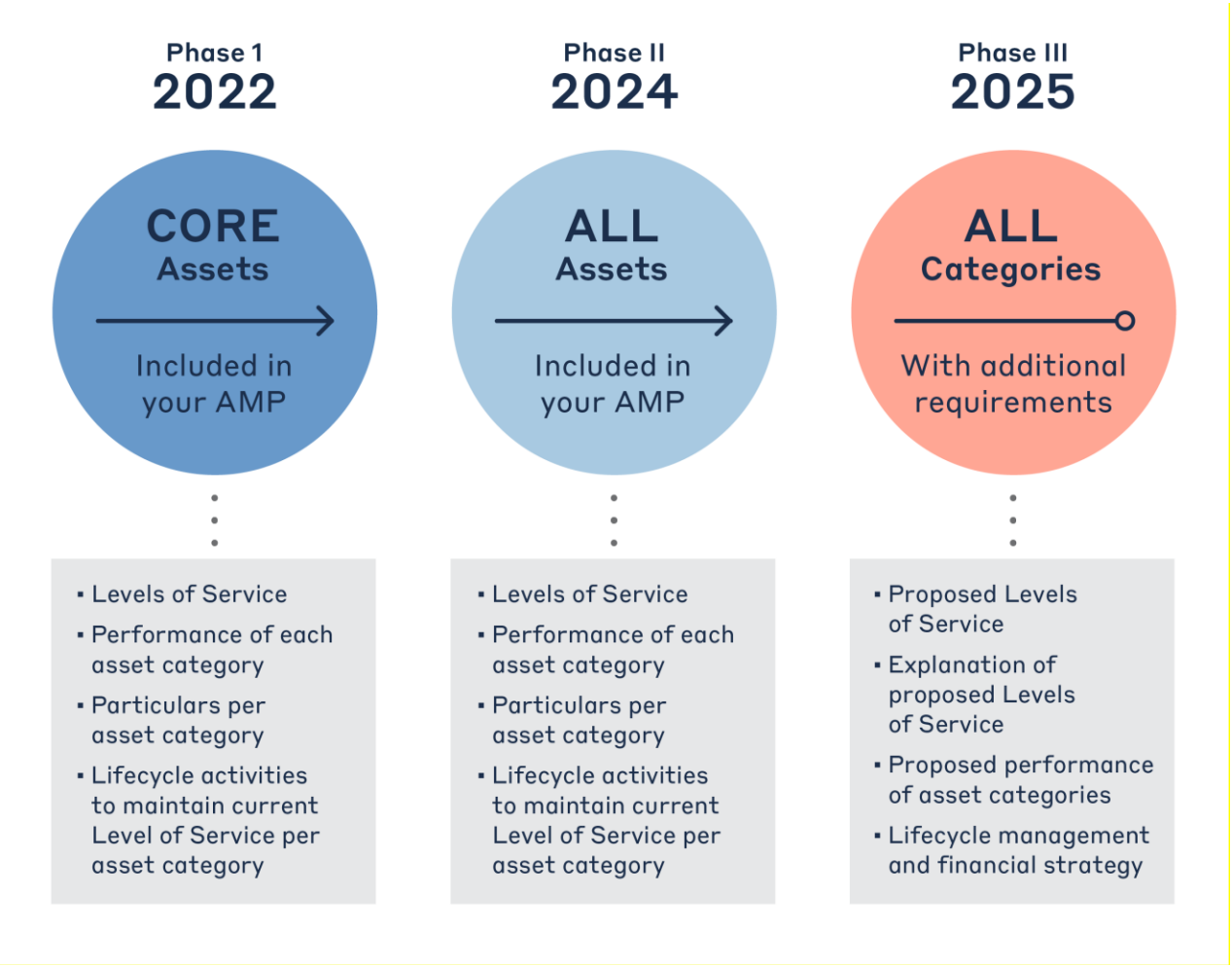


Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines

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)	4.1 – 11.1	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	4.1 – 11.1	Complete
Average age of assets in each category	S.5(2), 3(iii)	4.3 – 11.3	Complete
Condition of core assets in each category	S.5(2), 3(iv)	4.2 – 11.2	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	4.4 – 11.4	Complete
Current/proposed levels of service in each category	S.5(2), 1(i-ii) S.6 (1)	4.7 – 11.7	Complete
Performance measures in each category	S.5(2), 2 S. 6 (1), 2	4.7 – 11.7	Complete
Lifecycle activities needed for proposed levels of service for 10 years	S.5(2), 4 S. 6 (1), 4	4.5 – 11.5	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4 S. 6 (1), 4	Appendix B	Complete
Growth assumptions	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	12.1 – 12.2	Complete

Table 6 O. Reg. 588/17 Compliance Review

3. Portfolio Overview – State of the Infrastructure

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

3.1 Asset Hierarchy & Data Classification

Asset hierarchies explain 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 $363.5 million. This estimate was calculated using user-defined costing, as well as inflation of historical or original costs to current date. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today. Figure 12 illustrates the replacement cost of each asset category.

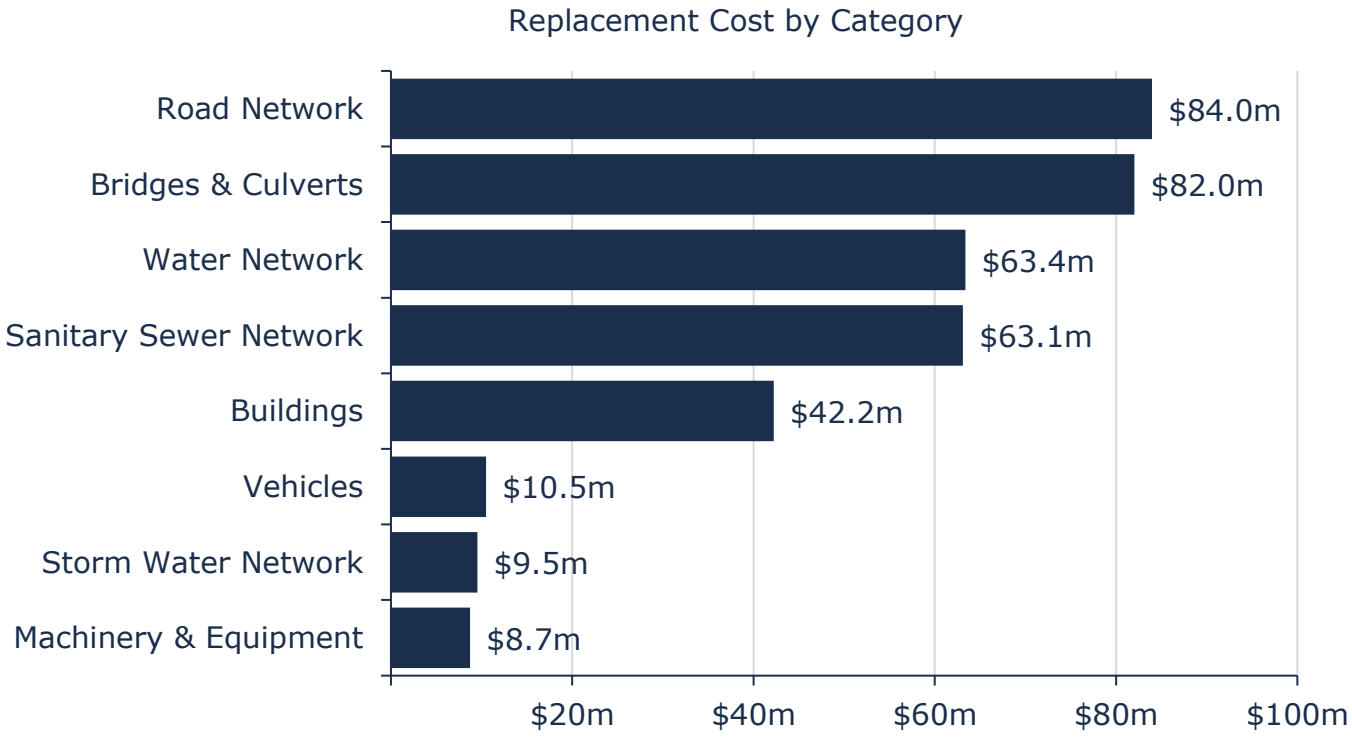


Figure 12 Current Replacement Cost by Asset Category

3.2.2 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps by comparing the target to the current reinvestment rate. To meet long-term capital requirements, the Municipality requires an annual capital investment of $8.75 million, for a target portfolio reinvestment rate of 2.41%. Currently, the annual investment from sustainable revenue sources is $5.4 million, for a current portfolio reinvestment rate of 1.48%. Target and current re-investment rates by asset category are detailed below.

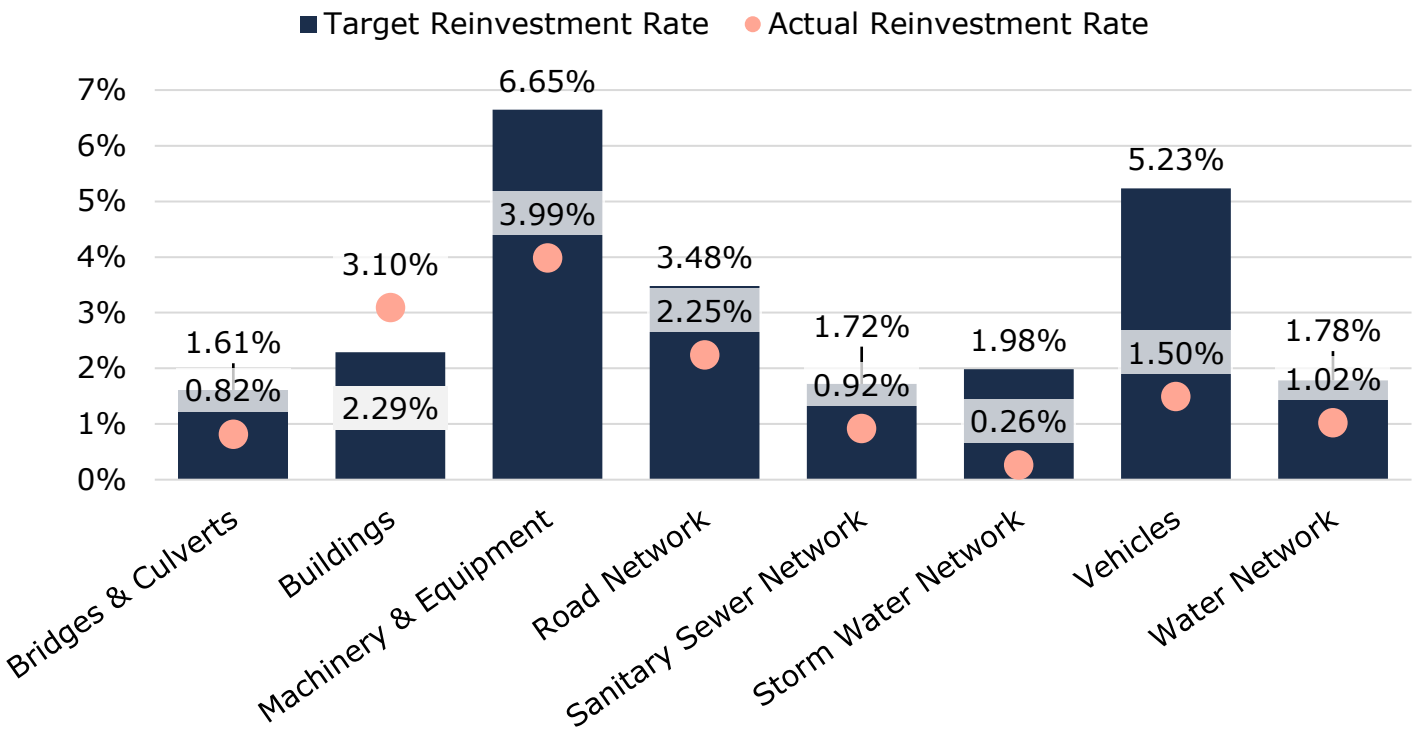


Figure 13 Current Vs. Target Reinvestment Rate

3.2.3 Condition of Asset Portfolio

Figure 14 and Figure 15 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 66% of the Municipality's infrastructure portfolio is in fair or better condition, with the remaining 34% 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 most assets. For all remaining assets, age was used as an approximation of condition for most of these assets. Age-

based condition estimations can skew data and lead to potential under- or overstatement of asset needs.

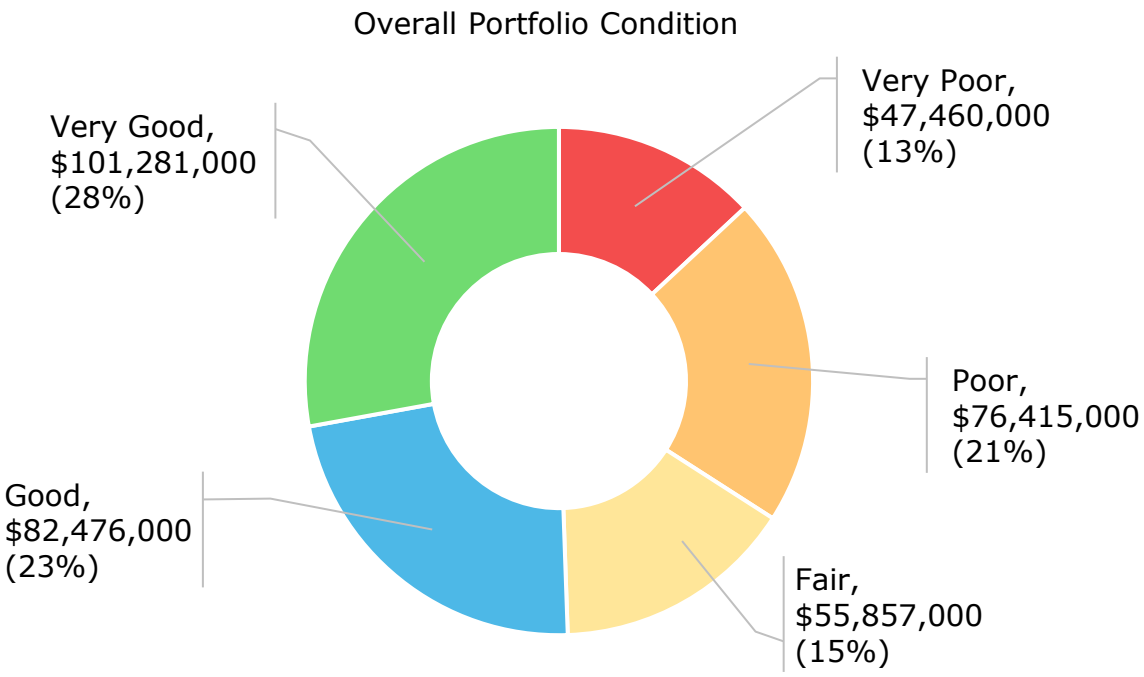


Figure 14 Asset Condition: Portfolio Overview

As further illustrated in Figure 15 at the category level, the majority of major, core infrastructure such as water network, roads, bridges and culverts, are in fair or better condition. These findings are based on in-field condition assessment data and age-based condition projections. See Table 7 for details on how condition data was derived for each asset segment.

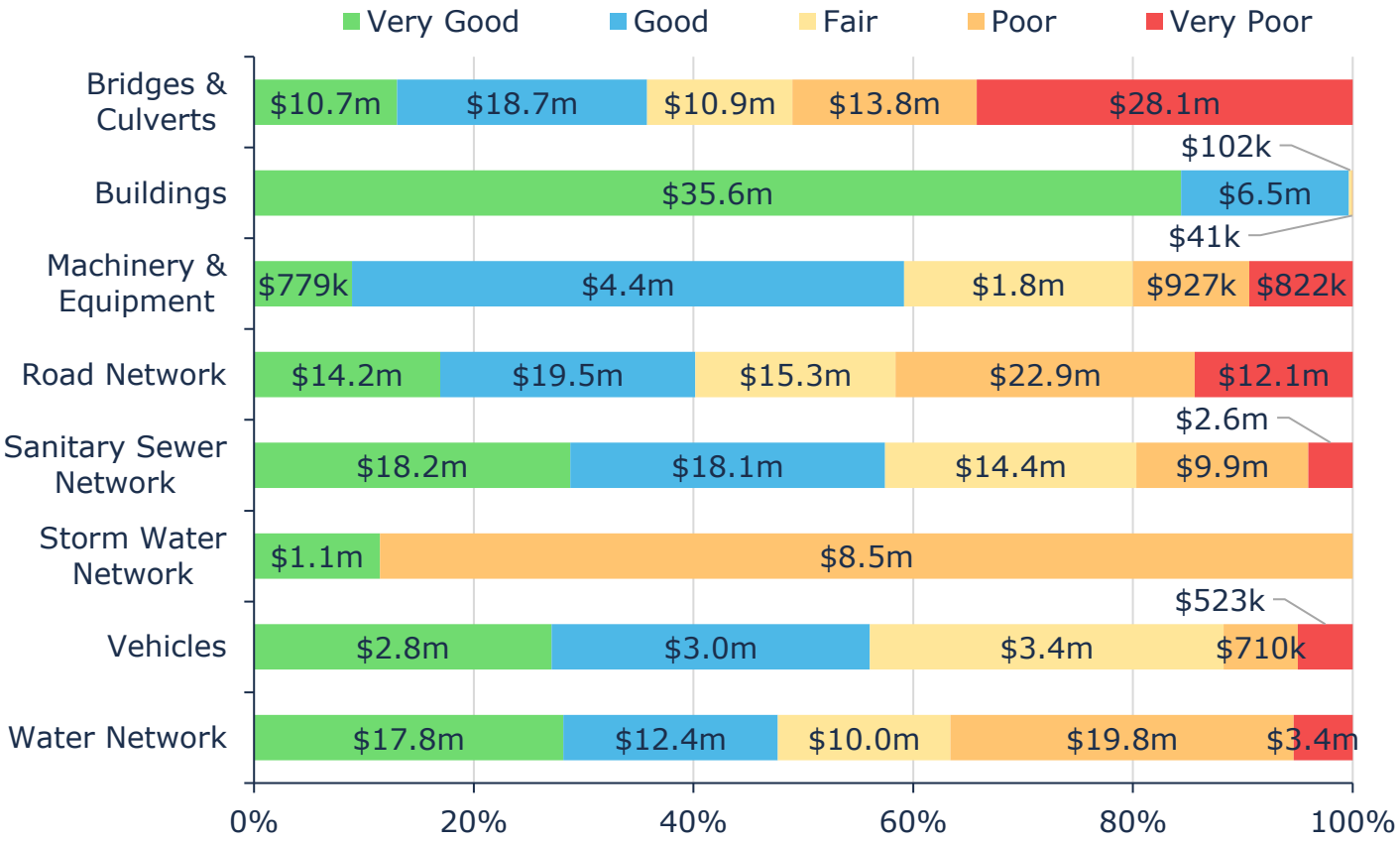


Figure 15 Asset Condition by Asset Category

Source of Condition Data

This AMP relies on assessed condition for 92% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. The table below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Condition	Source of Condition Data
Road Network	Rural Paved	84%	Internal Assessments
	Rural – Tar & Chip	86%	
	Sidewalks	91%	
	Urban – Paved	76%	
Bridges & Culverts	Bridges Structural Culverts	100%	OSIM Report
Water Network	Structures	100%	Internal Assessments
	Watermains - Brucefield	100%	
	Watermains - Brussels	92%	
	Watermains - Seaforth	92%	
	Watermains - Vanastra	100%	
Sanitary Sewer Network	Sewer Mains - Brussels	100%	Internal Assessments
	Sewer Mains - Seaforth	95%	
	Sewer Mains - Vanastra	100%	
	Structures	100%	
Storm Water Network	Storm Drains	89%	Internal Assessments
Buildings	General Government	100%	Building Condition Assessments
	Health Services	99%	

Asset Category	Asset Segment(s)	% of Assets with Assessed Condition	Source of Condition Data
	Protection Services	99%	
	Recreation & Cultural Services	74%	
	Transportation Services	100%	
Vehicles	Environmental Services	100%	Internal Assessments
	Protection Services	89%	
	Recreation & Cultural Services	100%	
	Transportation Services	100%	
Machinery & Equipment	Environmental Services	96%	Internal Assessments
	General Government	81%	
	Health Services	100%	
	Protection Services	100%	
	Recreation & Cultural Services	100%	
	Transportation Services	92%	

Table 7 Source of Condition Data

3.2.4 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 17% of the Municipality's assets will require replacement within the next 10 years (not accounting for asset replacement backlog).

3.2.5 Risk Matrix

Using the risk equation and preliminary risk models, Figure 16 shows how the municipality's assets across the different asset categories are stratified within a risk matrix.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$113,520,000 (31%)	$41,996,000 (12%)	$52,950,000 (15%)	$96,267,000 (26%)	$58,756,000 (16%)

Figure 16 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 16% of the Municipality's assets, with a current replacement cost of approximately $58.8 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.

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 was determined to be low based on the attributes used and the data available.

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

3.2.6 Forecasted Capital Requirements

Aging assets require maintenance, rehabilitation, and replacement. Figure 17 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, $8.7 million is required each year to remain current with capital replacement needs for the Municipality's asset portfolio, represented by the 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.

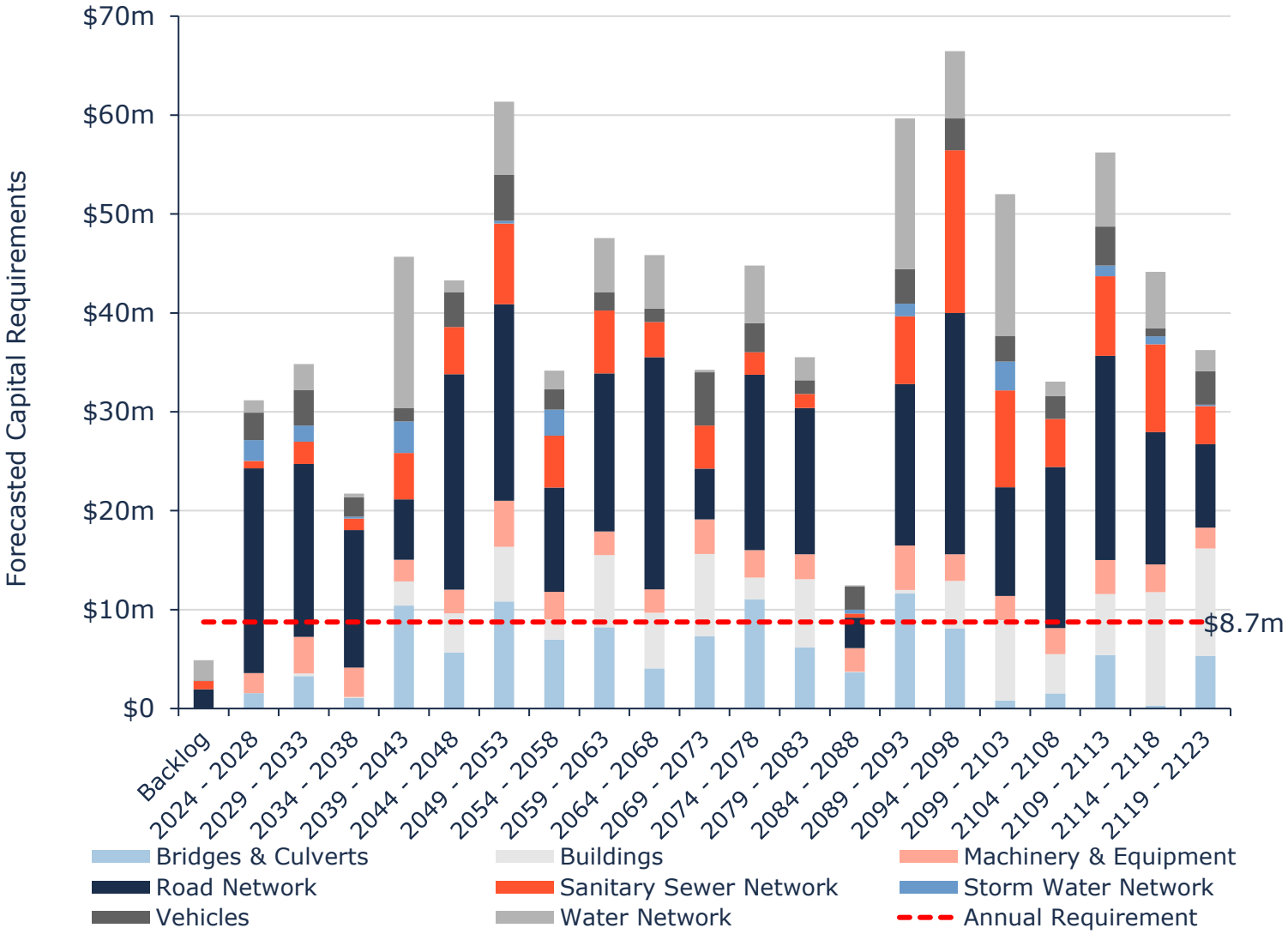


Figure 17 Capital Replacement Needs: Portfolio Overview 2024-2123

The chart also illustrates a backlog of more than $4.9 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.

Core Assets

Road Network

Replacement Cost	Average Condition	Financial Capacity	
$83.9 m	**Fair**	Annual Requirement:	$2,920,000
		Funding Available:	$1,886,000
		Annual Deficit:	**$1,034,000**

Bridges & Culverts

Replacement Cost	Average Condition	Financial Capacity	
$82 m	**Fair**	Annual Requirement:	$1,323,000
		Funding Available:	$442,000
		Annual Deficit:	**$881,000**

Water Network

Replacement Cost	Average Condition	Financial Capacity	
$63.4 m	**Good**	Annual Requirement:	$1,130,000
		Funding Available:	$648,000
		Annual Deficit:	**$482,000**

Sanitary Sewer Network

Replacement Cost	Average Condition	Financial Capacity	
$63.1 m	**Good**	Annual Requirement:	$1,085,000
		Funding Available:	$582,000
		Annual Deficit:	**$503,000**

Storm Water Network

Replacement Cost	Average Condition	Financial Capacity	
$9.5 m	**Fair**	Annual Requirement:	$189,000
		Funding Available:	$25,000
		Annual Deficit:	**$164,000**

4. Road Network

4.1 Inventory & Valuation

Table 8 summarizes the quantity, unit of measure, total replacement cost, and primary replacement cost method of each asset segment in the Municipality's road network inventory.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Rural - Paved	183	Length (km)	$57,709,152	Cost per Unit
Rural - Tar & Chip	14	Length (km)	$4,154,888	CPI
Sidewalks	25	Length (km)	$7,937,421	CPI
Urban - Paved	38	Length (km)	$14,163,717	Cost per Unit

Table 8 Detailed Asset Inventory: Road Network

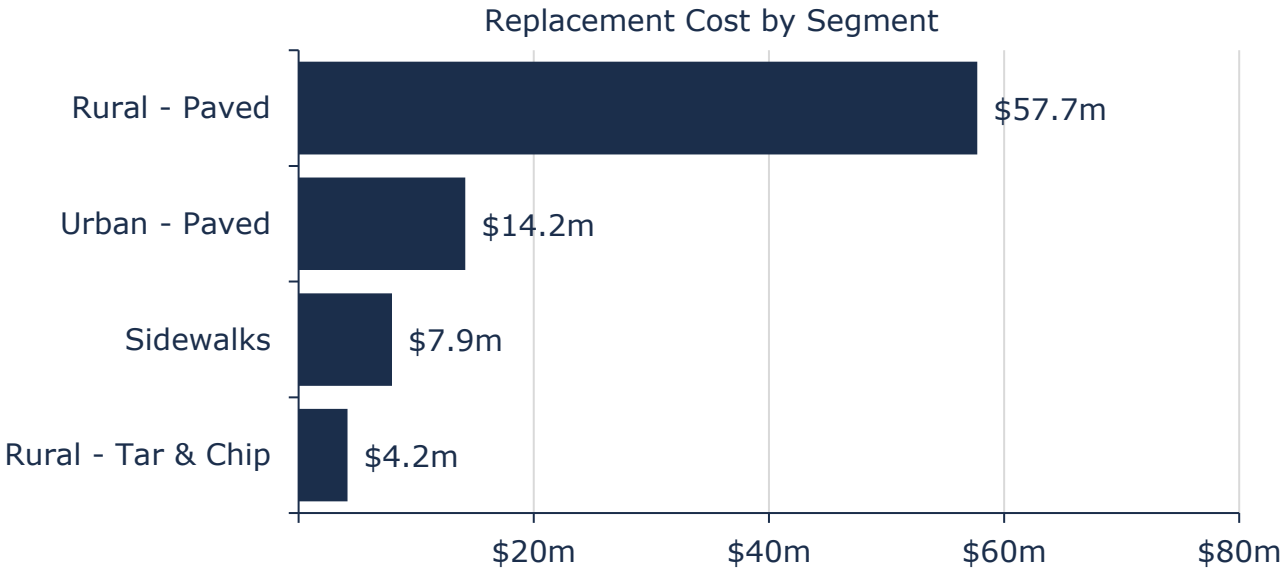


Figure 18 Portfolio Valuation: Road Network

4.2 Asset Condition

Figure 19 summarizes the replacement cost-weighted condition of the Municipality's road network. Based on a combination of field inspection data and age, 58% of assets are in fair or better condition; the remaining 42% of assets are in poor to very poor condition. Condition assessments were

available for 83% of roads and 91% of sidewalks, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today.

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

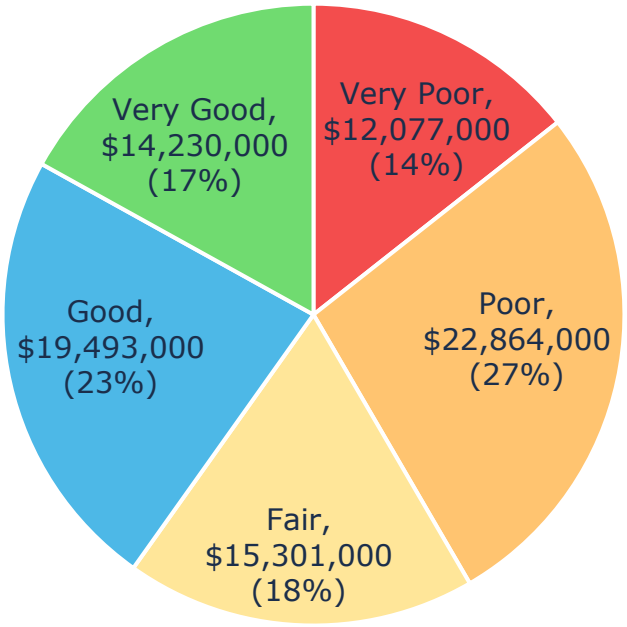


Figure 19 Asset Condition: Road Network Overall

Figure 20 based on condition assessments, the majority of the Municipality's road network is in poor or worse condition.

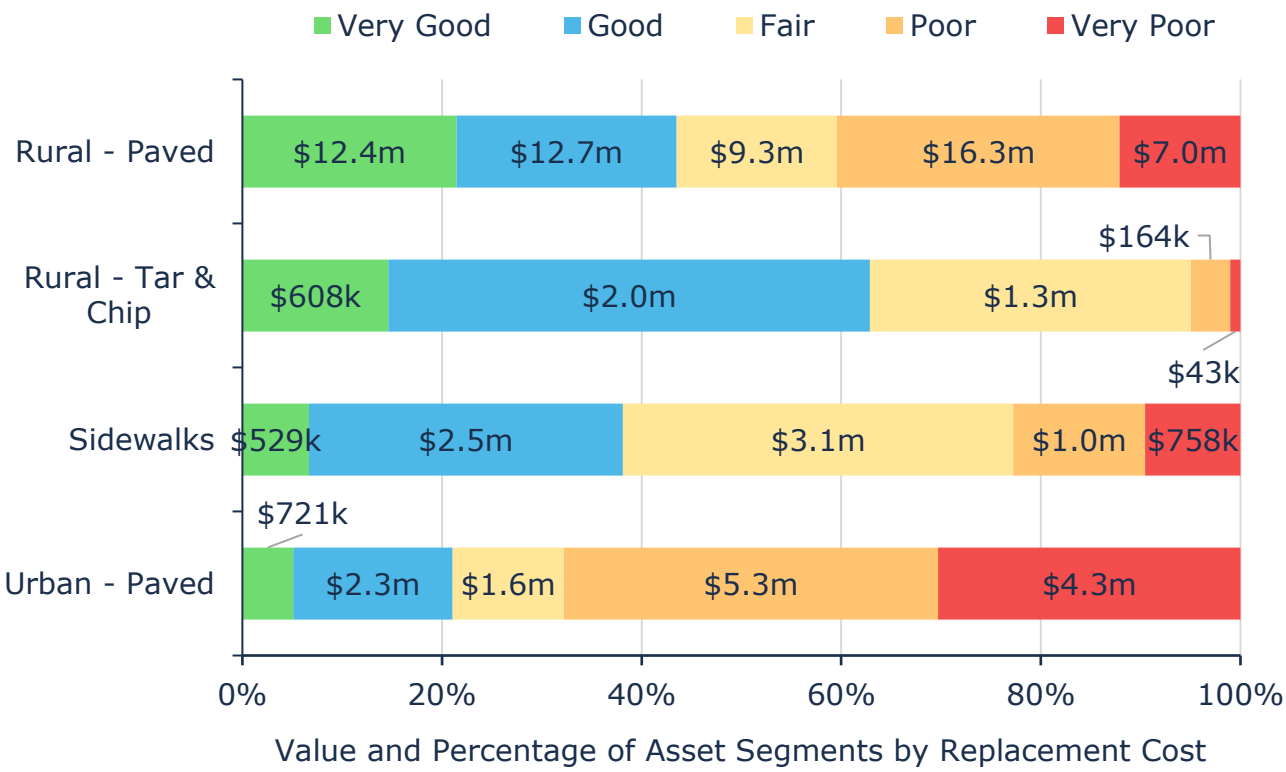


Figure 20 Asset Condition: Road Network by Segment

4.3 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 21 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.

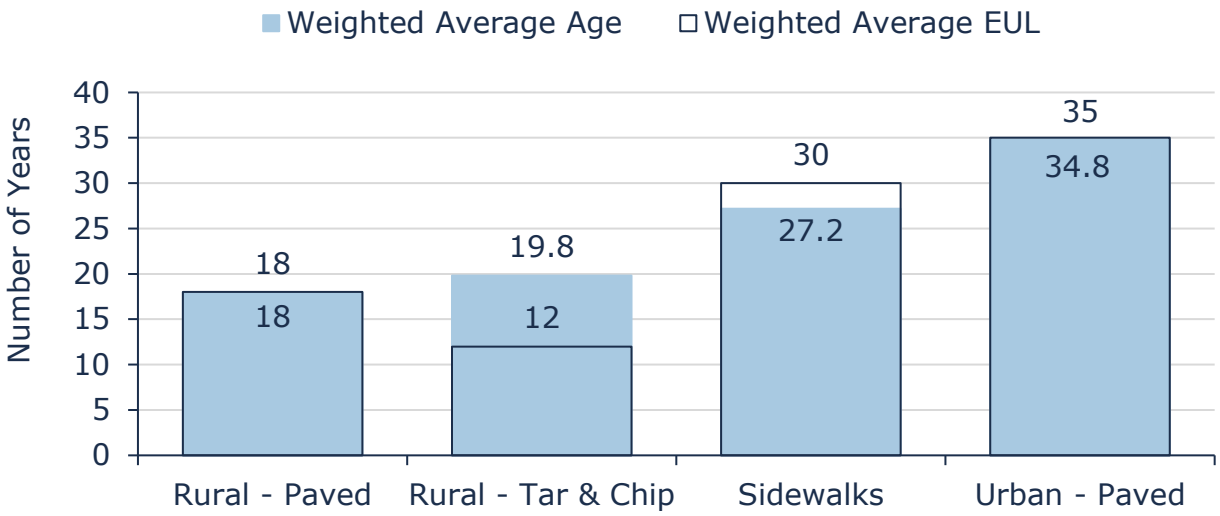


Figure 21 Estimated Useful Life vs. Asset Age: Road Network

Age analysis shows that most tar and chip have surpassed their expected useful life, with an average age of 19.8 years against a design life of 12 years. Both rural and urban paved roads as well as sidewalks have reached or are about to reach their expected useful life periods.

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

4.4 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 Urban Paved, Rural Paved and Tar and Chip Roads. Instead of allowing the roads to deteriorate until replacement is required, strategic rehabilitation is expected to extend the service life of roads at a lower total cost.

Urban Paved Roads		
Event Name	**Event Class**	**Event Trigger**
Shave and Pave	Rehabilitation	24 Years 9 Months
Full Reconstruction	Replacement	53 Years 10 Months

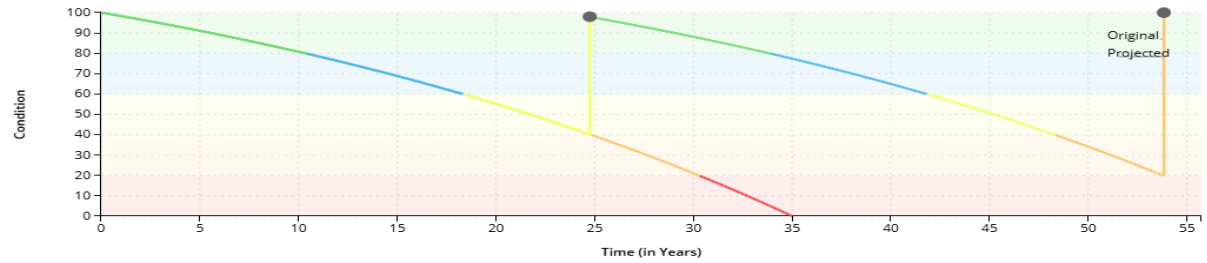


Table 9 Lifecycle Management Strategy: Road Network (Urban Paved Roads)

Rural Paved Roads		
Event Name	**Event Class**	**Event Trigger**
Crack Sealing	Preventative Maintenance	5 Years after Rehabilitation Events
Overlay	Rehabilitation	14 Years
Pad and Pave	Rehabilitation	28 Years
Full Reconstruction	Replacement	0 Condition

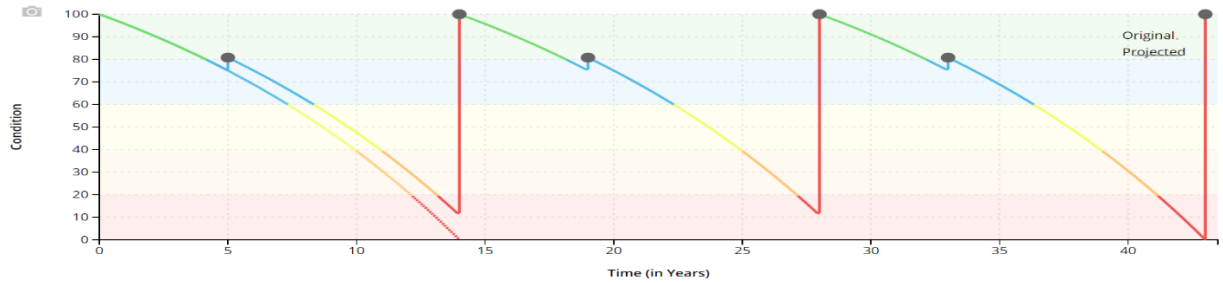


Table 10 Lifecycle Management Strategy: Road Network (Rural Paved Roads)

Tar and Chip Roads		
Event Name	**Event Class**	**Event Trigger**
Double Surface Treatment	Preventative Maintenance	7 and 14 Years
Single Lift	Rehabilitation	21 Years
Full Reconstruction	Replacement	0 Condition

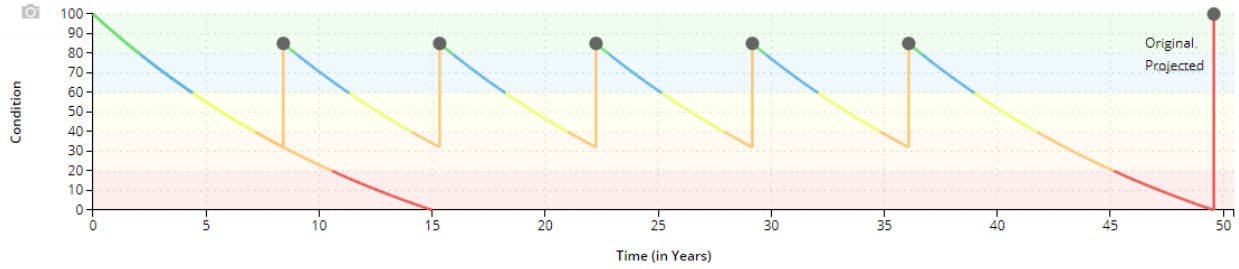


Table 11 Lifecycle Management Strategy: Road Network (Tar and Chip Roads)

The following table expands on maintenance and inspection activities for road network assets.

Activity Type	Description of Current Strategy
Maintenance	Pothole repairs are completed annually based on deficiencies identified through routine route patrols and feedback from the public
	Summer maintenance activities include asphalt patching, sidewalk repairs, grading, re-gravelling, vegetation management, road sign installation/maintenance, and line painting
	Winter maintenance activities include snow plowing and snow removal
Inspection	A Roads Assessment is completed every year on half the network, rotating between the north in one year to the south in the other. The assessment includes condition scores that are based on identified defects and rideability

A road patrol is conducted regularly every 14 days

Table 12 Lifecycle Management Strategy: Road Network

4.5 Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$13,354,000 (16%)	$7,671,000 (9%)	$6,553,000 (8%)	$31,704,000 (38%)	$24,684,000 (29%)

Figure 22 Risk Matrix: Road Network

4.6 Levels of Service

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

4.6.1 Current and Proposed Levels of Service

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description, which may include maps, of the road network in the municipality and its level of connectivity	Scope	See Appendix C	-
Community	Description or images that illustrate the different levels of road class pavement condition	Quality	See Appendix C	-
Technical	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km2)	Scope	N/A	N/A
Technical	Lane-km of collector roads (MMS classes 3) per land area (km/km2)	Scope	N/A	N/A
Technical	Lane-km of local roads (MMS classes 4,5 and 6) per land area (km/km2)	Scope	0.33	Maintain
Technical	Average pavement condition index for paved roads in the municipality	Quality	Fair 52	Good 70
Technical	Average risk rating	Reliability	High 11.39	High 12.87

Table 13: Road Network - Levels of Service

4.6.2 Forecasted Long-Term Replacement Needs

Figure 23 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's road network. This analysis was run until 2088 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total $2.9 million ($14.5 million per 5-year bucket) 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 throughout the forecast period. It also shows a backlog $1.9 million, with $1.5 million belonging to Urban – Paved roads. These projections are based on asset replacement costs, age analysis, and condition data when available, as well as lifecycle modeling (roads only). They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

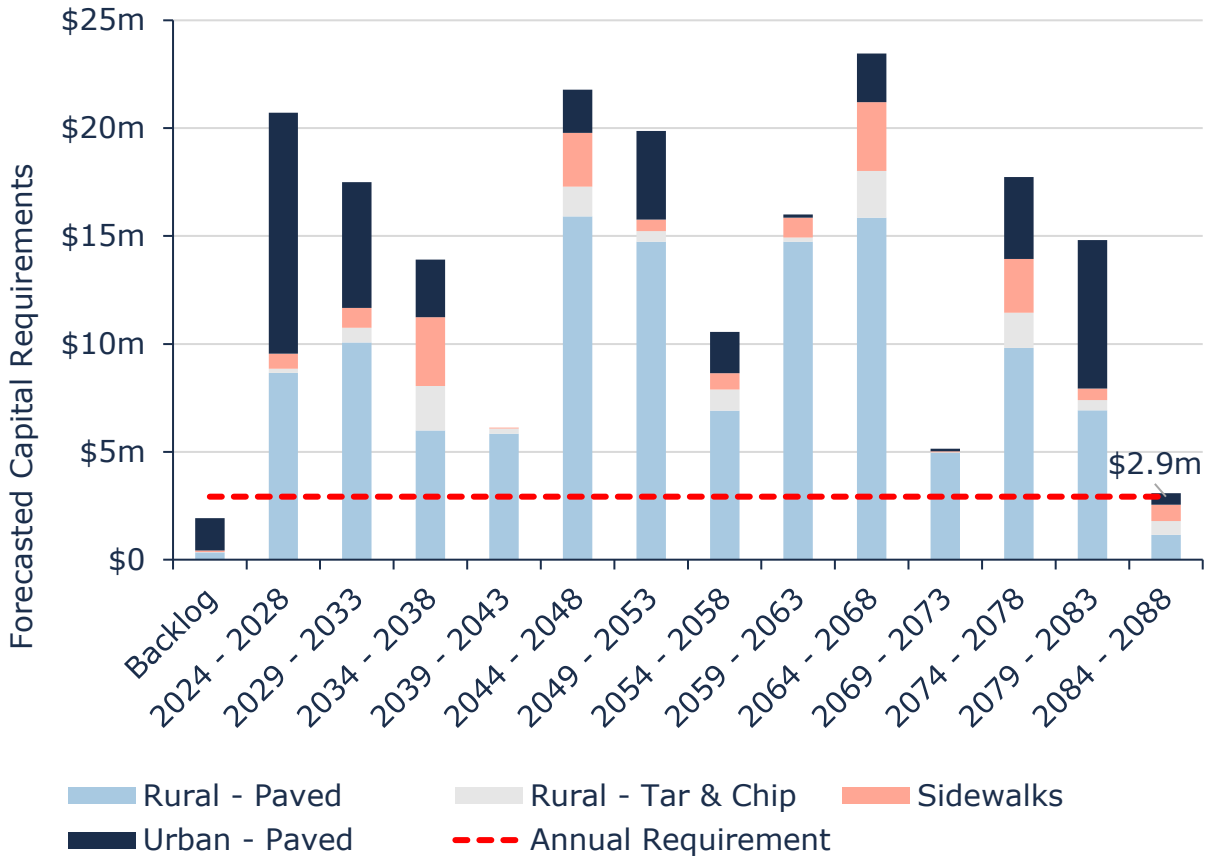


Figure 23 Forecasted Capital Replacement Needs: Road Network 2024-2088

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 detailed 10-year capital replacement forecast can be found in Appendix B – 10-Year Capital Requirements.

5. Bridges & Culverts

5.1 Inventory & Valuation

Table 14 summarizes the quantity and current replacement cost of bridges and culverts. The Municipality owns and manages 60 bridges and 75 structural culverts.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Bridges	60	Quantity	$55,191,000	User-defined
Structural Culverts	75	Quantity	$26,831,000	User-defined
TOTAL			**$82,022,000**	

Table 14 Detailed Asset Inventory: Bridges & Culverts

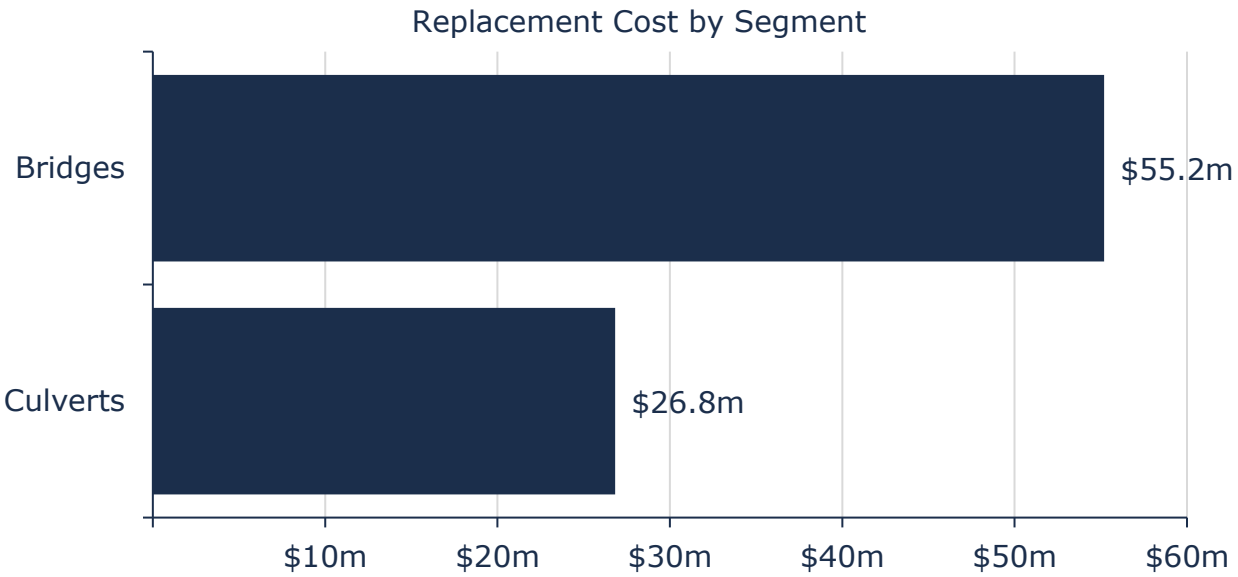


Figure 24 Portfolio Valuation: Bridges & Culverts

5.2 Asset Condition

Figure 25 summarizes the replacement cost-weighted condition of the Municipality's bridges and culverts. Based on the Municipality's latest Ontario Structures Inspection Manual (OSIM) assessments, 49% 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.

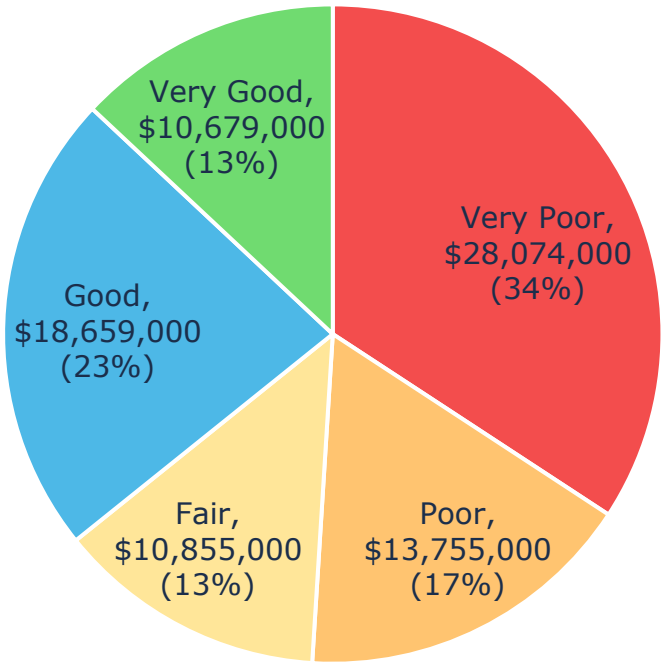


Figure 25 Asset Condition: Bridges & Culverts Overall

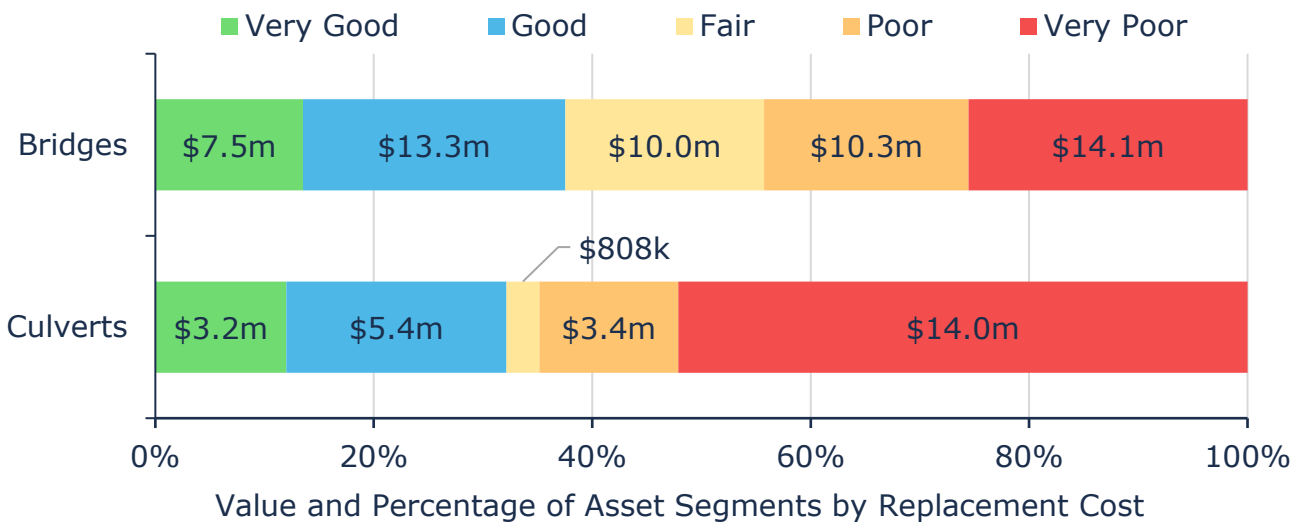


Figure 26 Asset Condition: Bridges & Culverts by Segment

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 replacement spikes.

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

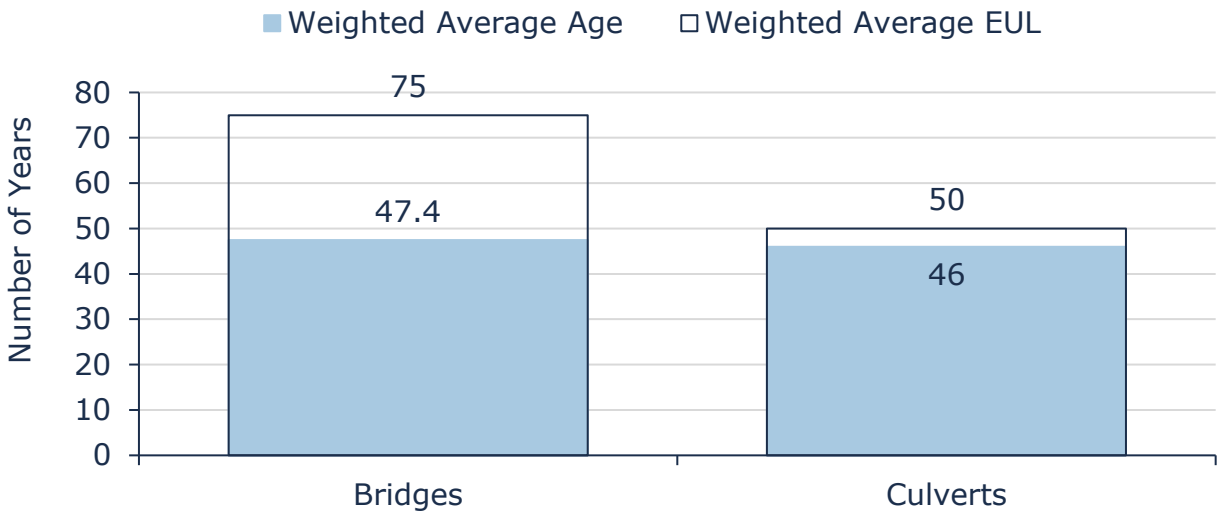


Figure 27 Estimated Useful Life vs. Asset Age: Bridges & Culverts

Age analysis reveals that on average, bridges have consumed about two-thirds their estimated useful life, with an average age of 47.4 years against an average EUL of 75 years. On average, culverts are nearing the end stages of their lifecycle, with an average age of 46 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.

5.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation and Replacement	Lifecycle activities are driven by the results of mandated structural inspections competed according to the Ontario Structure Inspection Manual

	Some activities undertaken include deck sweeping, annual cleaning of expansion joints, annual drain hole maintennance, and annual guide rail inspections
	Rehabilitation and replacement activities are generally followed from the 5 year outlook provided by the OSIM report as funding allows
Inspection	Condition inspection reports of all bridges and culverts with a span greater than or equal to 3 meters are completed every 2 years in accordance with the Ontario Structure Inspection Manual (OSIM).
	A comprehensive OSIM inspection is completed every 8 years to further supplement the regular bi-annual inspections
	The most recent inspection report was completed in December 2020 by BM Ross & Associates Limited

Table 15 Lifecycle Management Strategy: Bridges & Culverts

5.5 Risk Analysis

The risk matrix below is generated using available asset data, including condition and replacement costs.

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

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low $6,759,000 (8%)	5 - 7 Low $12,245,000 (15%)	8 - 9 Moderate $19,571,000 (24%)	10 - 14 High $32,937,000 (40%)	15 - 25 Very High $10,511,000 (13%)

Figure 28 Risk Matrix: Bridges & Culverts

5.6 Levels of Service

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

5.6.1 Current and Proposed Levels of Service

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Scope	See Appendix C	-
Community	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	Quality	See Appendix C	-
Technical	% of bridges in the Municipality with loading or dimensional restrictions	Scope	0.4%[2]	1-3%[3]
Technical	Average bridge condition index value for bridges in the Municipality	Quality	Fair 59	Fair 49
Technical	Average bridge condition index value for structural culverts in the Municipality	Quality	Fair 52	Fair 41
Technical	Average risk rating	Quality	High 10.42	High 12.81

[2] 1 structure (Gillis Line). This is a weighted percentage (replacement cost).
[3] As per OSIM report, there are no additional bridges or structural culverts expected to have loading/dimensional restrictions in the coming years.

Table 16: Bridges & Culverts - Levels of Service

5.6.2 Forecasted Long-Term Replacement Needs

Figure 29 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's bridges and culverts. This analysis was run until 2098 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) for bridges and culverts total $1.3m ($6.5 million per 5-year bucket). 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 20 years, capital needs will significantly rise between 2039 and 2043, and peak at $11.6 million between 2089 and 2093 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.

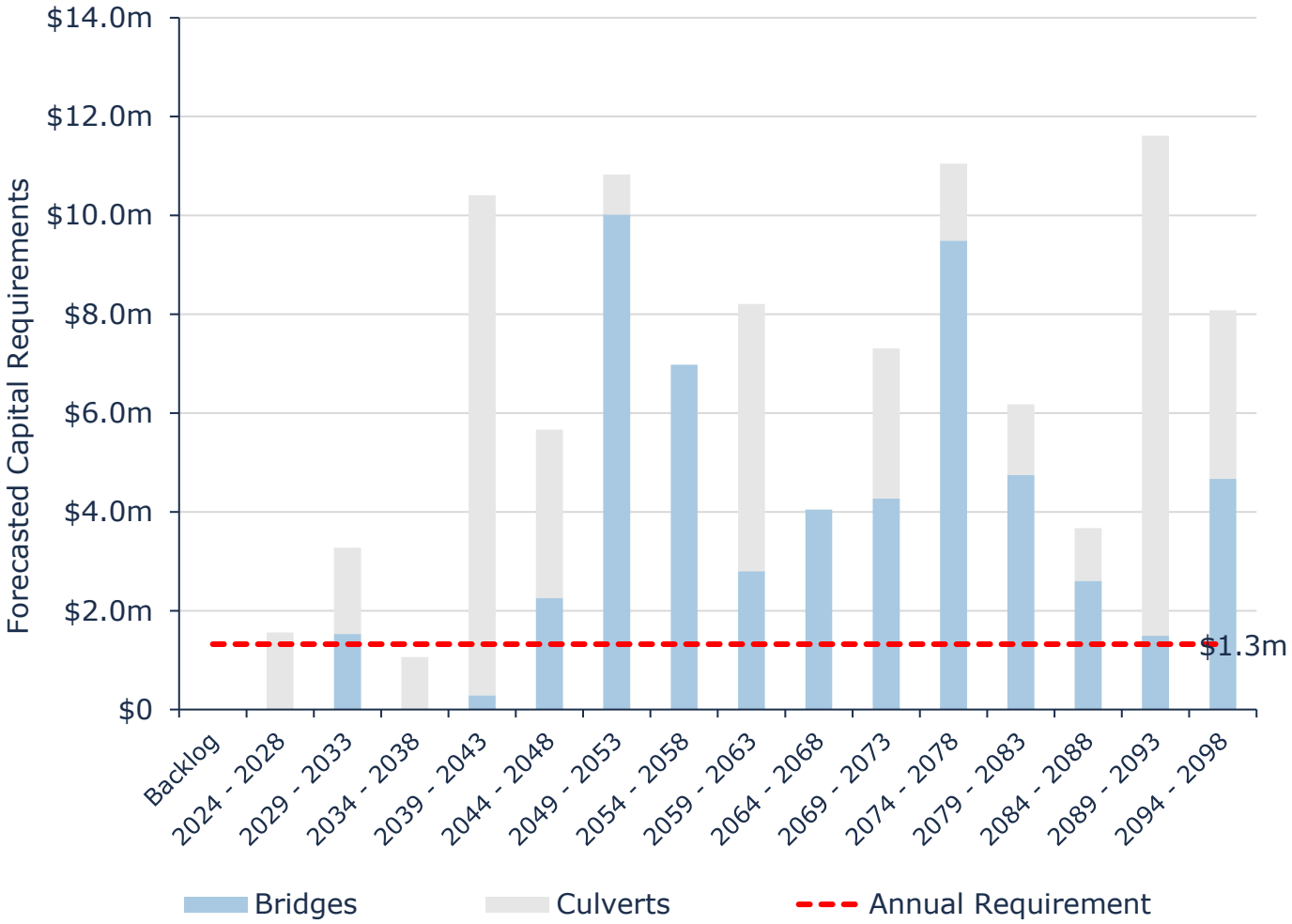


Figure 29 Forecasted Capital Replacement Needs: Bridges & Culverts 2024-2098

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 detailed 10-year capital replacement forecast can be found in Appendix B – 10-Year Capital Requirements.

6. Water Network

6.1 Inventory & Valuation

Table 17 summarizes the quantity and current replacement cost of the Municipality's various water network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Structures	135	Quantity	$3,571,468	User-Defined
Watermains - Brucefield	4	Length (km)	$2,459,391	Cost per Unit
Watermains - Brussels	10	Length (km)	$9,744,524	Cost per Unit
Watermains - Seaforth	44	Length (km)	$43,071,081	Cost per Unit
Watermains - Vanastra	5	Length (km)	$4,521,387	Cost per Unit
TOTAL			**$63,367,851**	

Table 17 Detailed Asset Inventory: Water Network

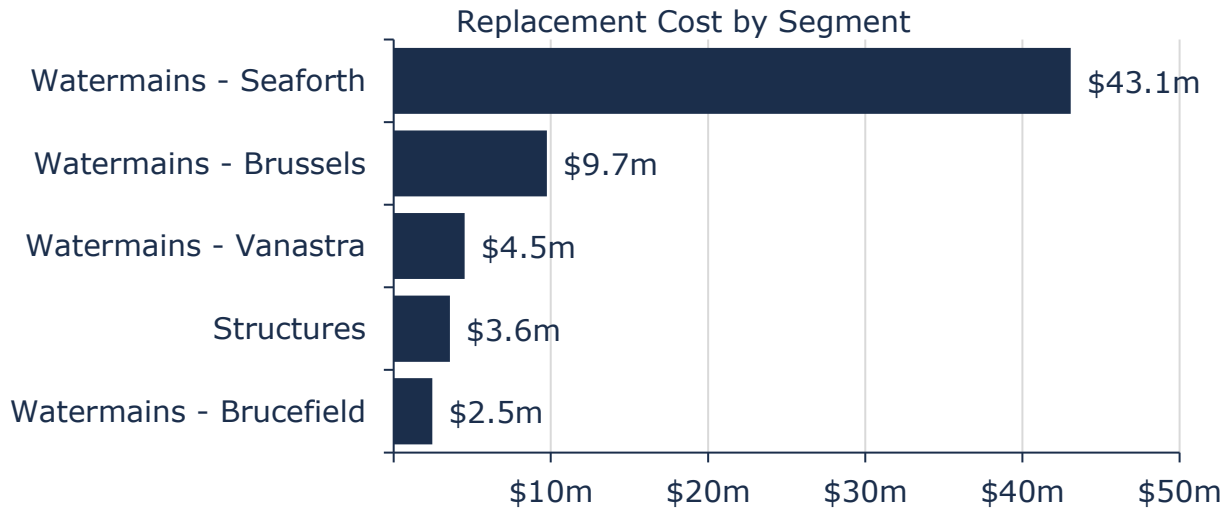


Figure 30 Portfolio Valuation: Water Network

6.2 Asset Condition

Figure 31 summarizes the replacement cost-weighted condition of the Municipality's water network. Based on a combination of field inspection data and age, 63% of assets are in fair or better condition; the remaining 37% of assets are in poor to very poor condition. Condition assessments were available for 100% of water buildings, and 96% of watermains. This condition data was projected from inspection date to current year to estimate their condition today.

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 31, about two-thirds the Municipality's water network assets are in fair or better condition.

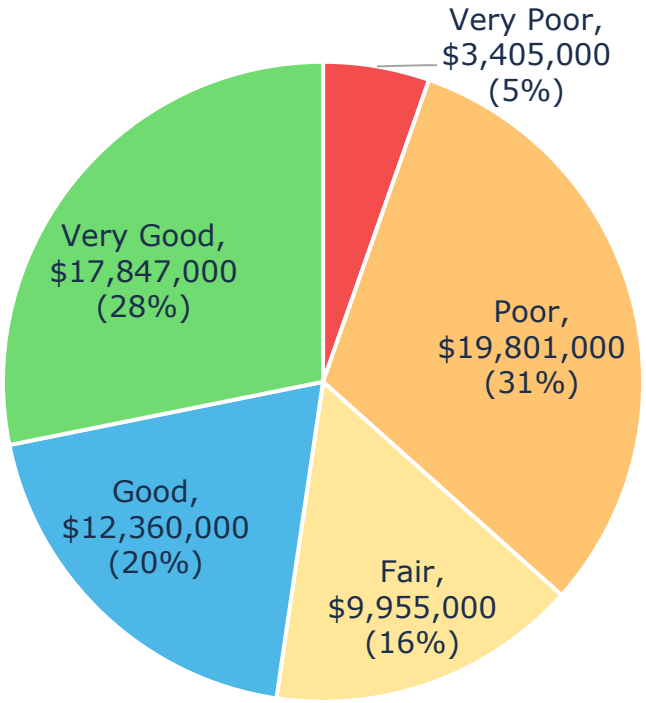


Figure 31 Asset Condition: Water Network Overall

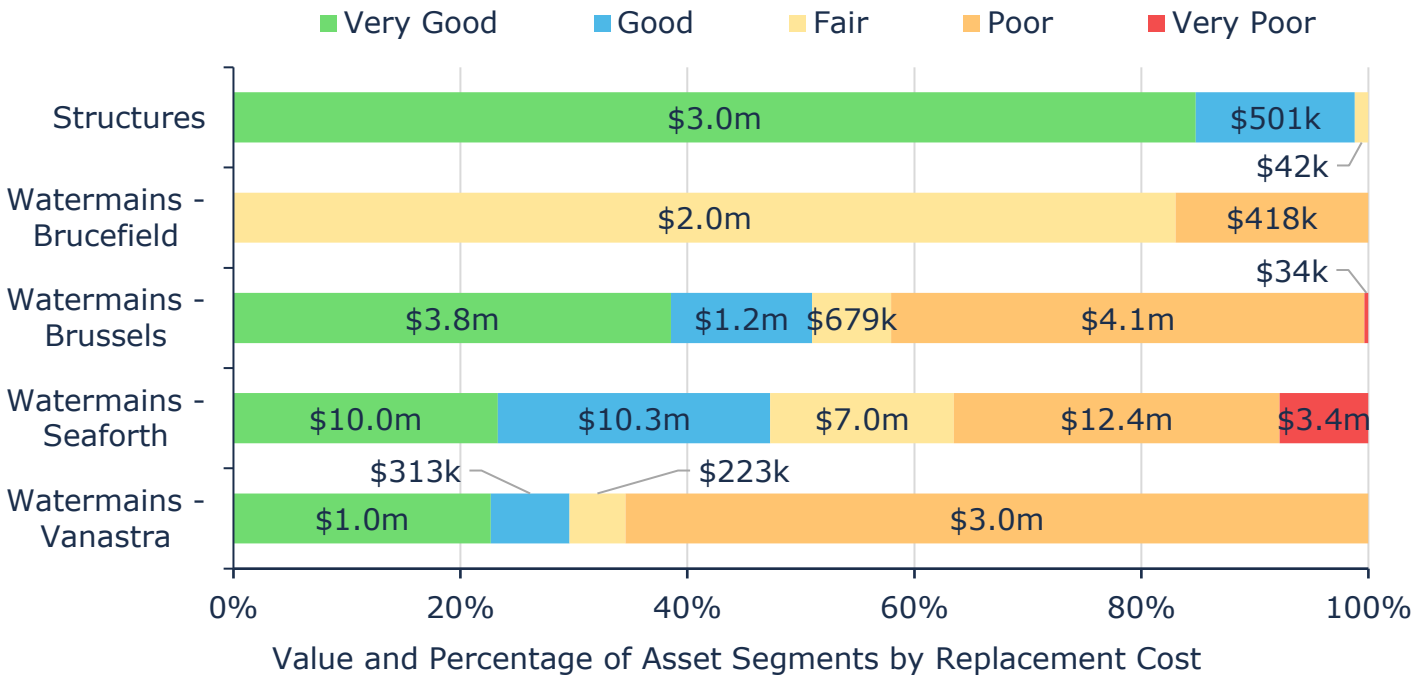


Figure 32 Asset Condition: Water Network by Segment

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 long-term 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.

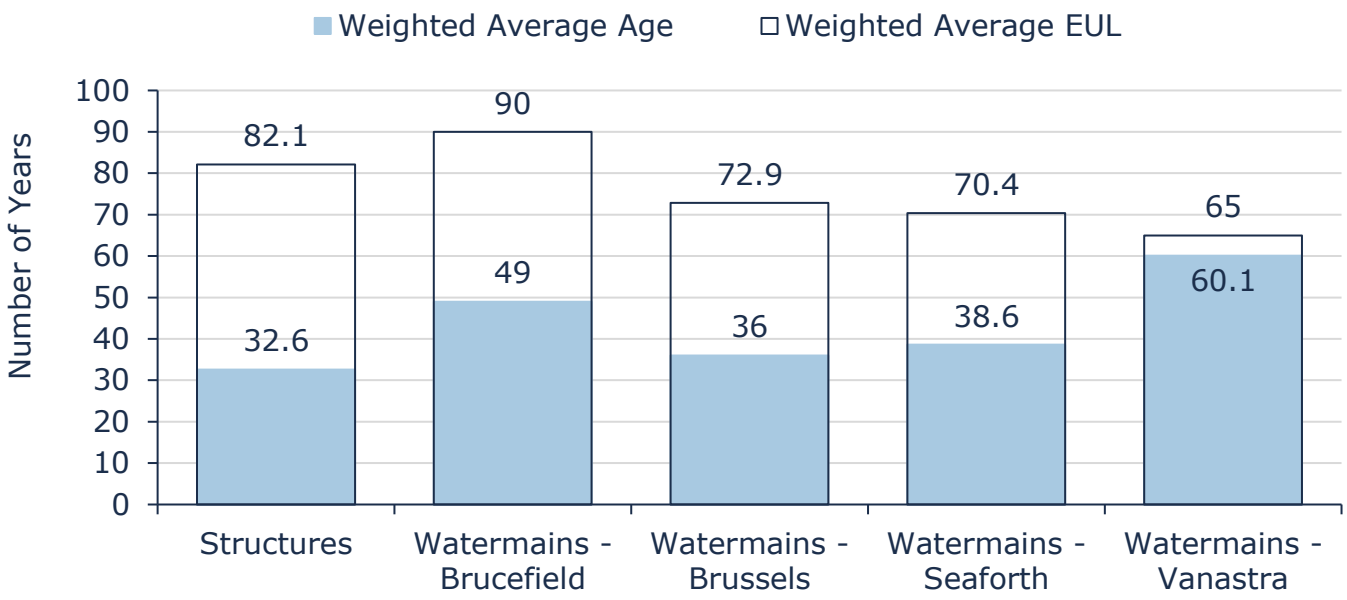


Figure 33 Estimated Useful Life vs. Asset Age: Water Network

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 Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Watermains are flushed twice per year
	Valves are exercised annually
	Hydrant maintenance work is completed as identified and required
Rehabilitation/ Replacement	In the absence of mid-lifecycle rehabilitative events, most mains are simply maintained with the goal of full replacement once it reaches its end-of-life. A 10-year planning horizon is undertaken but is subject to change

Activity Type	Description of Current Strategy
	Replacement timing is coordinated with other asset (road, storm, sanitary, etc.) reconstruction and renewal whenever reasonably possible

Table 18 Lifecycle Management Strategy: Water Network

6.5 Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$25,002,000 (39%)	$2,030,000 (3%)	$8,685,000 (14%)	$11,146,000 (18%)	$16,505,000 (26%)

Figure 34 Risk Matrix: Water Network

6.6 Levels of Service

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

6.6.1 Current and Proposed Levels of Service

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system	Scope	See Appendix C	-
Community	Description, which may include maps, of the user groups or areas of the municipality that have fire flow	Scope	See Appendix C	-
Community	Description of boil water advisories and service interruptions	Reliability	Property owners in the affected community are notified of any boil water advisories and the cause of the interruption	-
Technical	% of properties connected to the municipal water system	Scope	45%	45%[4]
Technical	% of properties where fire flow is available	Scope	44%	44%[5]
Technical	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	Reliability	0	-
Technical	# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system	Reliability	0	-
Technical	Average condition of watermains	Quality	Fair 59	Fair 48
Technical	Average risk rating	Quality	Moderate 9.46	Moderate 9.62

Table 19: Water Network - Levels of Service

6.6.2 Forecasted Long-Term Replacement Needs

Figure 35 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's water network. This analysis was run until 2123 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total $1.1m ($5.5 million per 5-year bucket) for all assets in the water

[4] Not expected to change within 10-year window
[5] Not expected to change within 10-year window

network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog $2.1 million, dominated by water mains. These projections are based on asset replacement costs, age analysis, and condition data when available. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

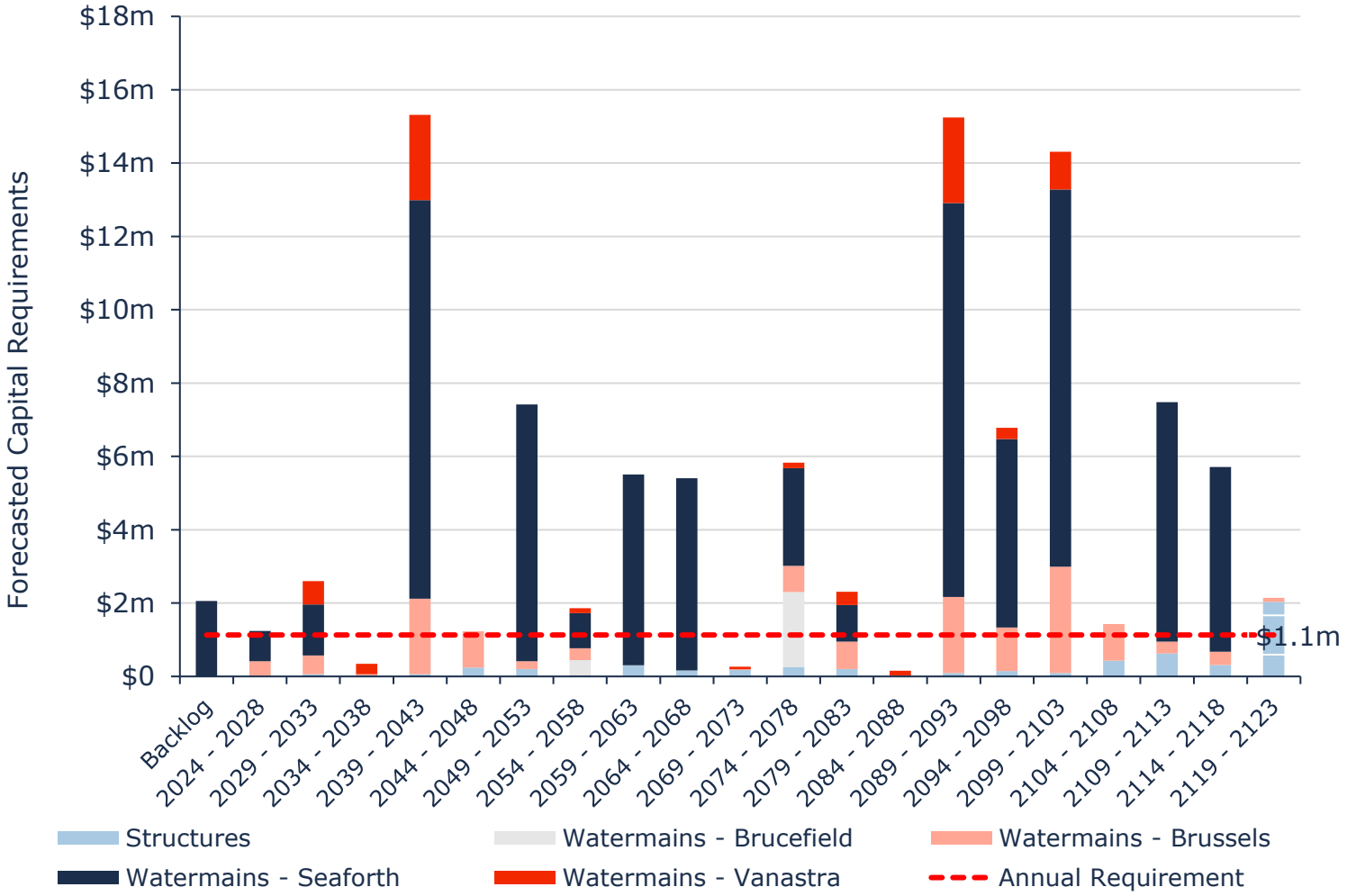


Figure 35 Forecasted Capital Replacement Needs: Water Network 2024-2123

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 detailed 10-year capital replacement forecast can be found in Appendix B – 10-Year Capital Requirements.

7. Sanitary Sewer Network

7.1 Inventory & Valuation

Table 20 summarizes the quantity and current replacement cost of the Municipality's various sanitary sewer network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Sewer Mains - Brussels	10	Length (km)	$10,988,463	Cost per Unit
Sewer Mains - Seaforth	31	Length (km)	$35,270,082	Cost per Unit
Sewer Mains - Vanastra	445	Length (km)	$5,282,050	Cost per Unit
Structures	220	Quantity	$11,573,866	User-Defined
TOTAL			**$63,114,460**	

Table 20 Detailed Asset Inventory: Sanitary Sewer Network

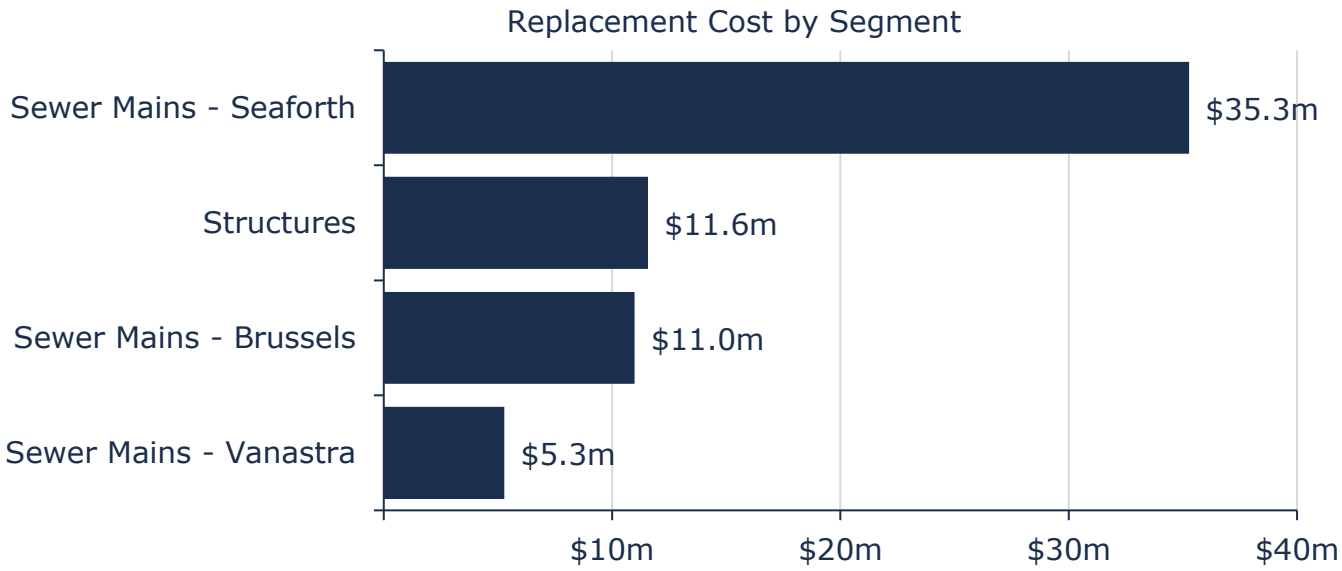


Figure 36 Portfolio Valuation: Sanitary Sewer Network

7.2 Asset Condition

Figure 37 summarizes the replacement cost-weighted condition of the Municipality's sanitary sewer network. Based on a combination of field inspection data and age, 80% of assets are in fair or better condition; the remaining 20% of assets are in poor to very poor condition. Condition assessments were available for 100% of sanitary buildings, and 98% of sewer mains, based on replacement cost.

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 37 most the Municipality's sanitary sewer network assets are in fair or better condition.

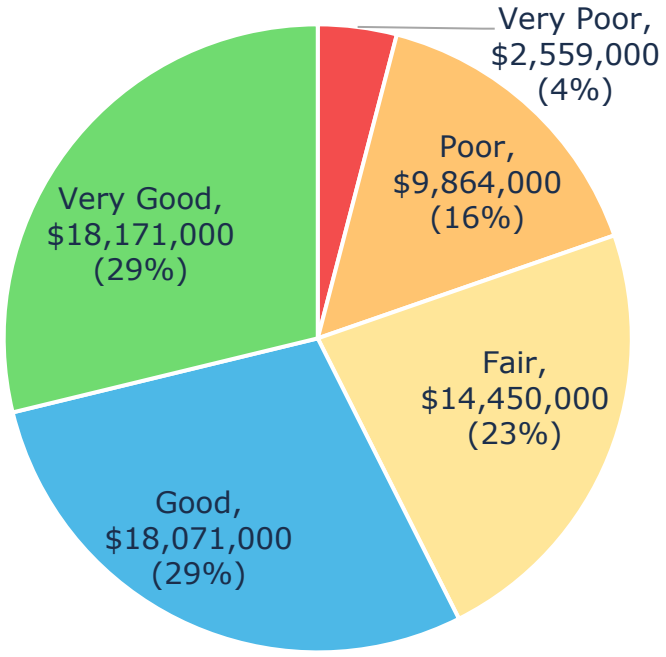


Figure 37 Asset Condition: Sanitary Sewer Network Overall

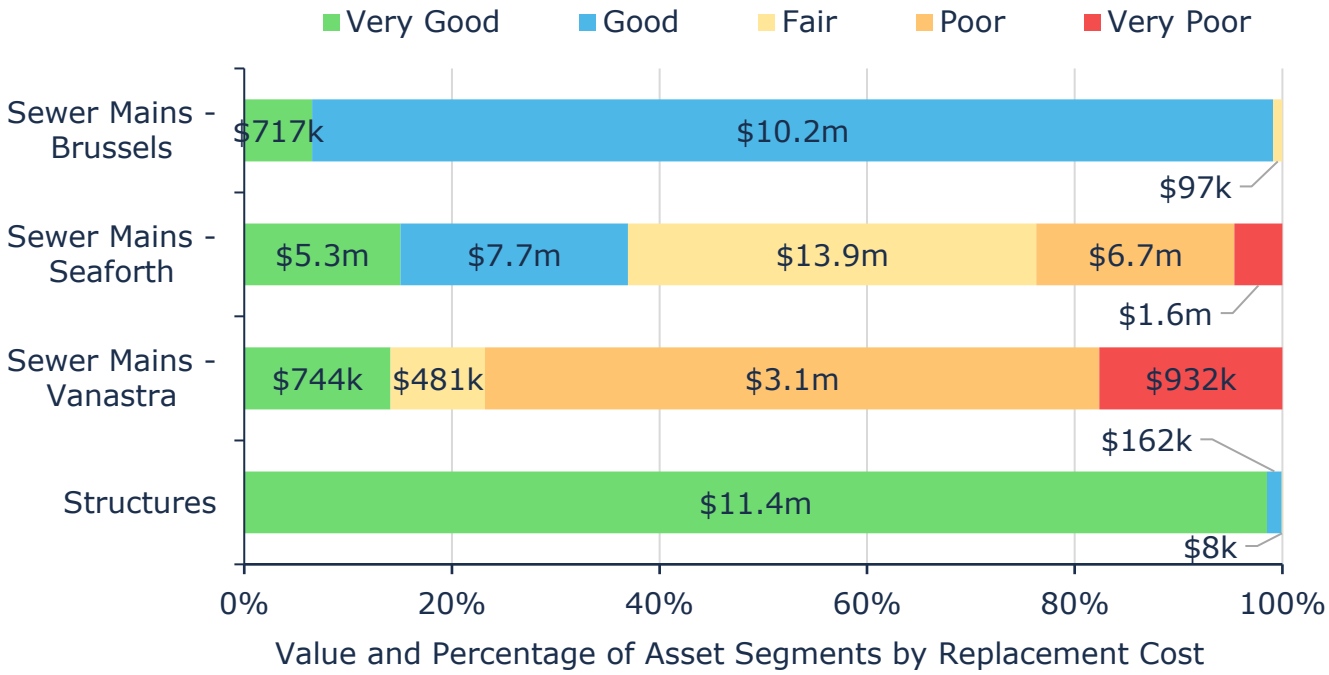


Figure 38 Asset Condition: Sanitary Sewer Network by Segment

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 39 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. Overall, sanitary network assets have ample life left when compared against their estimated useful life. The exception to this observation, are sewer mains in Vanastra in which the average age has almost reached the expected life of the assets.

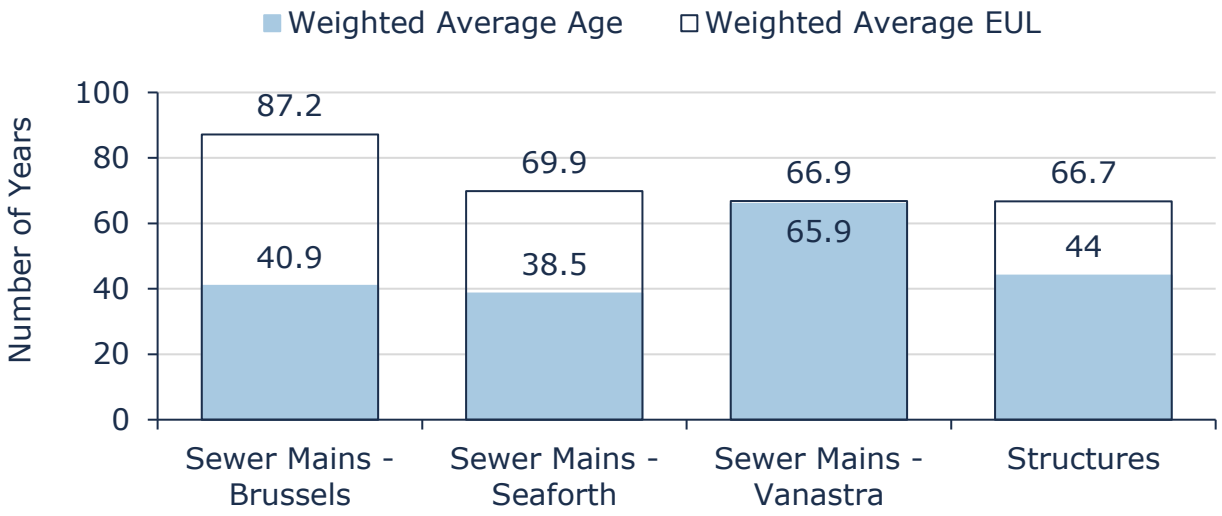


Figure 39 Estimated Useful Life vs. Asset Age: Sanitary Sewer Network

7.4 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 strategy has been developed as a proactive approach to managing the lifecycle of sanitary mains. A trenchless re-lining strategy is expected to extend the service life of sanitary mains at a lower total cost of ownership.

Activity Type	Description of Current Strategy
Maintenance	Flushing is completed for the entire sanitary network every 3 years. However, areas prone to blockages or issues are flushed more regularly (e.g. annually)
	Leakage issues are fixed upon identification
Rehabilitation & Replacement	In the absence of mid-lifecycle rehabilitative events, most sanitary assets are simply maintained with the goal of full replacement once it reaches its end-of-life. A 5-year capital planning horizon is currently in place

Table 21 Lifecycle Management Strategy: Sanitary Sewer Network

7.5 Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$25,596,000 (41%)	$11,956,000 (19%)	$10,157,000 (16%)	$11,754,000 (19%)	$3,652,000 (6%)

Figure 40 Risk Matrix: Sanitary Sewer Network

7.6 Levels of Service

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

7.6.1 Current and Proposed Levels of Service

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	Scope	See Appendix C	-

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	Reliability	N/A	N/A
Community	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	Reliability	N/A	N/A
Community	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	Reliability	See Appendix C	-
Community	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	Reliability	See Appendix C	-
Community	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	Reliability	See Appendix C	-
Technical	% of properties connected to the municipal wastewater system	Scope	38%	38%[6]
Technical	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	Reliability	N/A	N/A
Technical	# of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system	Reliability	0	-
Technical	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	Reliability	0	-
Technical	Average condition of sanitary mains	Quality	Good 62	Fair 49
Technical	Average risk rating	Quality	Low 6.89	Low 7.75

[6] Not expected to change within 10-year window

Table 22: Sanitary Sewer Network - Levels of Service

7.6.2 Forecasted Long-Term Replacement Needs

Figure 41 illustrates the cyclical short-, medium- and long-term infrastructure rehabilitation and replacement requirements for the Municipality's sanitary sewer network. This analysis was run until 2123 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total $1.1 million ($5.5 million per 5-year bucket) for all assets in the sanitary sewer network. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

The chart illustrates substantial capital needs throughout the forecast period. It also shows a backlog of $848,000 for sanitary sewer mains located in Seaforth. 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.

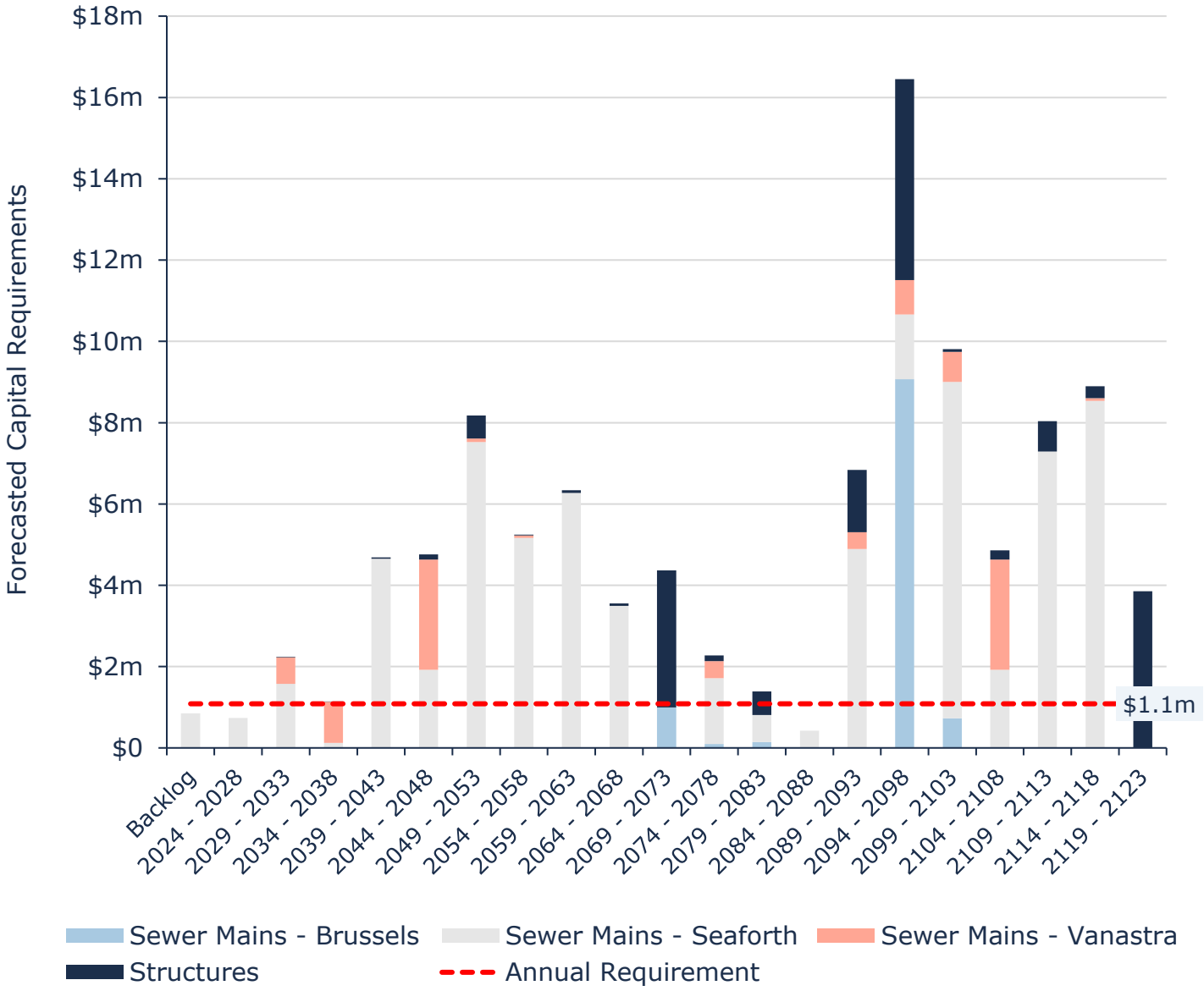


Figure 41 Forecasted Capital Replacement Needs: Sanitary Sewer Network 2024-2123

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 detailed 10-year capital replacement forecast can be found in Appendix B – 10-Year Capital Requirements.

8. Storm Water Network

8.1 Inventory & Valuation

Table 23 summarizes the quantity and current replacement cost of all stormwater management assets available in the Municipality's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Storm Drains	12	Length (km)	$9,549,617	Cost per Unit
TOTAL			**$9,549,617**	

Table 23 Detailed Asset Inventory: Stormwater Network

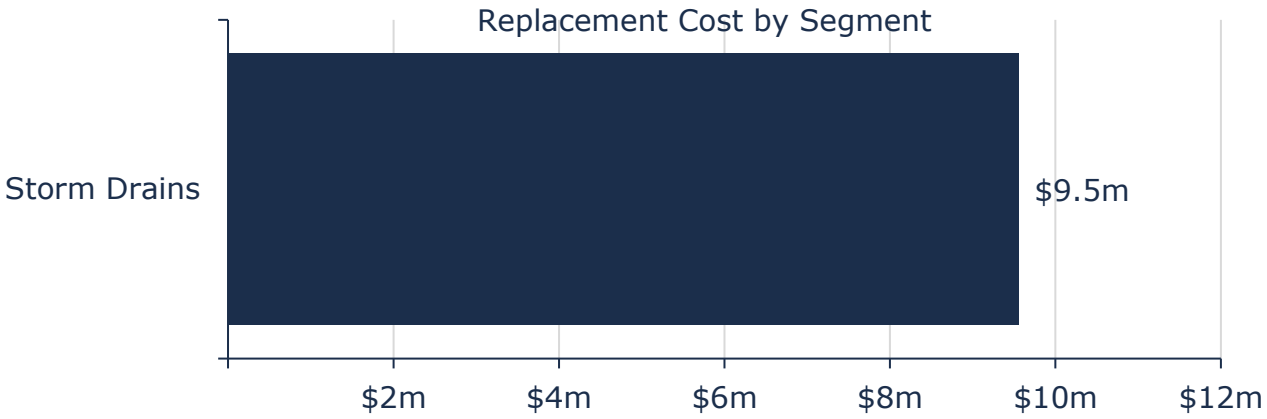


Figure 42 Portfolio Valuation: Storm Water Network

8.2 Asset Condition

Figure 43 summarizes the replacement cost-weighted condition of the Municipality's stormwater management assets. Based on a combination of assessment and age data, approximately 89% of assets are in poor to very poor condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

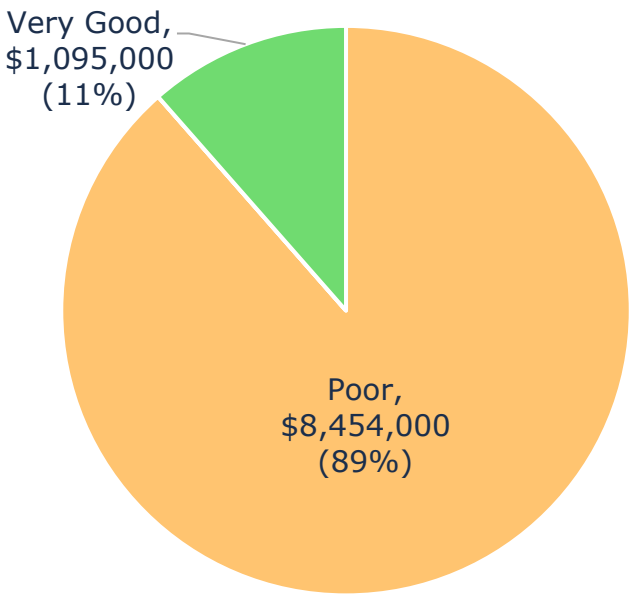


Figure 43 Asset Condition: Storm Water Network Overall

Figure 44 summarizes the age-based condition of stormwater assets. The analysis illustrates that most stormwater mains are in fair or better condition. However, 12% of mains, with a current replacement cost of $311,000, are in poor or worse condition.

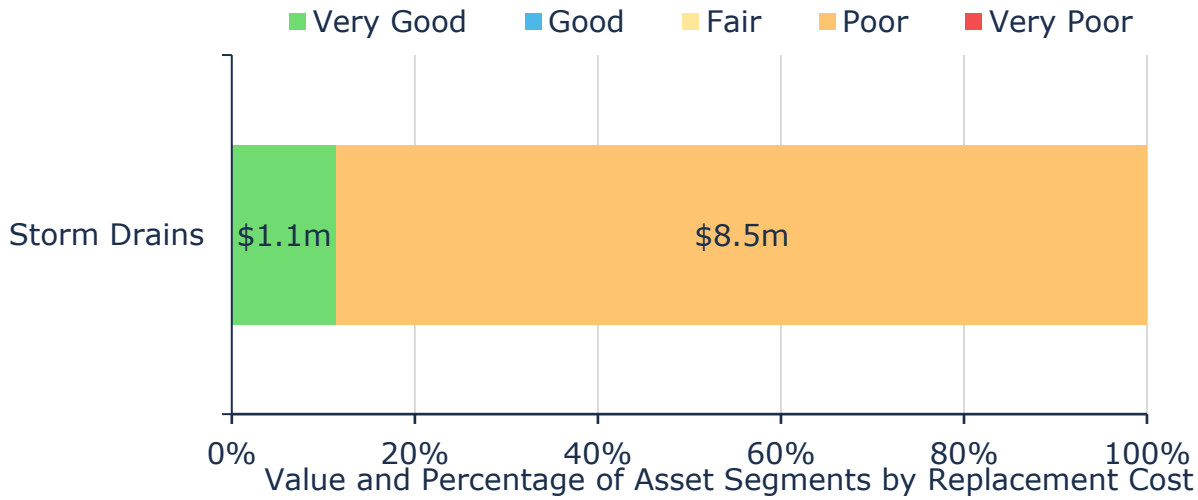


Figure 44 Asset Condition: Storm Water Network by Segment

8.3 Age Profile

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

intended purpose and provide value to users, safely and efficiently. As assets age, their performance diminishes, often more rapidly as they approach the end of their design life.

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

Figure 45 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

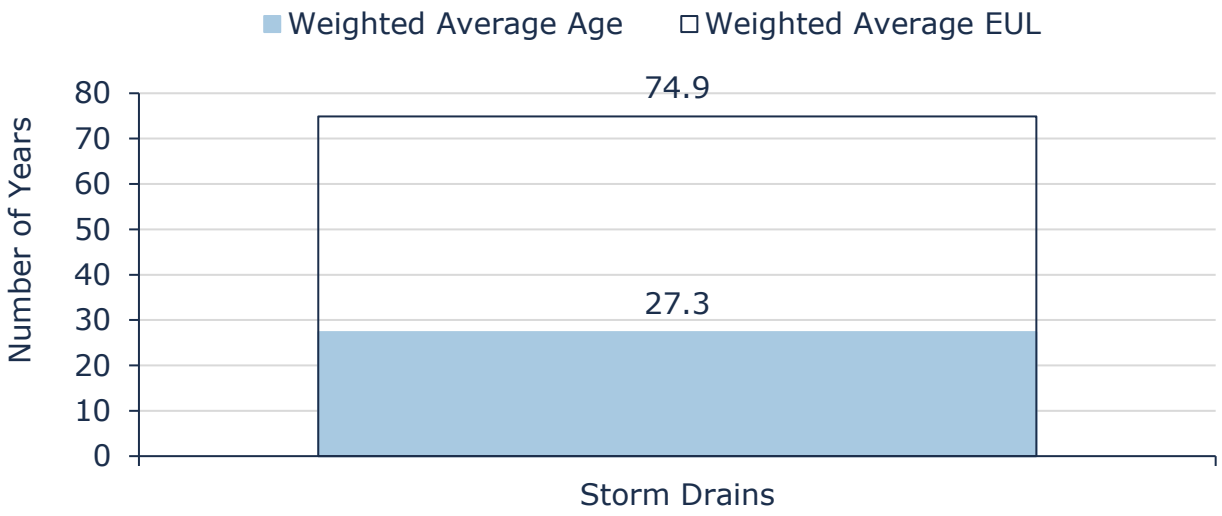


Figure 45 Estimated Useful Life vs. Asset Age: Storm Water Network

Age analysis reveals that on average, storm drains are in a moderate stage of their expected lifecycle. Age profiles and CCTV inspections will help to identify mains in need of replacements and/or upgrades. Extensions to EULs for mains may also be considered based on performance history to date.

8.4 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance	Catchbasin cleaning is completed on a 2 year cycle
	Drains are unclogged in urban ceter when an issue has been brought up
	Preventative maintenance is completed on rural road overflow crossing annually as the budget allows
Replacement	A 5-year capital plan is followed for storm assets

Table 24 Lifecycle Management Strategy: Storm Water Network

It is worth noting that the Municipality is considering increasing their inspections to include ditch assessments to ensure comprehensive infrastructure management.

8.5 Risk Analysis

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

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

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low $4,078,000 (43%)	5 - 7 Low $2,085,000 (22%)	8 - 9 Moderate $1,659,000 (17%)	10 - 14 High $1,038,000 (11%)	15 - 25 Very High $690,000 (7%)

Figure 46 Risk Matrix: Storm Water Network

8.6 Levels of Service

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

8.6.1 Current and Proposed Levels of Service

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description, which may include map, of the user groups or areas of the municipality that are protected from flooding, including the extent of protection provided by the municipal stormwater system	Scope	See Appendix C	-
Technical	% of properties in municipality resilient to a 100-year storm	Scope	97%	97%[7]
Technical	% of the municipal stormwater manage-ment system resilient to a 5-year storm	Scope	N/A[8]	N/A
Technical	Average condition of stormwater mains	Quality	Fair 41	Fair 45
Technical	Average risk rating	Quality	Low 6.69	Low 7.26

Table 25: Storm Water Network - Levels of Service

8.6.2 Forecasted Long-Term Replacement Needs

Figure 47 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's stormwater network assets. This analysis was run until 2128 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total $189,000 ($945,000 per 5-year bucket) for all assets in the stormwater network.

[7] Not expected to change within 10-year window
[8] The Municipality does not have data available to determine the value of this technical metric.

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.

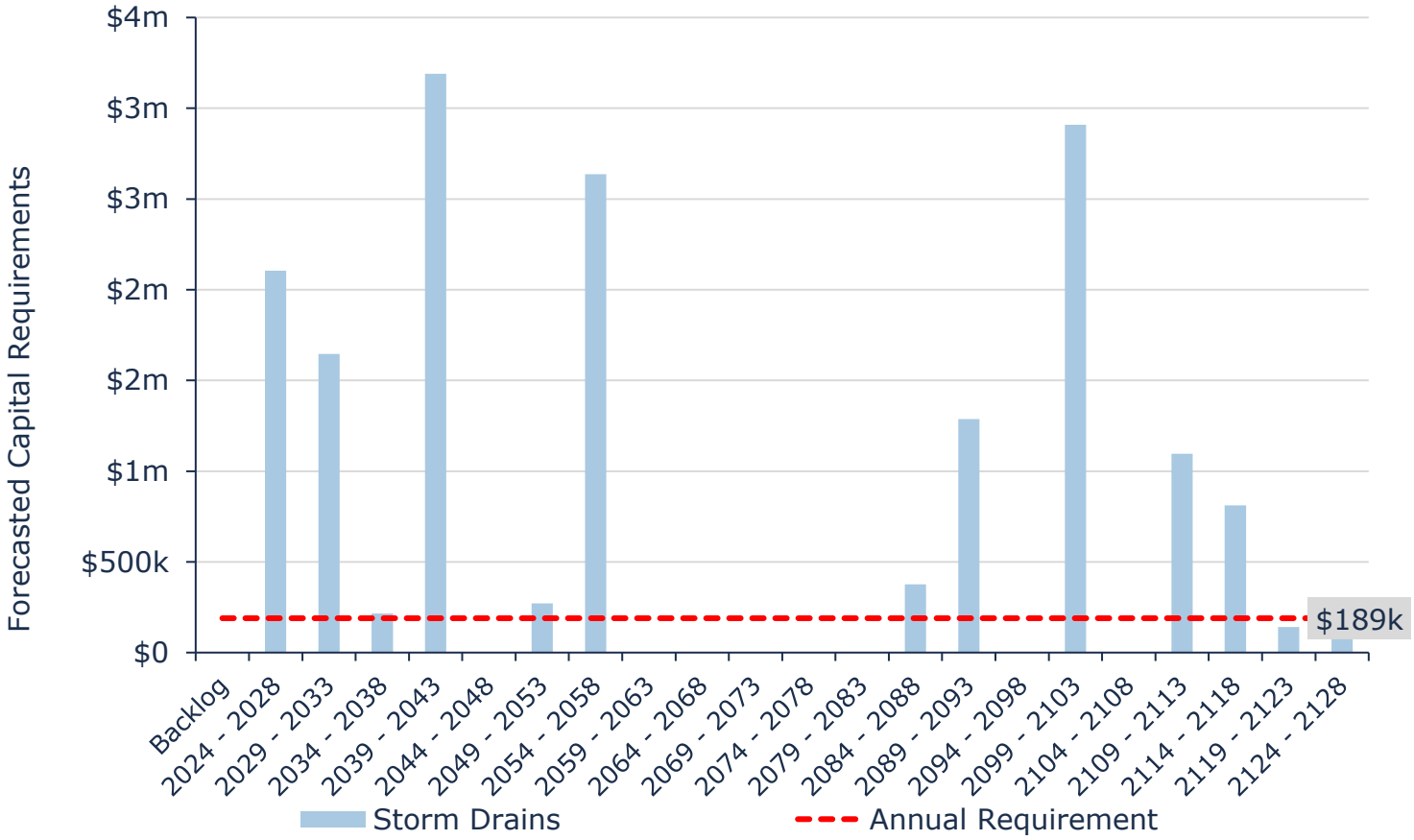


Figure 47 Forecasted Capital Replacement Needs Storm Water Network 2024-2128

The chart illustrates no backlog for stormwater assets. The largest replacement spike is forecasted in 2039-2043 followed by 2099 and beyond as mains reach the end of their expected design life. These projections and estimates are based on asset replacement costs and age analysis. They are designed to provide a long-term, portfolio-level overview of capital needs and should be used to support improved financial planning over several decades.

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. Forthcoming CCTV inspections may reveal a higher backlog. The inspections

may also help reduce long-term projections by providing more accurate condition data for mains than age. In addition, a robust risk framework will ensure that high-criticality assets receive proper and timely lifecycle intervention, including replacements.

A detailed 10-year capital replacement forecast can be found in Appendix B – 10-Year Capital Requirements.

Non-Core Assets

Buildings

Replacement Cost	Average Condition	Financial Capacity	
$42.2 m	**Very Good**	Annual Requirement:	$764,000
		Funding Available:	$1,308,000
		Annual Surplus:	**$341,000**

Vehicles

Replacement Cost	Average Condition	Financial Capacity	
$10.5 m	**Good**	Annual Requirement:	$554,000
		Funding Available:	$157,000
		Annual Deficit:	**$392,000**

Machinery & Equipment

Replacement Cost	Average Condition	Financial Capacity	
$ 8.7 m	**Fair**	Annual Requirement:	$581,000
		Funding Available:	$348,000
		Annual Deficit:	**$232,000**

9. Buildings

9.1 Inventory & Valuation

Table 26 summarizes the quantity and current replacement cost of all buildings assets available in the Municipality's asset register. Buildings assets are componentized. The quantity listed represents the number of asset records currently available for each department.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
General Government	20	Quantity	$2,175,321	User-defined
Health Services	61	Quantity	$3,662,270	User-defined
Protection Services	48	Quantity	$2,295,535	User-defined
Recreation & Cultural Services	296	Quantity	$29,480,723	User-defined
Transportation Services	94	Quantity	$4,631,432	User-defined
TOTAL			**$42,245,281**	

Table 26 Detailed Asset Inventory: Buildings

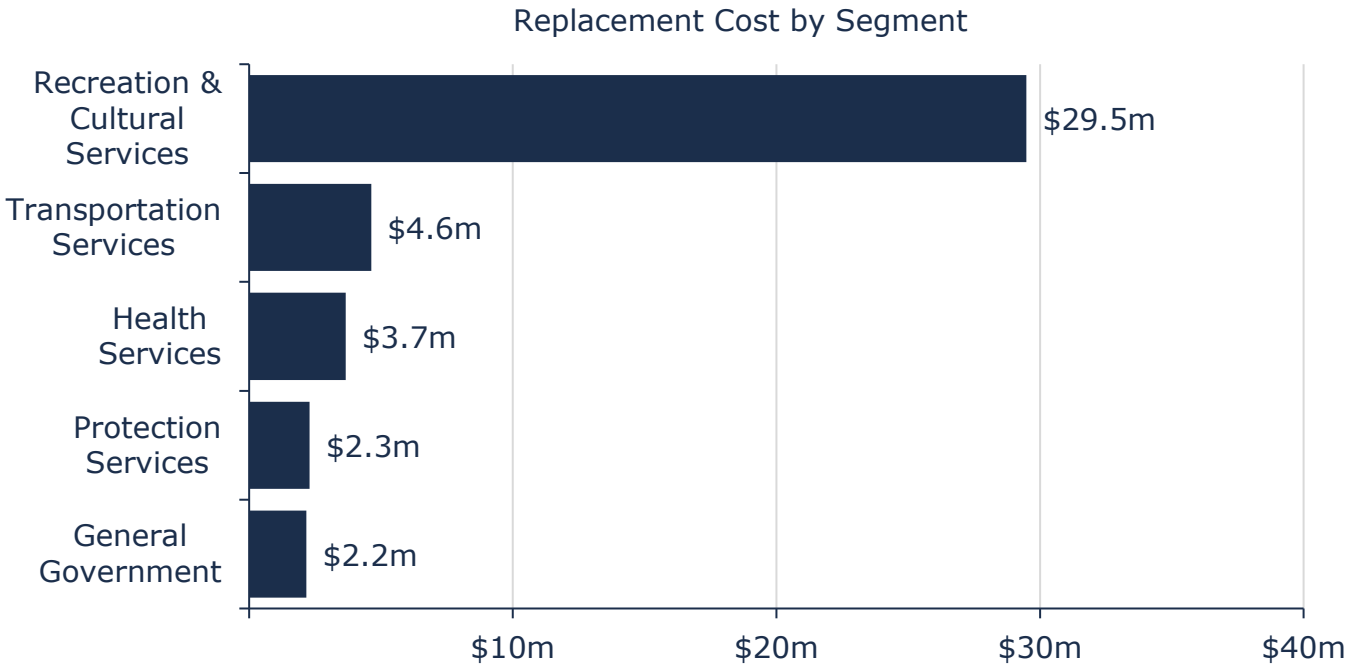


Figure 48 Portfolio Valuation: Buildings

9.2 Asset Condition

Figure 49 summarizes the replacement cost-weighted condition of the Municipality's buildings portfolio. Based mostly on age-based data, 100% of buildings assets are in fair or better condition. Aspects of some of these assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As buildings are componentized, condition data is presented at the individual element or component level within each building. 82% of buildings had assessed condition ratings available, the remainder was derived based on age.

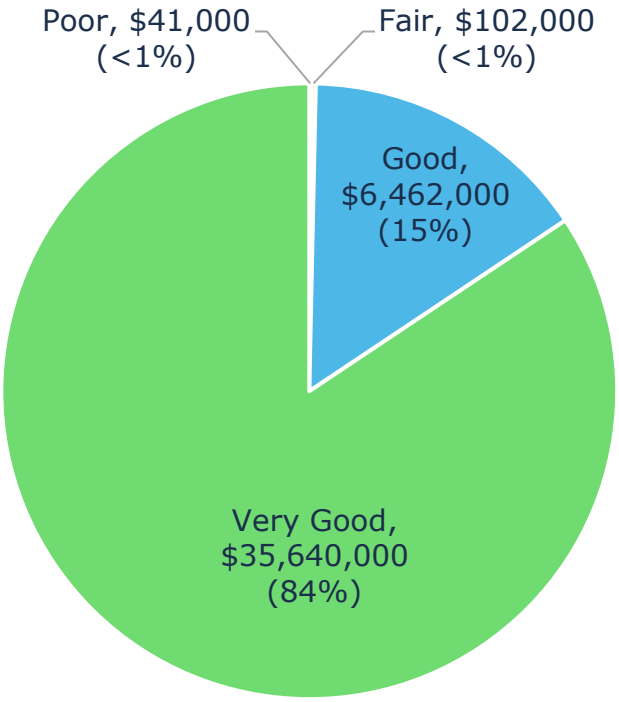


Figure 49 Asset Condition: Buildings Overall

Figure 50 summarizes the age-based condition of buildings by each department. Most buildings assets are in very good condition with some recreation and cultural services assets dipping to a good condition. Overall, based on the information available, this asset category is in a healthy state.

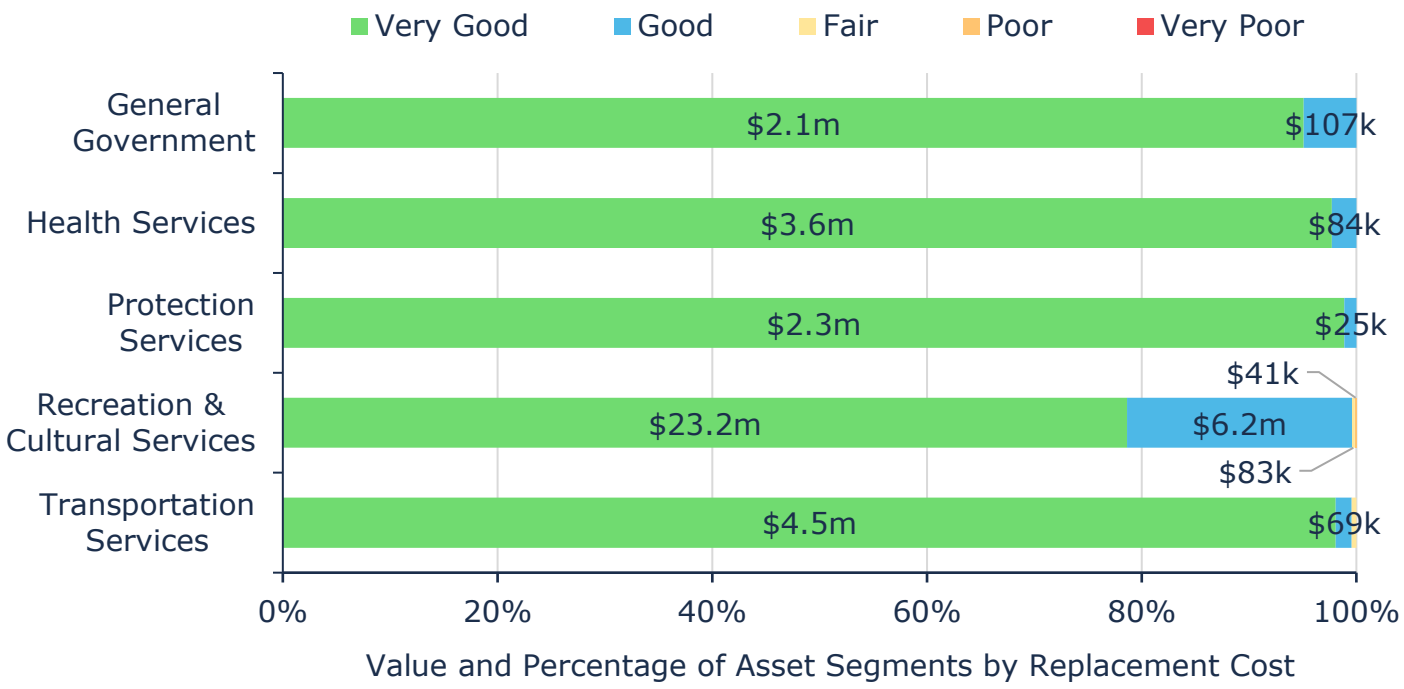


Figure 50 Asset Condition: Buildings by Segment

Buildings assets are unique in that they rarely require the need for replacement based solely on condition. It is typical that, in addition to condition, other factors, such as capacity, will impact the asset's ability to serve the purpose originally intended.

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 51 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.

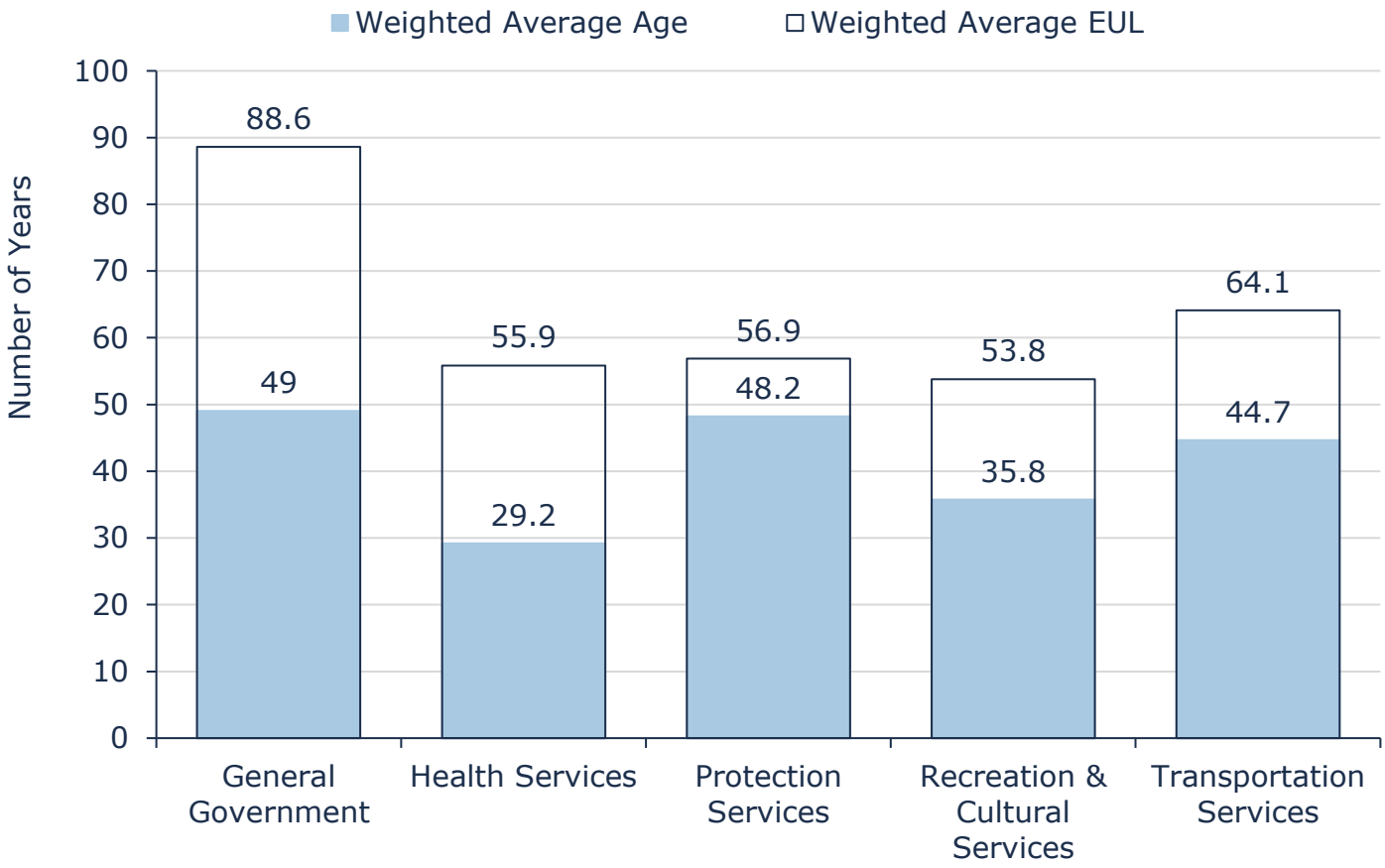


Figure 51 Estimated Useful Life vs. Asset Age: Buildings

Age analysis reveals that, on average, buildings assets have consumed over half of their serviceable life. However, they remain at good or very good condition, indicating a healthy asset category.

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 27 outlines the Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance & Rehabilitation	Recreational centres are generally maintained by the staff within the buildings – there is no overarching maintenance plan
	Grass cutting is handled on a weekly basis for parks and outdoor areas
	General maintenance of buildings are completed internally
Replacement	A building efficiencies list of improvements are brought forward on a yearly basis; items are generally prioritized on H&S considerations
	Major rehabilitative and replacement activities prioritized by Facilities Manager with input from staff and past building assessment reports
	The current strategy is more reactive with some proactive elements and planning. There is a 5-year capital planning horizon in place
Inspection	Health and safety (H&S) walk through inspections are completed monthly by a designated H&S representative
	A comprehensive building condition assessment was undertaken in 2020, identifying condition scores and required maintenance for building components. The Municipality is considering an appropriate interval for conducting similar studies in the future
	Recreational manager inspects playgrounds regularly based on CSA standards

Table 27 Lifecycle Management Strategy: Buildings

9.5 Risk Analysis

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

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

of failure and lowest criticality carry a risk rating of 1. As new data and information is gathered, the Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$38,299,000 (91%)	$2,883,000 (7%)	$1,062,000 (3%)	- (0%)	- (0%)

Figure 52 Risk Matrix: Buildings

9.6 Levels of Service

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

9.6.1 Current and Proposed Levels of Service

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description of lifecycle activities performed on municipal buildings	Sustainability & affordability	Section 9.4	-
Technical	% of Buildings meeting AODA standards	Accessibility	23%	33%
Technical	Average risk rating	Quality	Low 3.25	Low 5.78

Table 28: Buildings - Levels of Service

9.6.2 Forecasted Long-Term Replacement Needs

Figure 53 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's buildings portfolio. This analysis was run until 2123 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total $967,000 ($4.8 million per 5-year bucket) for all buildings. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for

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

Replacement needs are forecasted to rise consistently over the next 50 years, reaching $8.3 million between 2069 and 2073. The chart also illustrates no backlog for buildings. 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.

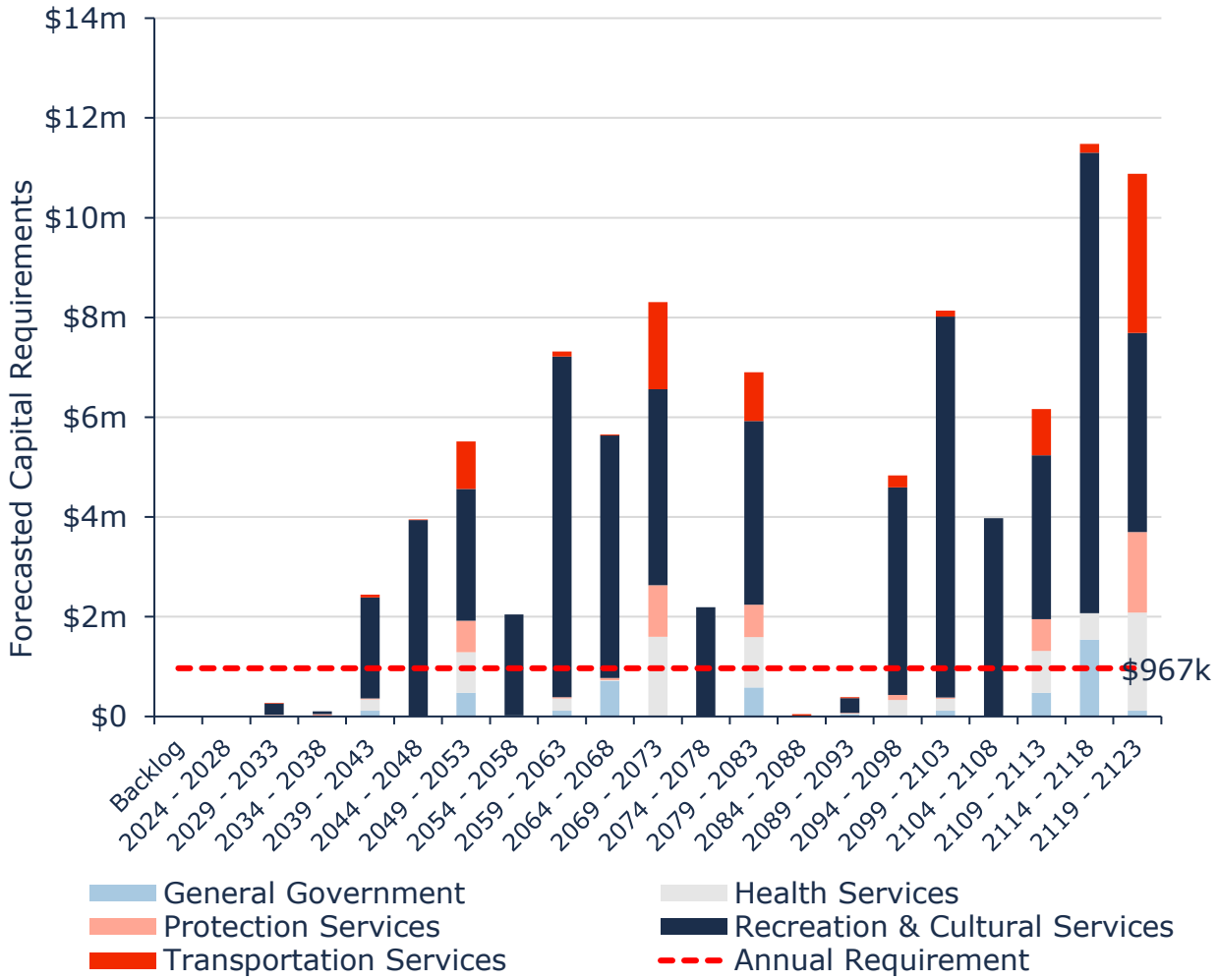


Figure 53 Forecasted Capital Replacement Needs Buildings 2024-2123

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 detailed 10-year capital replacement forecast can be found in Appendix B – 10-Year Capital Requirements.

10. Vehicles

10.1 Inventory & Valuation

Table 29 summarizes the quantity and current replacement cost of all vehicle assets available in the Municipality's asset register. Public works and the fire department account for the largest share of the vehicle portfolio.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Environmental Services	1	Quantity	$70,000	User-Defined
Protection Services	10	Quantity	$7,505,000	User-Defined
Recreation & Cultural Services	2	Quantity	$103,376	CPI
Transportation Services	15	Quantity	$2,810,000	User-Defined
TOTAL			**$10,488,376**	

Table 29 Detailed Asset Inventory: Vehicles

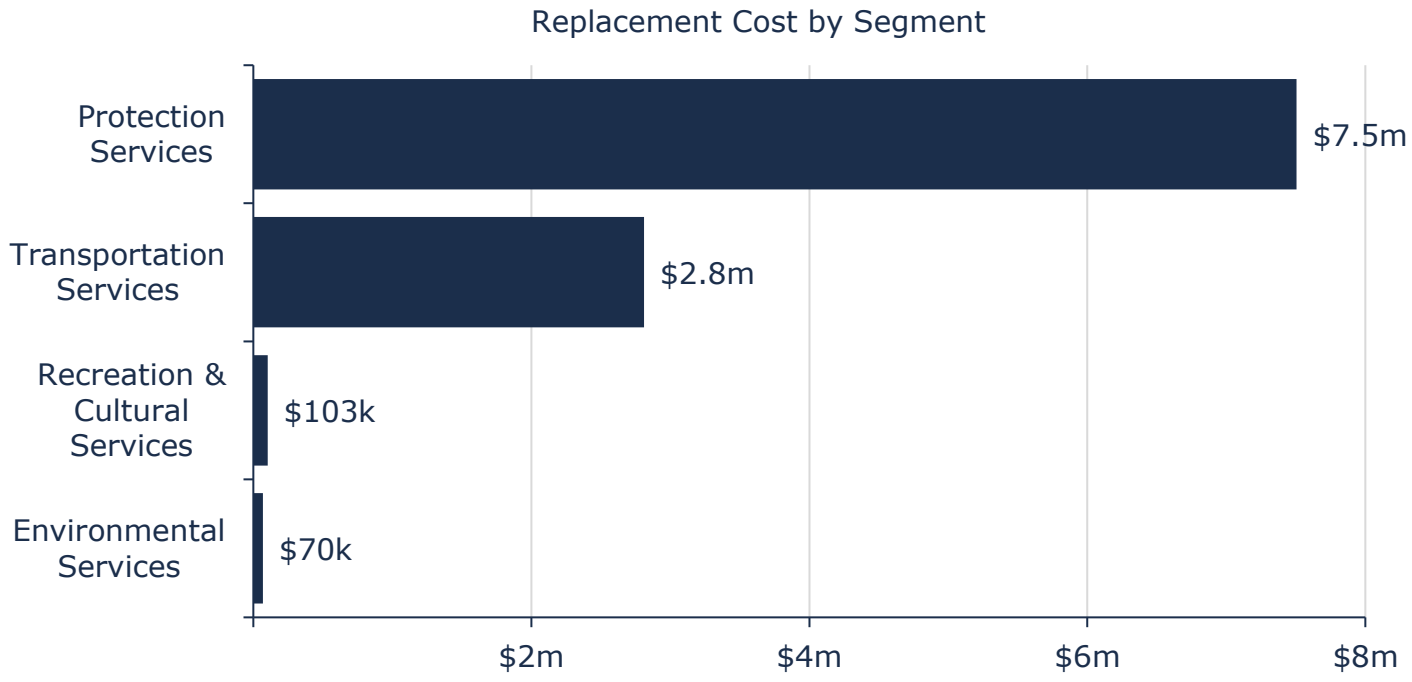


Figure 54 Portfolio Valuation: Vehicles

10.2 Asset Condition

Figure 55 summarizes the replacement cost-weighted condition of the Municipality's vehicles portfolio. Based primarily on assessment data, 88% of vehicles are in fair or better condition, with the remaining 12% are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. Condition data was available for 92% of vehicles, based on replacement costs; age was used to estimate condition for the remaining 8% of assets.

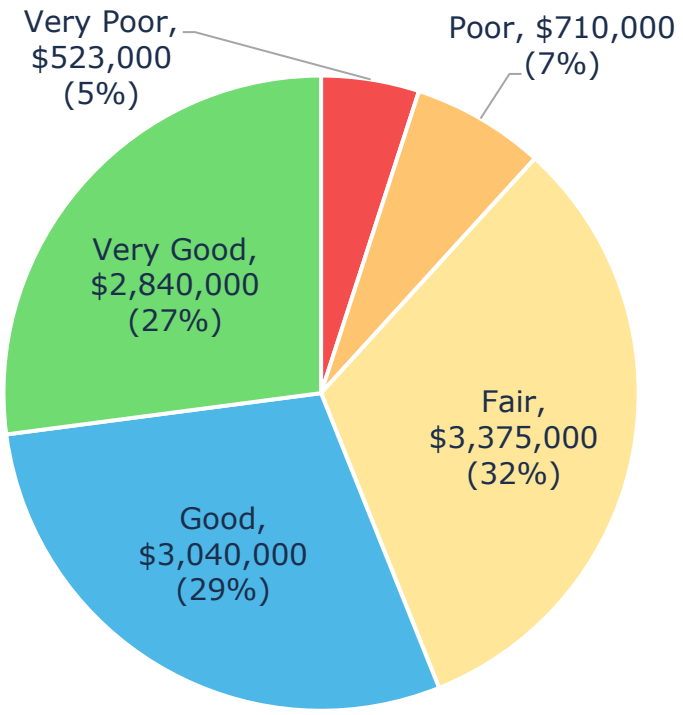


Figure 55 Asset Condition: Vehicles Overall

Figure 56 summarizes the condition of vehicles by each department. Most vehicles across all asset segments are in fair or better condition but attention may be needed to address the very poor condition of recreational and cultural services vehicles.

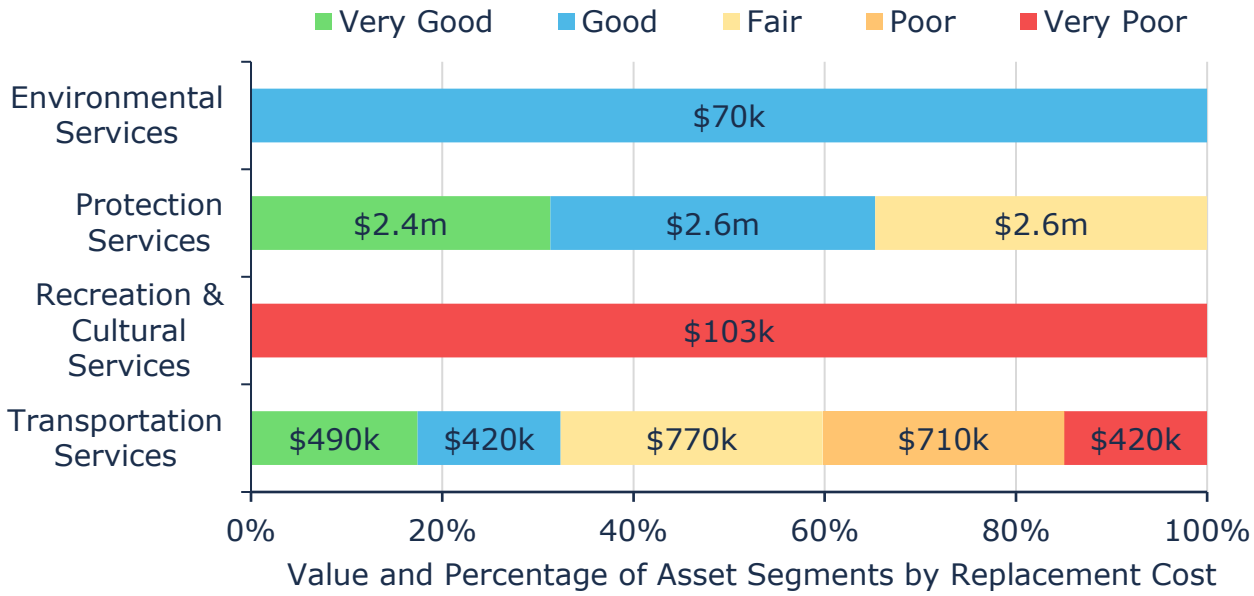


Figure 56 Asset Condition: Vehicles by Segment

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 57 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.

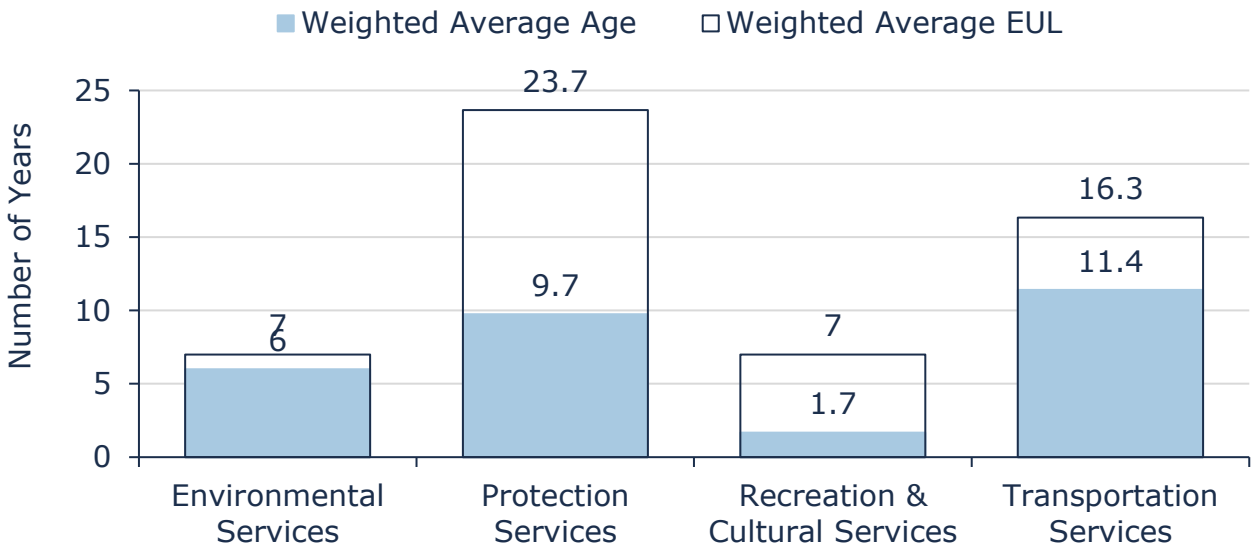


Figure 57 Estimated Useful Life vs. Asset Age: Vehicles

Age analysis reveals that, on average, most vehicles in protection services as well as recreation and cultural services are in moderate stages of their expected life. Vehicles in environmental services are approaching 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 Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	Light trucks are serviced every 5000-7000 km
	Heavy trucks are serviced approximately every 3000 km
	Graders are serviced approximately after 250 hours of use
Replacement	Vehicle replacements are the primary of means of upgrading and restoring condition. Vehicle replacement

Activity Type	Description of Current Strategy
	prioritization is based on condition and age to lesser extent
	Vehicles are replaced on a cycle basis as budget allows. A 5-year minimum capital planning horizon is undertaken
Inspection	Staff complete regular visual inspections of vehicles to ensure they are in state of adequate repair prior to operation
	Fire trucks are inspected annually

Table 30 Lifecycle Management Strategy: Vehicles

10.5 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 Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low $280,000 (3%)	5 - 7 Low $2,980,000 (28%)	8 - 9 Moderate $3,390,000 (32%)	10 - 14 High $3,138,000 (30%)	15 - 25 Very High $700,000 (7%)

Figure 58 Risk Matrix: Vehicles

10.6 Levels of Service

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

10.6.1 Current and Proposed Levels of Service

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description of lifecycle activities performed on vehicles	Sustainability and Affordability	Section 10.4	-
Technical	% of regulated (CVOR, MTO, and NFPA) maintenance inspections completed	Safety	100%	100%
Technical	Average condition of vehicles	Quality	Good 63	Good 63
Technical	Average risk rating	Quality	High 10.45	High 12.46

Table 31: Vehicles - Levels of Service

10.6.2 Forecasted Long-Term Replacement Needs

Figure 59 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's vehicles portfolio. This analysis was run until 2048 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets, the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total $549,000 ($2.745 million per 5-year bucket) for all vehicles. Although actual spending may fluctuate substantially from year to year, this figure is a useful benchmark value for annual capital expenditure targets (or allocations to reserves) to ensure projects are not deferred and replacement needs are met as they arise.

Replacement needs are forecasted to remain consistent in the current decade, with a slight peak of $3.6 million between 2029 and 2033 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.

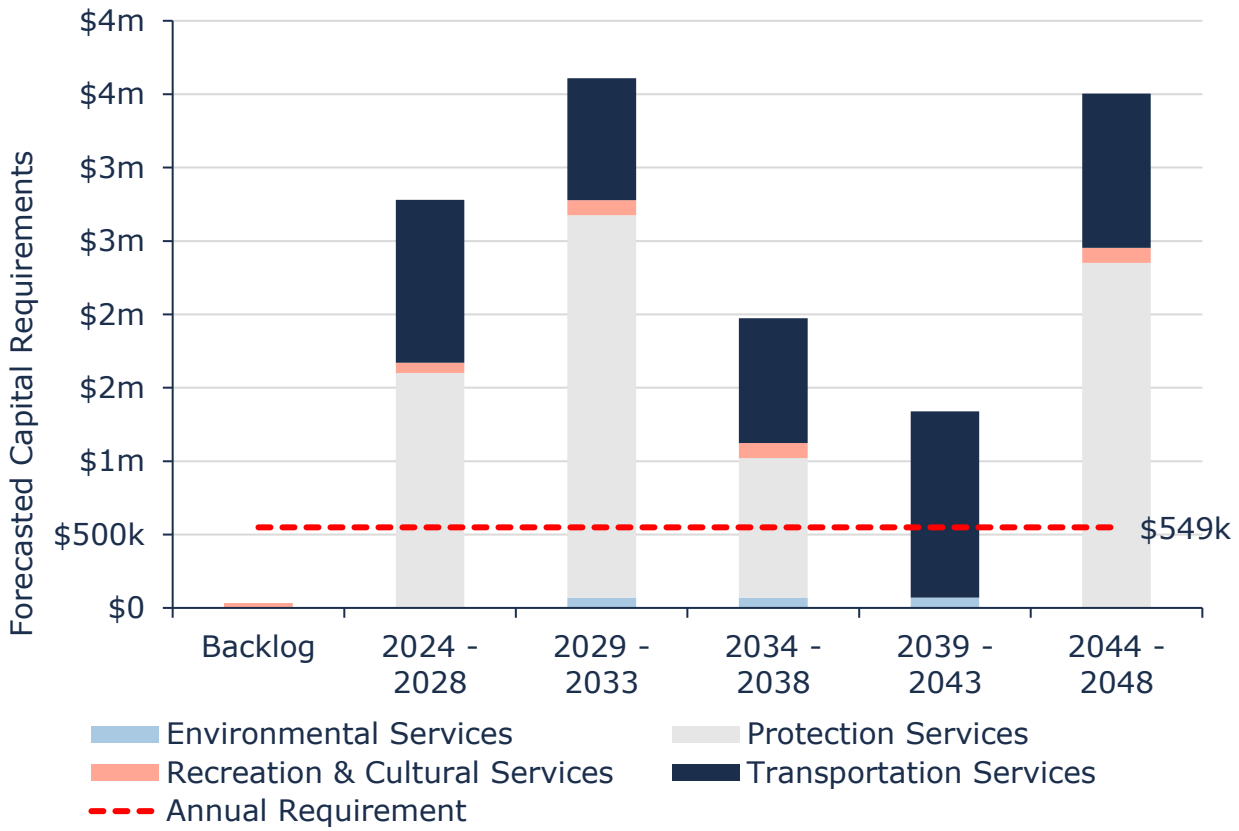


Figure 59 Forecasted Capital Replacement Needs: Vehicles 2024-2048

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 detailed 10-year capital replacement forecast can be found in Appendix B – 10-Year Capital Requirements.

11. Machinery & Equipment

11.1 Inventory & Valuation

Table 32 summarizes the quantity and current replacement cost of all machinery & equipment assets available in the Municipality's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Environmental Services	7	Quantity	$1,151,522	User-Defined
General Government	24	Quantity	$707,719	User-Defined
Health Services	3	Quantity	$153,000	User-Defined
Protection Services	12	Quantity	$279,289	User-Defined
Recreation & Cultural Services	15	Quantity	$628,100	User-Defined
Transportation Services	24	Quantity	$5,816,900	User-Defined
TOTAL			**$8,736,530**	

Table 32 Detailed Asset Inventory: Machinery & Equipment

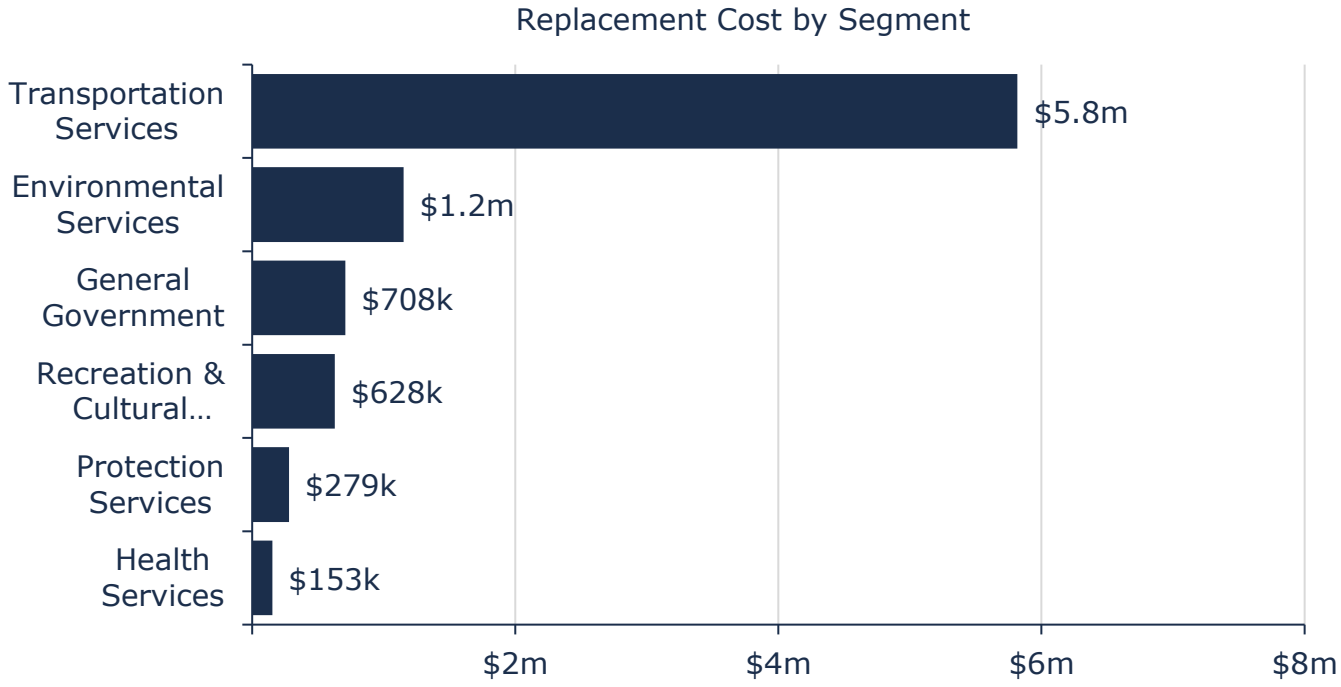


Figure 60 Portfolio Valuation: Machinery & Equipment

11.2 Asset Condition

Figure 61 summarizes the replacement cost-weighted condition of the Municipality's machinery and equipment portfolio. Based on a combination of assessed conditions and age data, 80% of assets are in fair or better condition; the remaining 20% 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.

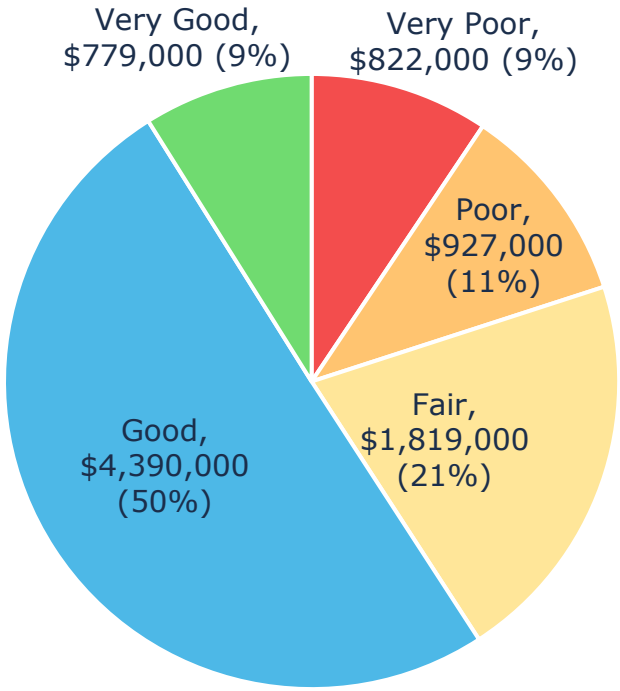


Figure 61 Asset Condition: Machinery & Equipment Overall

Figure 62 summarizes the age-based condition of machinery & equipment by each department. Most assets all assets are in poor or worse condition are concentrated primarily administration and the fire department.

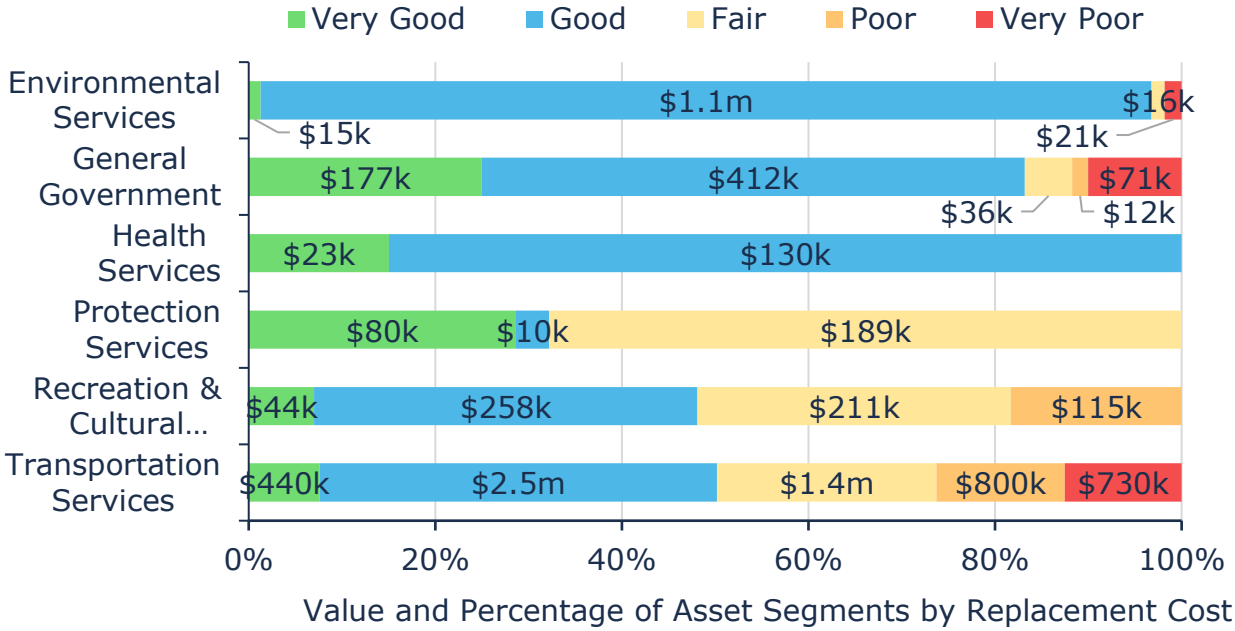


Figure 62 Asset Condition: Machinery & Equipment by Segment

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

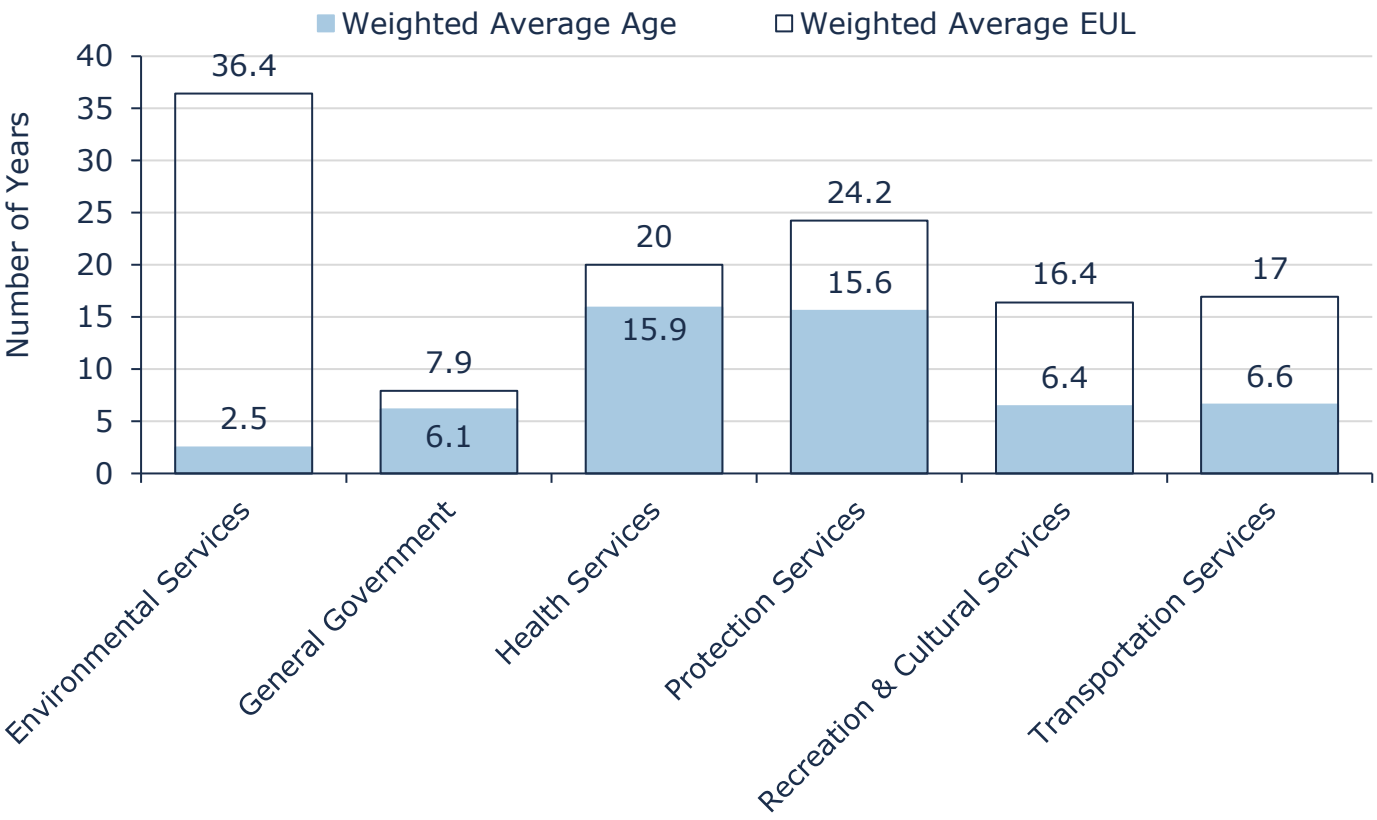


Figure 63 Estimated Useful Life vs. Asset Age: Machinery & Equipment

Age analysis reveals that, on average, that most machinery and equipment assets except for general government have plenty of service life remaining.

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 Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance & Rehabilitation	Department-specific programs, with fire protection services following NFPA standards.
	SCBA tested annually; bunker gear cleaned and hydrotested as needed.
	Annual servicing for ice resurfacers; biannual maintenance for chillers, HVAC, and compressors (per TSSA).
Replacement	Equipment replacement is based on deficiencies identified by operators that impact performance.
Inspection	Each department performs regular visual inspections of their equipment.
	SCBA units, bunker gear, chillers, and HVAC systems follow scheduled inspections (annual or biannual).
	Vehicle-related equipment is typically assessed during vehicle inspections.

Table 33 Lifecycle Management Strategy: Machinery & Equipment

11.5 Risk Analysis

The risk matrix below is generated using available asset data, including condition, service life remaining, and 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 Municipality may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

These risk models have been built into the Municipality's Asset Management Database (Citywide Assets). See *Risk & Criticality* section for further details on approach used to determine asset risk ratings and classifications.

1 - 4 Very Low $153,000 (2%)	5 - 7 Low $147,000 (2%)	8 - 9 Moderate $1,872,000 (21%)	10 - 14 High $4,549,000 (52%)	15 - 25 Very High $2,016,000 (23%)

Figure 64 Risk Matrix: Machinery & Equipment

11.6 Levels of Service

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

11.6.1 Current and Proposed Levels of Service

Metric Type	KPI Metric	Service Attribute	Current LOS	Proposed LOS
Community	Description of lifecycle activities performed on machinery & equipment assets	Sustainability and Affordability	Section 11.4	-
Technical	Average condition of equipment assets	Quality	Fair 57	Fair 50
Technical	Average risk rating	Quality	High 11.2	High 12.96

Table 34: Machinery & Equipment - Levels of Service

11.6.2 Forecasted Long-Term Replacement Needs

Figure 65 illustrates the cyclical short-, medium- and long-term infrastructure replacement requirements for the Municipality's machinery and equipment portfolio. This analysis was run until 2053 to capture at least one iteration of replacement for the longest-lived asset in Citywide Assets,

the Municipality's primary asset management system and asset register. The Municipality's average annual requirements (red dotted line) total $581,000 ($2.9 million per 5-year bucket) for all machinery and 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 fluctuate over the 30-year horizon, peaking at $4.7 million between 2049 and 2053. 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.

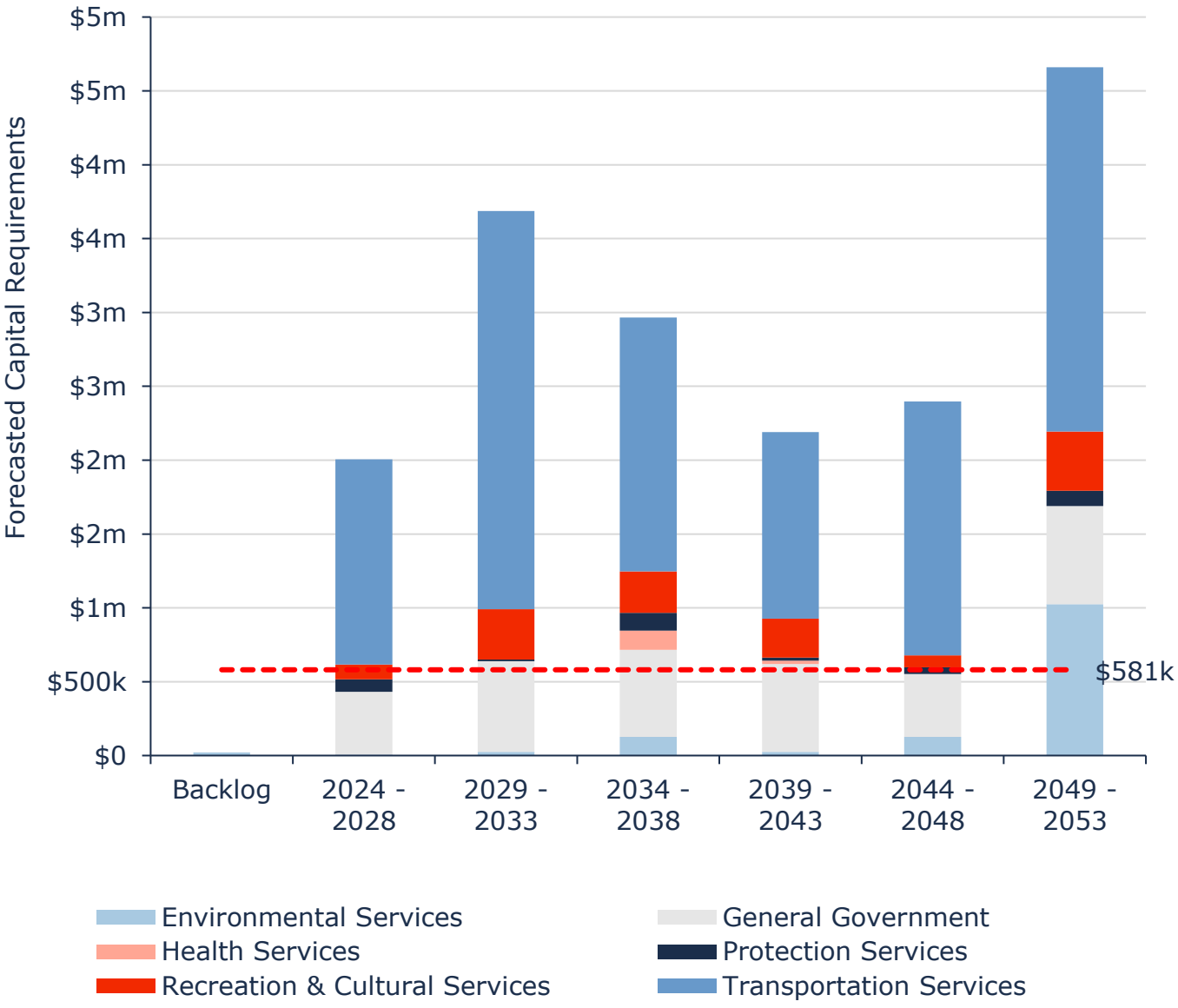


Figure 65 Forecasted Capital Replacement Needs: Machinery & Equipment 2024-2053

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 detailed 10-year capital replacement forecast can be found in Appendix B – 10-Year Capital Requirements.

Strategies

Growth

Financial Strategy

12. Growth

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

12.1 Municipality of Huron East Official Plan

Within its Official Plan, the Municipality of Huron East sets out a long-term vision that promotes sustainable growth, protects its agricultural base, and enhances quality of life through coordinated land use and infrastructure planning. Growth is directed to fully serviced settlement areas such as Seaforth, Brussels, and Vanastra, while rural and agricultural areas are preserved for farming and low-impact development. The Plan supports compact, accessible communities and promotes infill, revitalization, and affordable housing options that meet the needs of residents at every stage of life.

Agriculture remains the foundation of Huron East's identity and economy. With over 90% of land classified as prime farmland, the Plan safeguards this resource by encouraging a diverse mix of agricultural operations, on-farm businesses, and value-added uses. Residential development in agricultural areas is limited to farm-related housing or additional units directly tied to the farm operation. Surplus farmhouse severances and accommodations for farm labourers are permitted under strict conditions to avoid farmland fragmentation.

The Plan also places a strong emphasis on environmental protection. It promotes the restoration of forest cover to 15%, the protection of wetlands, woodlands, and wildlife habitat, and the enhancement of vegetation corridors along watercourses. Watershed planning, source water protection, and erosion control are prioritized to ensure long-term ecosystem health and climate resilience.

Infrastructure and public services are planned to support growth in a cost-effective and sustainable manner. Water, wastewater, stormwater, roads, and waste services are delivered in alignment with land use policies and asset management principles. The Plan also encourages community improvement initiatives, recreational investments, and heritage conservation to enhance the overall well-being and livability of the municipality.

Taken together, the Huron East Official Plan supports the goals of the Asset Management Plan by aligning development with infrastructure capacity, protecting environmental and cultural assets, and ensuring that services are delivered efficiently to a growing and diverse population.

12.2 Huron County Regional Plan

The Huron County Official Plan outlines a vision for sustainable, well-managed growth in the Municipality of Huron East, grounded in agricultural preservation, community vibrancy, and environmental protection. As part of the County's settlement structure, Huron East contains key Primary and Secondary Settlement Areas—including Seaforth and Brussels—which serve as hubs for residential development, employment, and community services. These areas are supported by full or partial municipal services and are prioritized for growth through infill, intensification, and mixed-use development.

Agriculture is central to Huron East's identity and economy. The municipality is characterized by high-quality farmland, and the Plan strongly protects prime agricultural lands by directing non-farm development to urban areas and permitting on-farm diversified uses under specific conditions. Policies support additional residential units for farm families and surplus farmhouse severances, provided they do not fragment farmland or strain local services. Environmental sustainability is emphasized through best management practices, nutrient management, and source water protection requirements.

The Plan also places a strong focus on environmental stewardship, using a watershed-based approach to guide land use decisions. Woodlands, wetlands, and watercourses across Huron East are protected through development controls and landowner stewardship programs, and reforestation efforts aim to increase overall forest cover. Development near sensitive natural areas requires environmental impact assessments to ensure long-term ecological integrity.

To support quality of life and resilience, the Plan encourages investment in infrastructure, community services, and transportation systems that are accessible, efficient, and environmentally responsible. Policies promote broadband access, electric vehicle infrastructure, active transportation, and community partnerships in service delivery. Economic development is guided by a commitment to maintaining a diversified local economy, with support for the agricultural sector, small businesses, tourism, and emerging industries.

In sum, the Official Plan aligns closely with the goals of Huron East's Asset Management Plan by ensuring that land use, infrastructure investment, and

community development are coordinated, forward-looking, and rooted in the long-term well-being of residents and the natural environment.

12.3 Impact of Growth on Lifecycle Activities

As the municipality's population is expected to increase in the coming years, demand will evolve, and it is likely that funding will need to be reprioritized.

As growth-related assets are constructed, retired, or acquired, they should be integrated into the AMP. Furthermore, the municipality will need to review the lifecycle costs of growth-related infrastructure. These costs should be considered in long-term funding strategies that are designed to maintain the current level of service.

13. 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 Municipality of Huron East 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
    d. Requirements of anticipated growth
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Debt
    d. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. Canada Community-Building Fund (CCBF)
    b. Annual grants

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

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

1. 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.

13.1 Annual Requirements & Capital Funding

13.1.1 Annual Requirements

The annual requirements represent the amount the Municipality should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs and achieve long-term sustainability. In total, the Municipality must allocate approximately $8.7 million annually to address capital requirements for the assets included in this AMP.

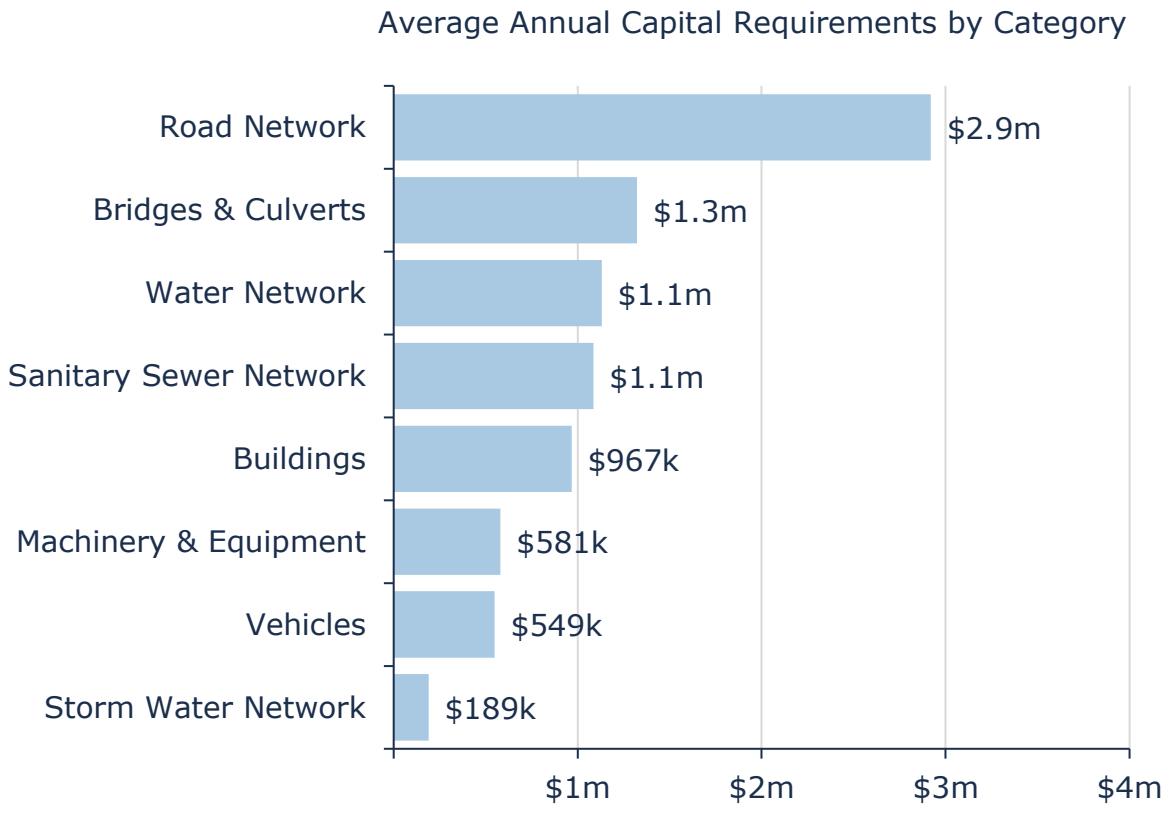


Figure 66 Annual Capital Funding Requirements by Asset Category

Where applicable, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of some of the main assets in these categories. The development of these strategies allows for a comparison of potential cost avoidance if the strategies were to be implemented. The following table compares the two different strategies:

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

The implementation of a proactive lifecycle strategy leads to a potential annual cost avoidance and better overall performance. As the lifecycle strategy scenario represents the lowest cost option available to the Municipality, we have used these annual requirements in the development of the financial strategy.

13.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources from 2023, the Municipality is committing approximately $5.4 million towards capital projects per year. Given the annual capital requirement of $8.7 million, there is currently a funding gap of $3.73 million annually.

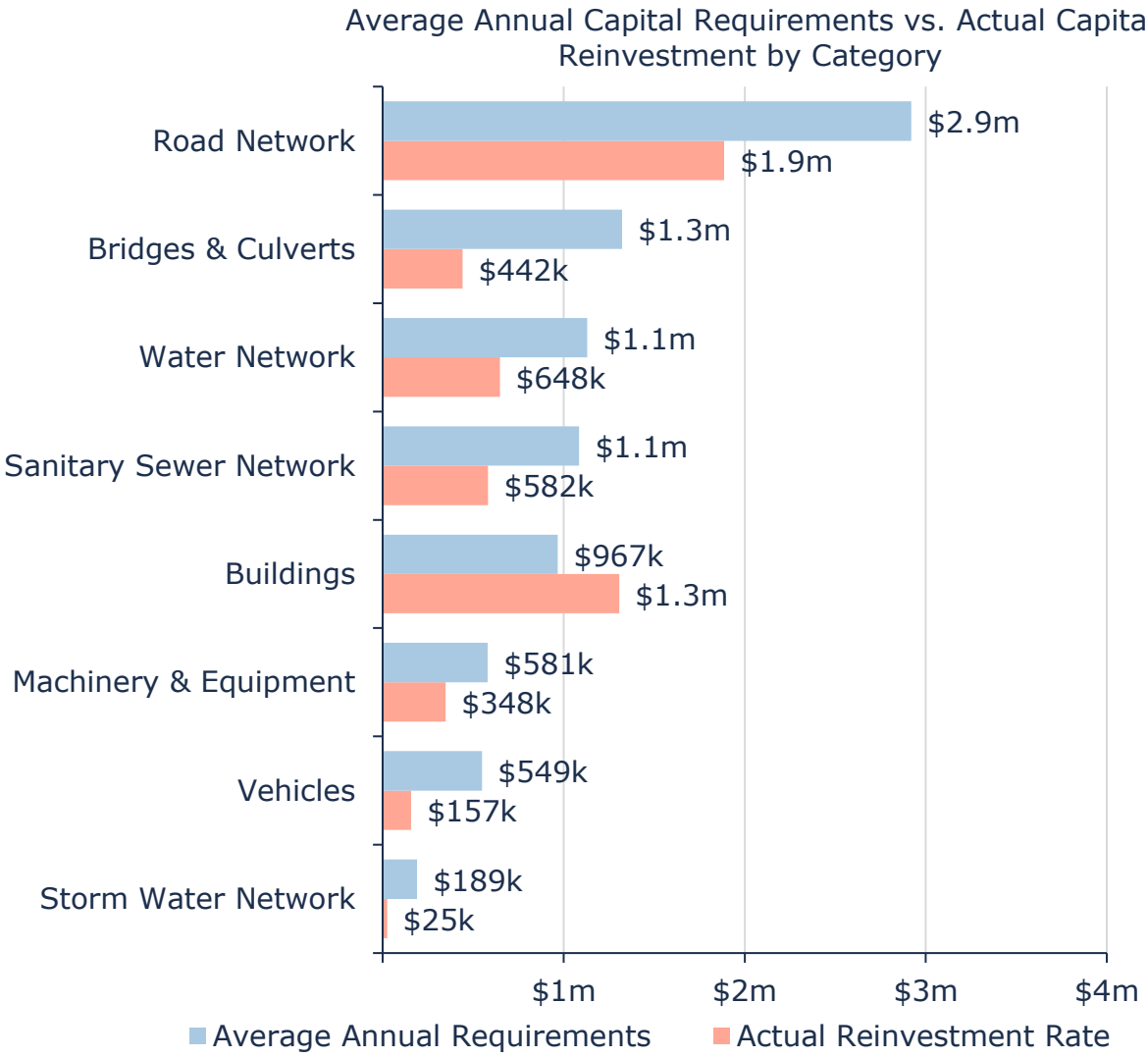


Figure 67 Annual Requirements vs. Capital Funding Available

13.2 Funding Objective

We have developed a scenario that would enable Huron East to achieve full funding within 1 to 20 years for the following assets:

1. **Tax Funded Assets:** Road Network, Bridges & Culverts, Storm Water Network, Buildings, Vehicles, and Machinery & Equipment

2. **Rate-Funded Assets:** Water Network, and Sanitary Sewer Network

Note: For the purposes of this AMP, we have excluded gravel/dirt roads since they are a perpetual maintenance asset and end of life replacement

calculations do not normally apply. If gravel roads are maintained properly, they can theoretically have a limitless service life.

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

13.3 Financial Profile: Tax Funded Assets

13.3.1 Current Funding Position

The following tables show, by asset category, Huron East'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	CCBF	OCIF	Taxes to Reserves	Vibrancy	Total Available	
Bridges & Culverts	1,323,000	176,000	151,000		115,000		442,000	881,000
Buildings	967,000	129,000			1,069,000	110,000	1,307,525	-341,000
Machinery & Equipment	581,000	77,000			216,000	55,000	348,000	232,000
Road Network	2,920,000	435,000	151,000	915,000	385,000		1,886,000	1,034,000
Storm Water Network	189,000	73,000					25,000	164,000
Vehicles	549,000	73,000			29,000	55,000	156,937	392,000
Total	**6,529,000**	**915,000**	**302,000**	**915,000**	**1,814,000**[9]	**220,000**[10]	**4,166,000**	**2,363,000**

Table 35 Annual Available Funding for Tax Funded Assets

The average annual investment requirement for the above categories is approximately $6.5 million. Annual revenue currently allocated to these assets for capital purposes is approximately $4.2million leaving an annual deficit of about $2.3 million. Put differently, these infrastructure categories are currently funded at 63.8% of their long-term requirements.

[9] 3 year rolling average
[10] Vibrancy agreement in place until 2034

13.3.2 Full Funding Requirements

In 2023, Huron East had annual tax revenues of $10.1 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
Bridges & Culverts	8.7%
Buildings	-3.4%
Machinery & Equipment	2.3%
Road Network	10.2%
Storm Water Network	1.6%
Vehicles	3.9%
Total	**23.3%**

Table 36 Tax Increase Requirements for Full Funding

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

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	2,363,000	2,363,000	2,363,000	2,363,000
Change in Debt Costs	110,000	-103,000	-119,000	-269,000
Resulting Infrastructure Deficit:	**2,473,000**	**2,260,000**	**2,244,000**	**2,094,000**
Tax Increase Required	24.4%	22.3%	22.1%	20.6%
Annually:	**4.9%**	**2.2%**	**1.5%**	**1.0%**

Table 37 Tax Increase Options 5-20 Years

13.3.3 Financial Strategy Recommendations

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

a) when realized, reallocating the debt cost reductions to the infrastructure deficit as outlined above.
b) increasing tax revenue by 1.5% 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.
c) adjusting tax revenue increases in future year(s) when allocations to capital expenditure exceed or fail to meet budgeted amounts.
d) allocating CCBF and OCIF revenue as outlined previously.
e) allocating the scheduled OCIF grant increases to the infrastructure deficit as they occur.
f) reallocating appropriate revenue from categories in a surplus position to those in a deficit position, when applicable.
g) 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[11].
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 within X 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 $2 million for tax funded assets.

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

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.

13.4 Financial Profile: Rate Funded Assets

13.4.1 Current Funding Position

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

Asset Category	Avg. Annual Requirement	Annual Funding Available				Annual Deficit
		Rates	Grants	To Operations	Total Available	
Sanitary Sewer Network	1,085,000	1,300,000	0	-718,000	582,000	503,000
Water Network	1,130,000	1,479,000	0	-831,000	648,000	482,000
Total	**2,215,000**	**2,779,000**	**0**	**-1,549,000**	**1,230,000**	**985,000**

Table 38 Annual Available Funding for Rate Funded Assets

The average annual investment requirement for the above categories is $2.2 million. Annual revenue currently allocated to these assets for capital purposes is $1.2 million leaving an annual deficit of $1 million. Put differently, these infrastructure categories are currently funded at 55.5% of their long-term requirements.

13.4.2 Full Funding Requirements

In 2023, the Huron East had annual sanitary and water revenues of $1,300,000 and $1,479,000 respectively. As illustrated in the table below, without consideration of any other sources of revenue, full funding would require the following changes over time:

Asset Category	Rate Change Required for Full Funding
Sanitary Sewer Network	38.7%
Water Network	32.6%

Table 39 Rate Increase Requirements for Full Funding

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

	Sanitary Sewer Network			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	503,000	503,000	503,000	503,000
Rate Increase Required	38.7%	38.7%	38.7%	38.7%
Annually:	**7.7%**	**3.9%**	**2.6%**	**1.9%**

Table 40 Water Rate Increase Options 5-20 Years

	Water Network			
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit	482,000	482,000	482,000	482,000
Rate Increase Required	32.6%	32.6%	32.6%	32.6%
Annually:	**6.5%**	**3.3%**	**2.2%**	**1.6%**

Table 41 Sanitary Rate Increase Options 5-20 Years

13.4.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 20-year option. This involves full funding being achieved over 20 years by:

a) increasing rate revenues by 1.9% for sanitary services and 1.6% for water services each year for the next 20 years solely for the purpose of phasing in full funding to the asset categories covered in this section of the AMP.

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

Notes:

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

Although this option achieves full funding on an annual basis in 20 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 the pent-up investment demand of $2.9 million in backlog, for rate-funded assets.

13.5 Use of Debt

The following tables outline how Huron East has historically used debt for investing in the asset categories as listed. There is currently $3.3 million of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of $269,000 (2024), well within its provincially prescribed maximum of $3,919,092.

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2019	2020	2021	2022	2023
Bridges & Culverts	303,000			424,000		
Buildings	2,659,000					1,890,000
Machinery & Equipment						
Road Network	303,000			424,000		
Storm Water Network						
Vehicles						
Total Tax Funded	**3,265,000**			**848,000**		**1,890,000**
Sanitary Sewer Network						
Water Network						
Total Rate Funded						

Table 42: Current Debt Overview

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2024	**2025**	**2026**	**2027**	**2028**	**2029**	**2034**
Bridges & Culverts	46,000	46,000	46,000	46,000	46,000	46,000	
Buildings	177,000	298,000	298,000	298,000	298,000	287,000	165,000
Machinery & Equipment							
Road Network	46,000	46,000	46,000	46,000	46,000	46,000	
Storm Water Network							
Vehicles							
Total Tax Funded	**269,000**	**390,000**	**390,000**	**390,000**	**390,000**	**379,000**	**166,000**
Sanitary Sewer Network							
Water Network							
Total Rate Funded							

Table 43: Principal Interest

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

13.6 Use of 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 Huron East.

Asset Category	Balance at December 31, 2023
Bridges & Culverts	307,000
Buildings	1,276,000
Machinery & Equipment	374,000
Road Network	1,875,000
Storm Water Network	35,000
Vehicles	35,000
Total Tax Funded:	3,902,000
Sanitary Sewer Network	4,424,000
Water Network	3,095,000
Total Rate Funded:	**7,519,000**

Table 44: Use of Reserves

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Municipality should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should consider 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 Huron East'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.

Appendices

Appendix A – Infrastructure Report Card

Appendix B – 10-Year Capital Requirements

Appendix C – Level of Service Maps

Appendix D – Public Engagement Questionnaire

Appendix E – Condition Assessment Guidelines

Appendix A – Infrastructure Report Card

Asset Category	Replacement Cost	Average Condition	Financial Capacity	
Road Network	**$84 m**	**Fair**	Annual Requirement:	$2,920,000
			Funding Available:	$1,886,000
			Annual Deficit:	**$1,034,000**
Bridges & Culverts	**$82 m**	**Fair**	Annual Requirement:	$1,323,000
			Funding Available:	$442,000
			Annual Deficit:	**$881,000**
Water Network	**$63.4 m**	**Good**	Annual Requirement:	$1,130,000
			Funding Available:	$648,000
			Annual Deficit:	**$482,000**
Sanitary Sewer Network	**$63.1 m**	**Good**	Annual Requirement:	$1,085,000
			Funding Available:	$582,000
			Annual Deficit:	**$503,000**
Storm Water Network	**$9.6 m**	**Fair**	Annual Requirement:	$189,000
			Funding Available:	$25,000
			Annual Deficit:	**$164,000**
Buildings	**$42.2 m**	**Very Good**	Annual Requirement:	$967,000
			Funding Available:	$1,308,000
			Annual Surplus:	**$341,000**
Vehicles	**$10.5 m**	**Good**	Annual Requirement:	$549,000
			Funding Available:	$157,000
			Annual Deficit:	**$392,000**
Machinery & Equipment	**$8.7 m**	**Fair**	Annual Requirement:	$581,000
			Funding Available:	$348,000
			Annual Deficit:	**$232,000**

Appendix B – 10-Year Capital Requirements

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.

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

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

Road Network

Segment	Back-log	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Rural - Paved	$341k	$509k	$784k	$2.2m	$3.9m	$1.6m	$5.0m	$2.2m	$2.4m	$1.9m	$2.1m
Rural - Tar & Chip	$10k	-	-	-	$33k	$9k	-	$155k	$507k	-	-
Sidewalks	$69k	-	$689k	-	-	-	-	-	$919k	-	-
Urban - Paved	$1.5m	$2.6m	$5.9m	$1.5m	$1.1m	$2.1m	$2.2m	$567k	$579k	$378k	$473k
Total	**$1.9m**	**$3.1m**	**$7.4m**	**$3.7m**	**$5.1m**	**$3.7m**	**$7.2m**	**$2.9m**	**$4.4m**	**$2.3m**	**$2.6m**

Table 45 System Generated 10-Year Capital Replacement Forecast: Road Network

Bridges & Culverts

Segment	Back-log	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Bridges	-	-	-	-	-	-	-	-	-	$1.5m	-
Culverts	-	$412k	-	$495k	$650k	-	$500k	-	$271k	-	$975k
Total	**-**	**$412k**	**-**	**$495k**	**$650k**	**-**	**$500k**	**-**	**$271k**	**$1.5m**	**$975k**

Table 46 System Generated 10-Year Capital Replacement Forecast: Bridges & Culverts

Water Network

Segment	Back-log	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Structures	-	-	-	-	-	$2k	$40k	$20k	-	-	-
Watermains - Brucefield	-	-	-	-	-	-	-	-	-	-	-
Watermains - Brussels	-	$412k	-	-	-	-	-	-	$280k	-	$229k
Watermains - Seaforth	$2.1m	-	-	$263k	$566k	-	$1.0m	-	-	$361k	-
Watermains - Vanastra	-	-	-	-	-	-	-	$275k	-	$366k	-
Total	**$2.1m**	**$412k**	**-**	**$263k**	**$566k**	**$2k**	**$1.1m**	**$295k**	**$280k**	**$727k**	**$229k**

Table 47 System Generated 10-Year Capital Replacement Forecast: Water Network

Sanitary Sewer Network

Segment	Back-log	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Sewer Mains - Brussels	-	-	-	-	$11k	-	-	-	-	$11k	-
Sewer Mains - Seaforth	$848k	-	-	$231k	$497k	-	$903k	-	-	$664k	-
Sewer Mains - Vanastra	-	-	-	-	-	-	-	$241k	$86k	$321k	-
Structures	-	-	-	-	-	-	$8k	$8k	-	-	-
Total	**$848k**	**-**	**-**	**$231k**	**$508k**	**-**	**$912k**	**$249k**	**$86k**	**$996k**	**-**

Table 48 System Generated 10-Year Capital Replacement Forecast: Sanitary Sewer Network

Storm Water Network

Segment	Back-log	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Storm Drains	-	$311k	$432k	$199k	$428k	$735k	$778k	$207k	$212k	$277k	$173k
Total	**-**	**$311k**	**$432k**	**$199k**	**$428k**	**$735k**	**$778k**	**$207k**	**$212k**	**$277k**	**$173k**

Table 49 System Generated 10-Year Capital Replacement Forecast: Storm Water Network

Buildings

Segment	Back-log	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
General Government	-	-	-	-	-	-	-	-	-	-	$6k
Health Services	-	-	-	-	-	-	-	$18k	-	-	-
Protection Services	-	-	-	-	-	-	-	$9k	-	-	-
Recreation & Cultural Services	-	-	-	-	-	$5k	$38k	$108k	-	$39k	$38k
Transportation Services	-	-	-	-	-	-	-	$16k	-	-	-
Total	**-**	**-**	**-**	**-**	**-**	**$5k**	**$38k**	**$151k**	**-**	**$39k**	**$45k**

Table 50 System Generated 10-Year Capital Replacement Forecast: Buildings

Vehicles

Segment	Back-log	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Environmental Services	-	-	-	-	-	-	$70k	-	-	-	-
Protection Services	-	-	-	$800k	-	$800k	$605k	-	-	-	$2.0m
Recreation & Cultural Services	$33k	$70k	-	-	-	-	-	-	$103k	-	-
Transportation Services	-	-	-	$540k	-	$570k	$130k	$490k	-	-	$210k
Total	**$33k**	**$70k**	**-**	**$1.3m**	**-**	**$1.4m**	**$805k**	**$490k**	**$103k**	**-**	**$2.2m**

Table 51 System Generated 10-Year Capital Replacement Forecast: Vehicles

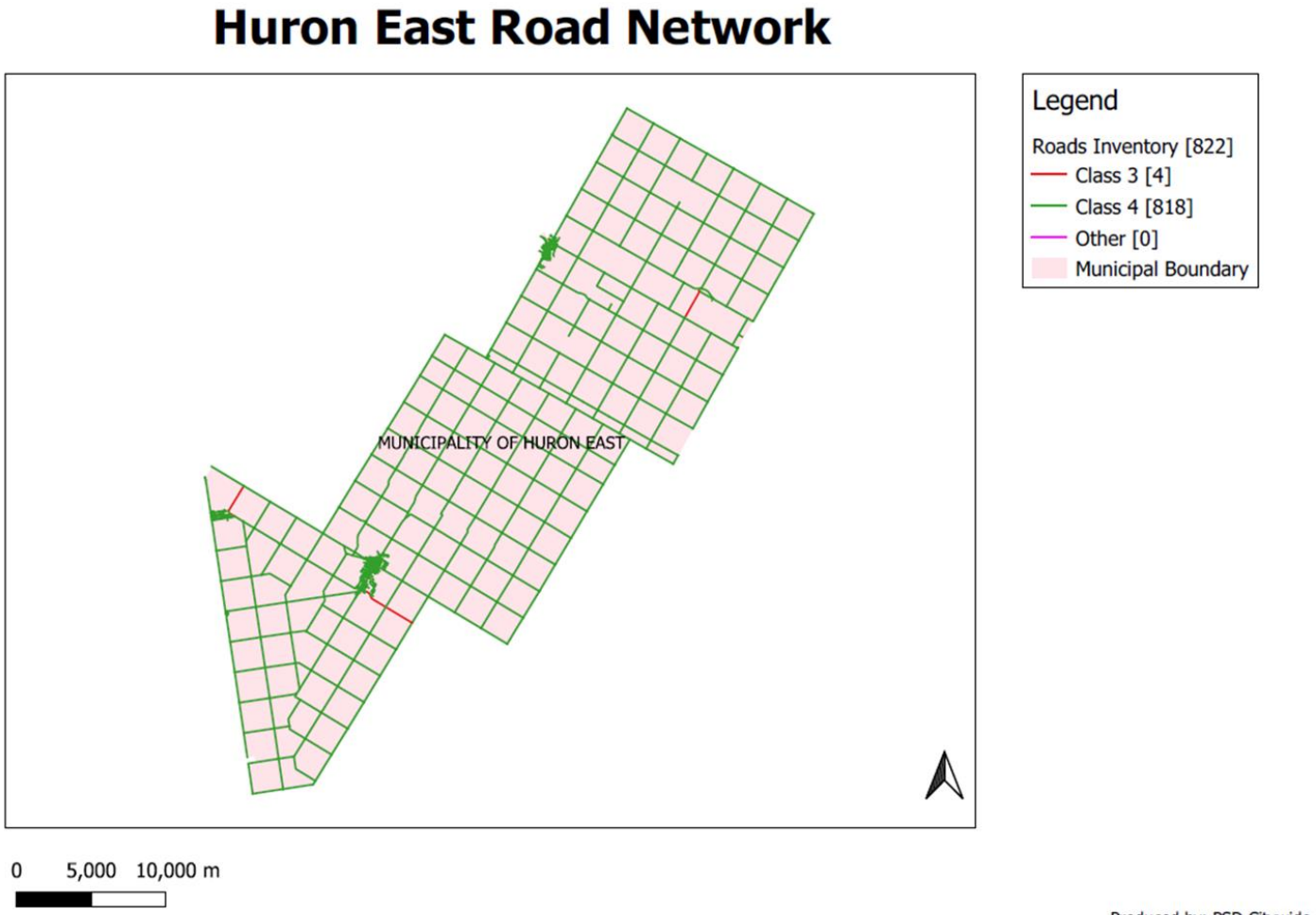
Machinery & Equipment

Segment	Back-log	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Environmental Services	$21k	-	-	-	-	$6k	$10k	-	-	$15k	-
General Government	-	$71k	$20k	$130k	$60k	$145k	$40k	$322k	$28k	$78k	$147k
Health Services	-	-	-	-	-	-	-	-	-	-	-
Protection Services	-	$25k	-	$60k	-	-	-	$10k	-	-	-
Recreation & Cultural Services	-	-	$10k	$17k	$12k	$61k	$210k	$33k	$17k	$9k	$73k
Transportation Services	-	$52k	$650k	$27k	$650k	$10k	$908k	$415k	$739k	-	$635k
Total	**$21k**	**$148k**	**$680k**	**$234k**	**$722k**	**$222k**	**$1.2m**	**$780k**	**$784k**	**$101k**	**$855k**

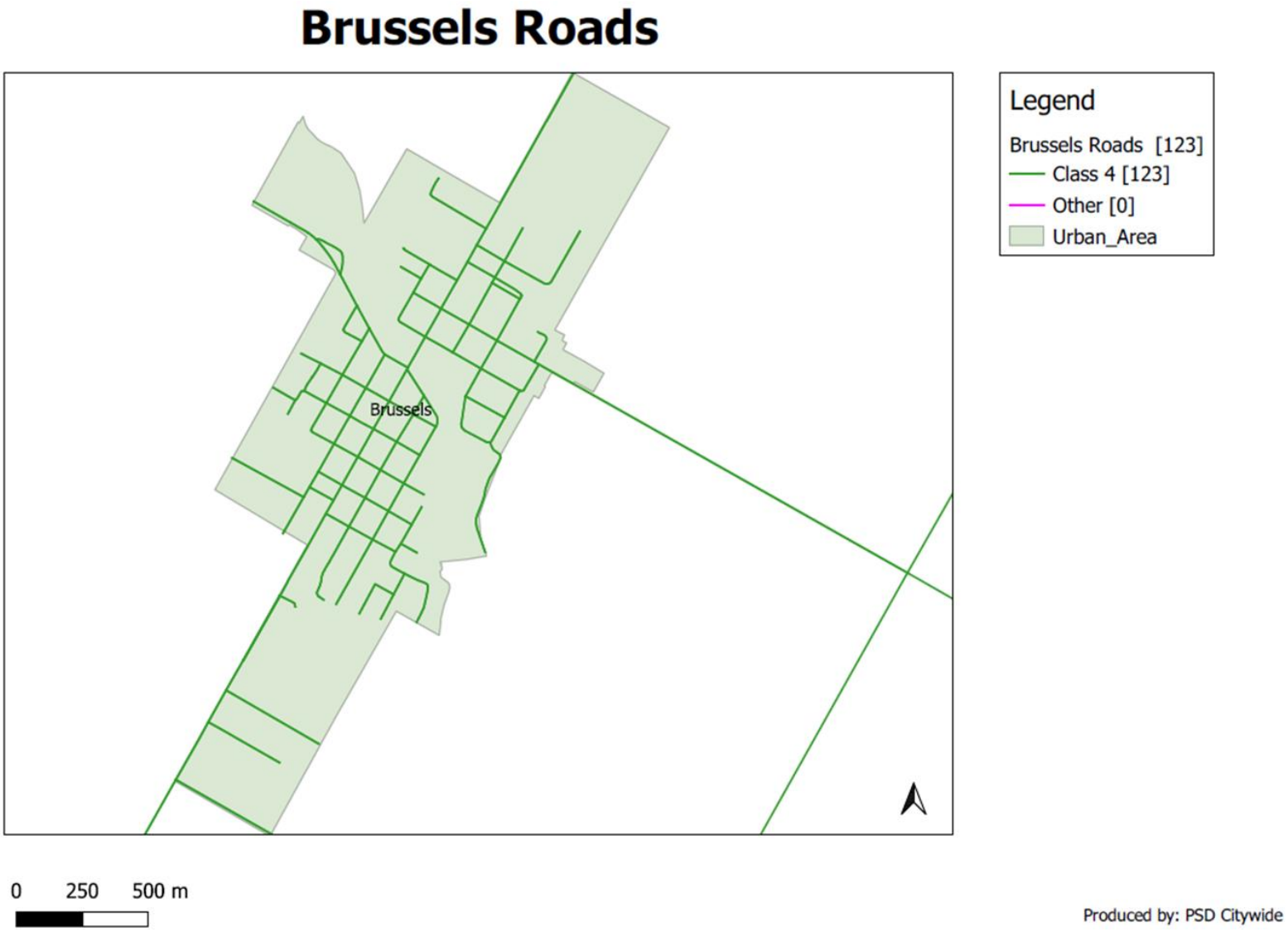
Table 52 System Generated 10-Year Capital Replacement Forecast: Machinery & Equipment

Appendix C – Level of Service Maps & Photos

Road Network Map – Huron East

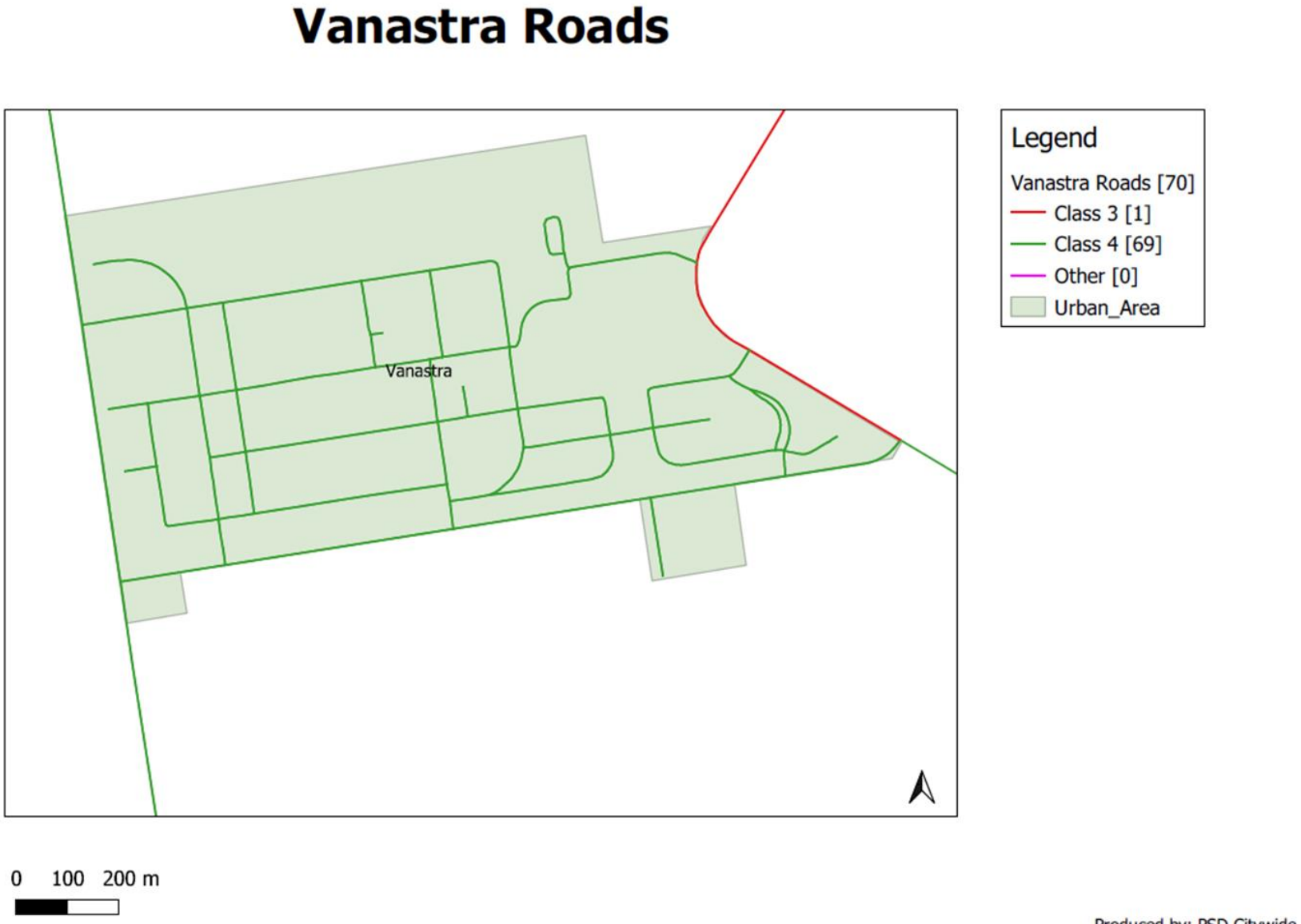


Road Network Map – Brussels



Road Network Map - Seaforth

Road Network Map – Vanastra



Description or images that illustrate the different levels of road class pavement condition

Very Good - Pavement is in excellent condition with few visible defects. Riding quality is very smooth with not more than a few areas of very slight distortion.

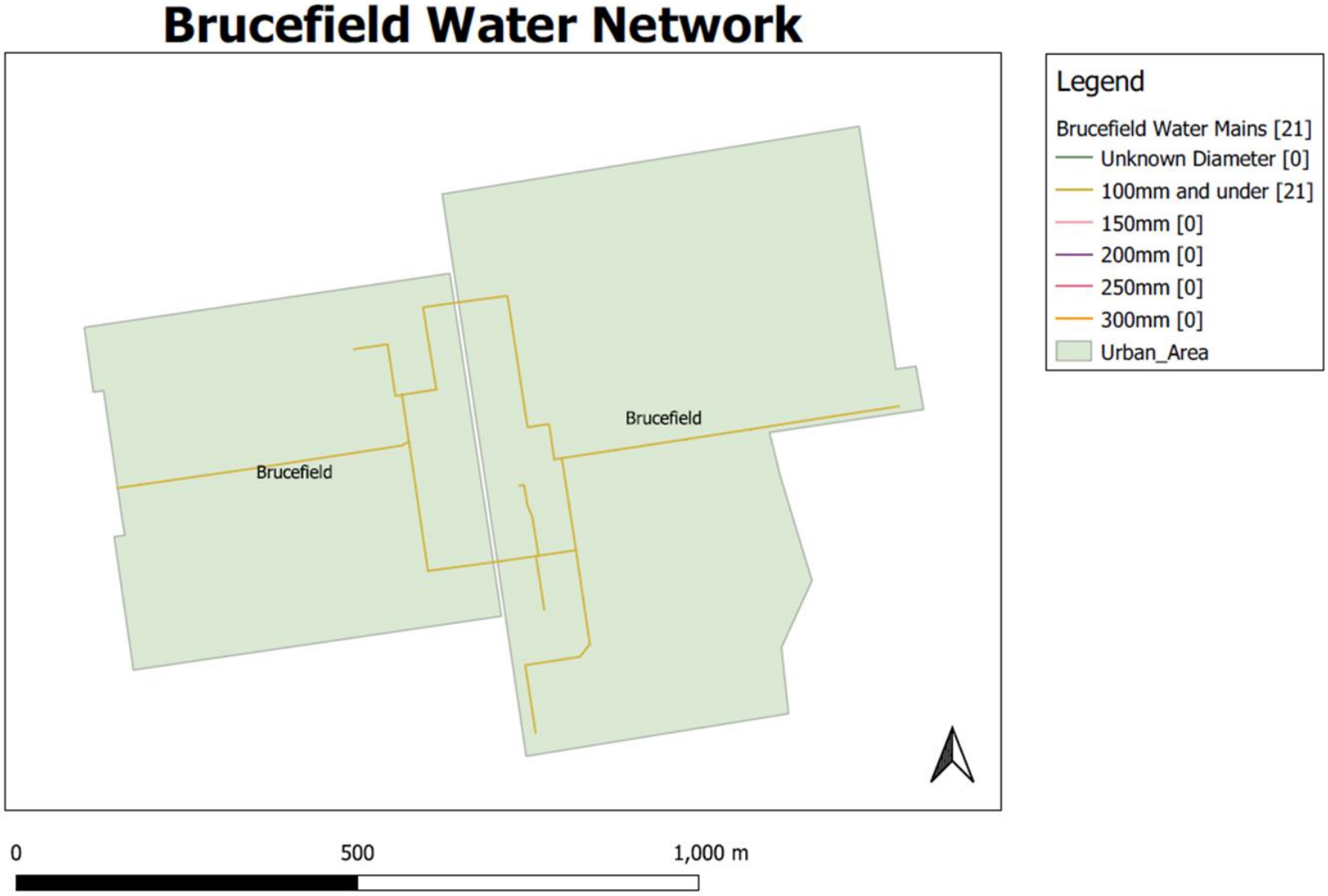
Good - Pavement is in good condition with accumulating slight defects and distortions. Riding quality is smooth with intermittent slightly rough and uneven sections.

Fair - Pavement is in fair condition with intermittent patterns of slight to moderate defects. Ride quality is comfortable with intermittent bumps or depressions.

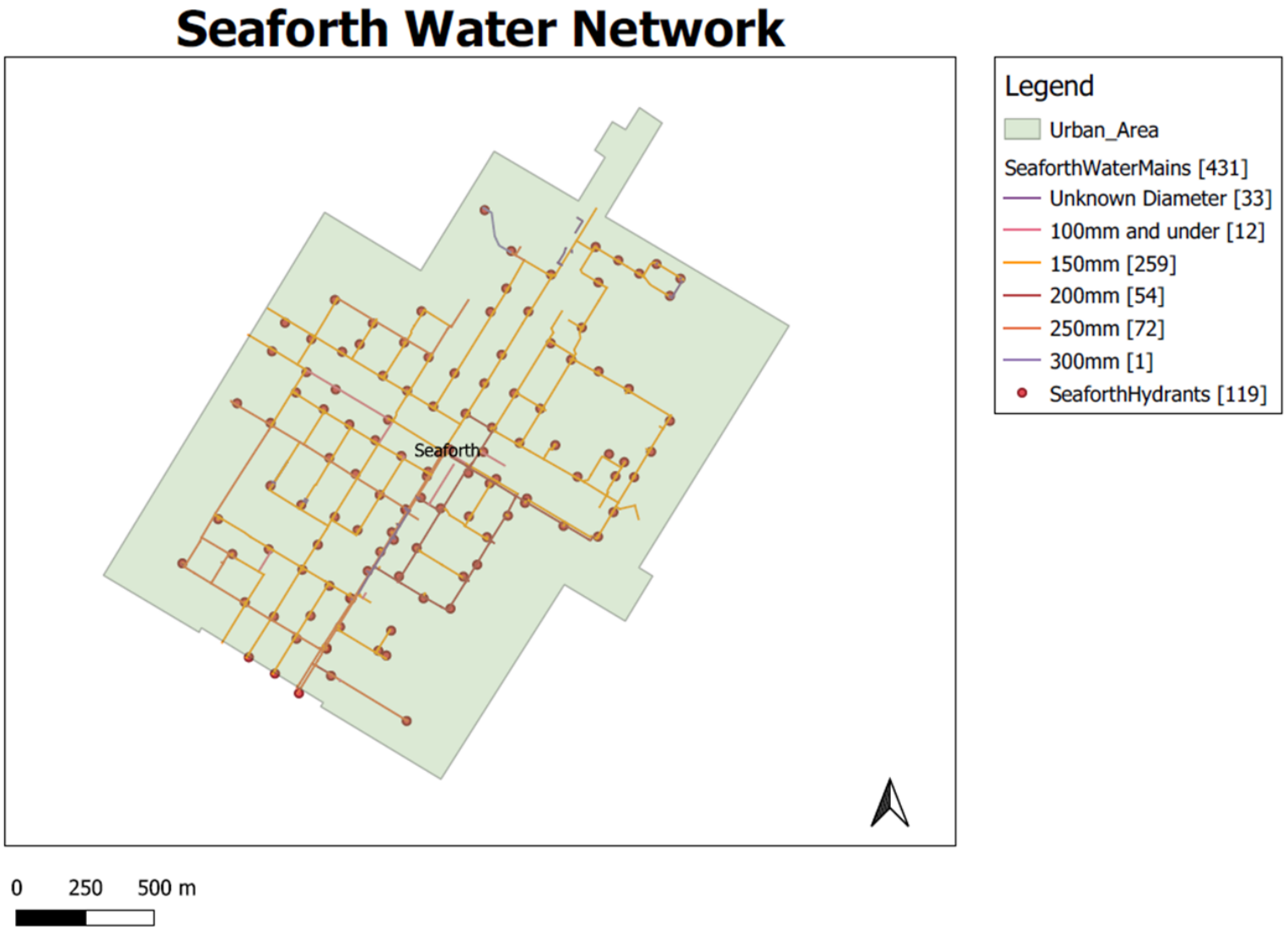
Poor - Pavement is in poor condition with frequent patterns of moderate defects. Riding quality is uncomfortable, and the surface is rough and uneven.

Very Poor - Pavement is in very poor condition with extensive severe defects. Riding quality is very uncomfortable, and surface is very rough and uneven.

Water Network Map – Brucefield

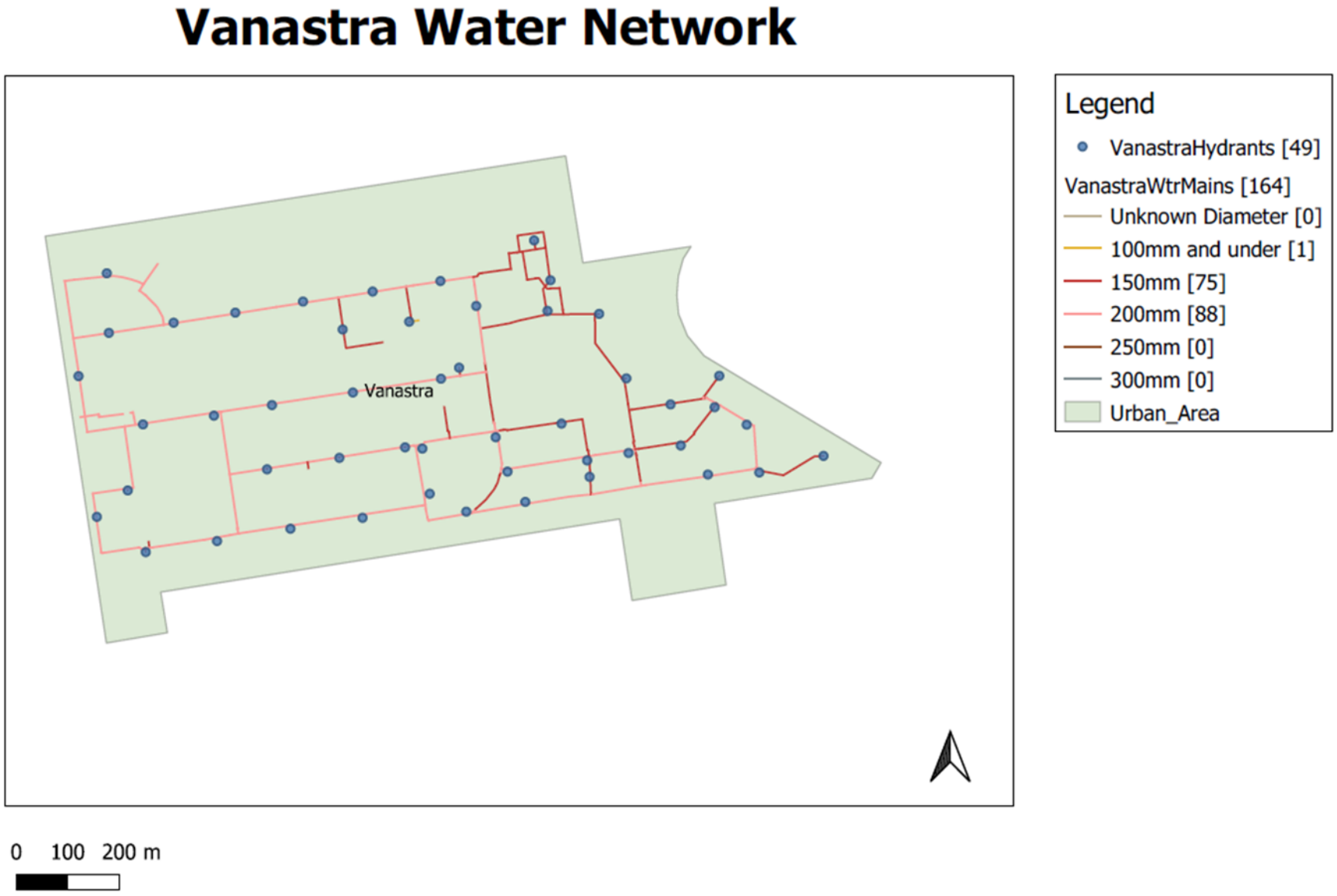


Water Network Map– Seaforth

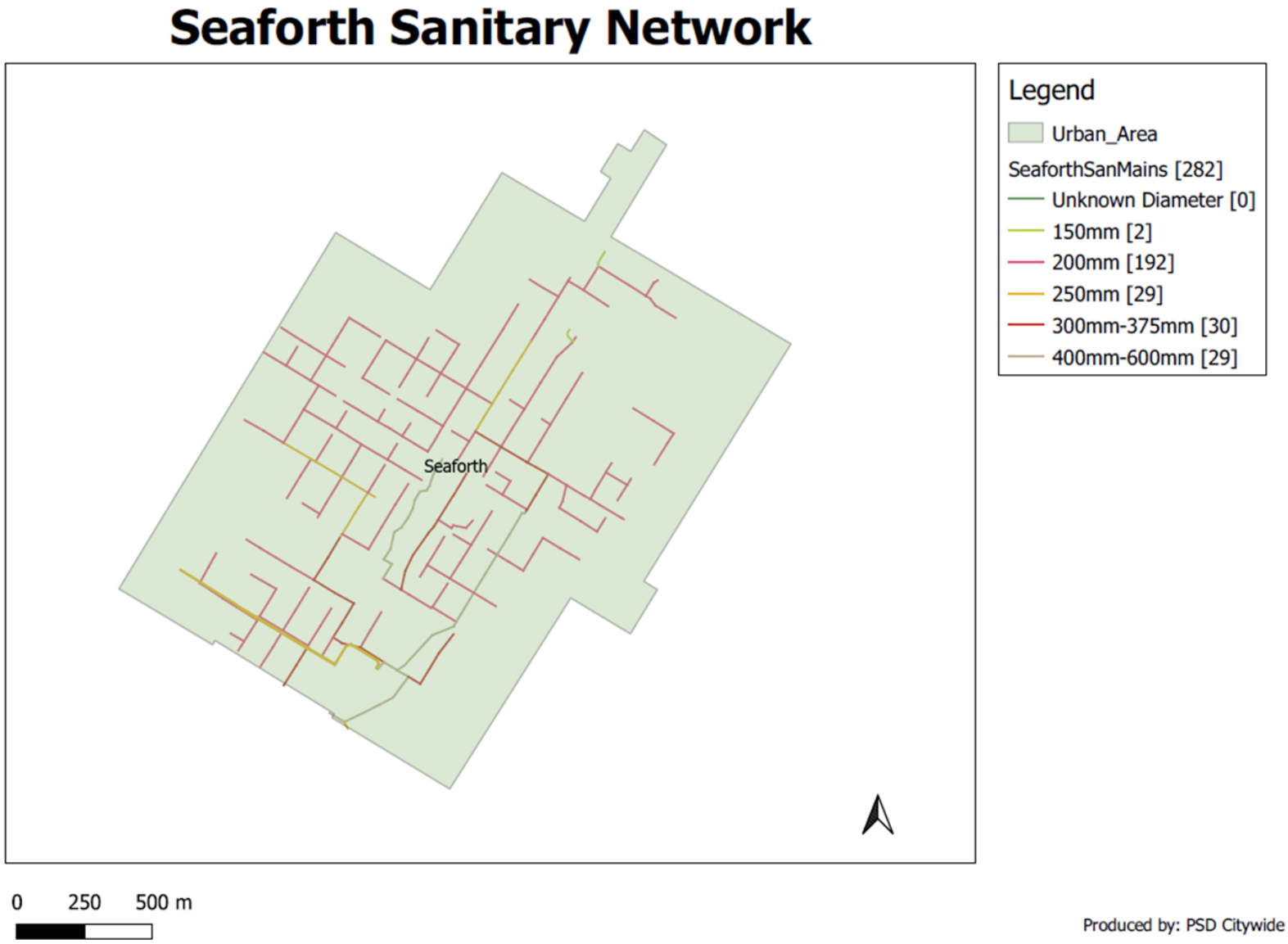


Produced by: PSD Citywide

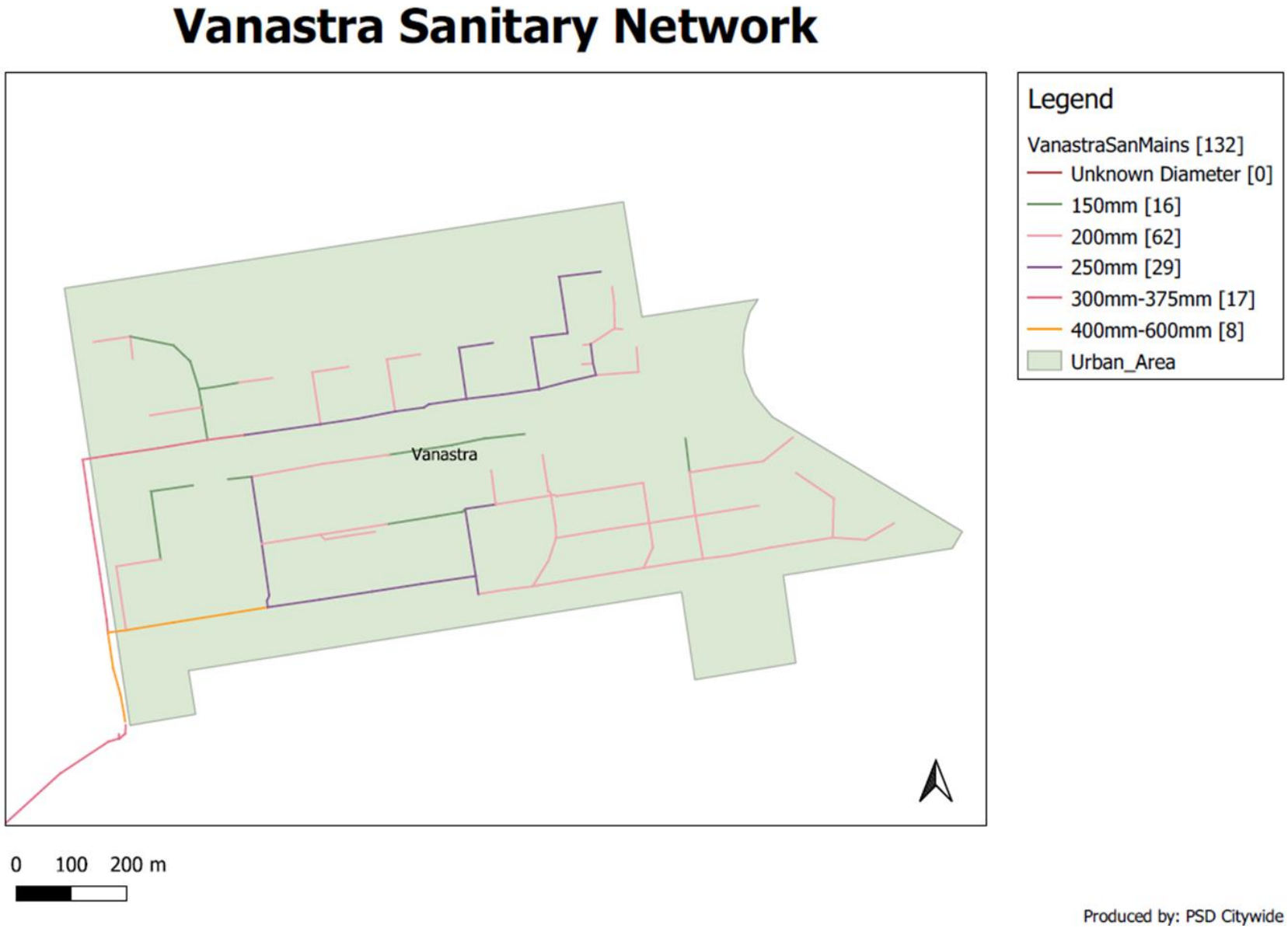
Water Network Map – Vanastra



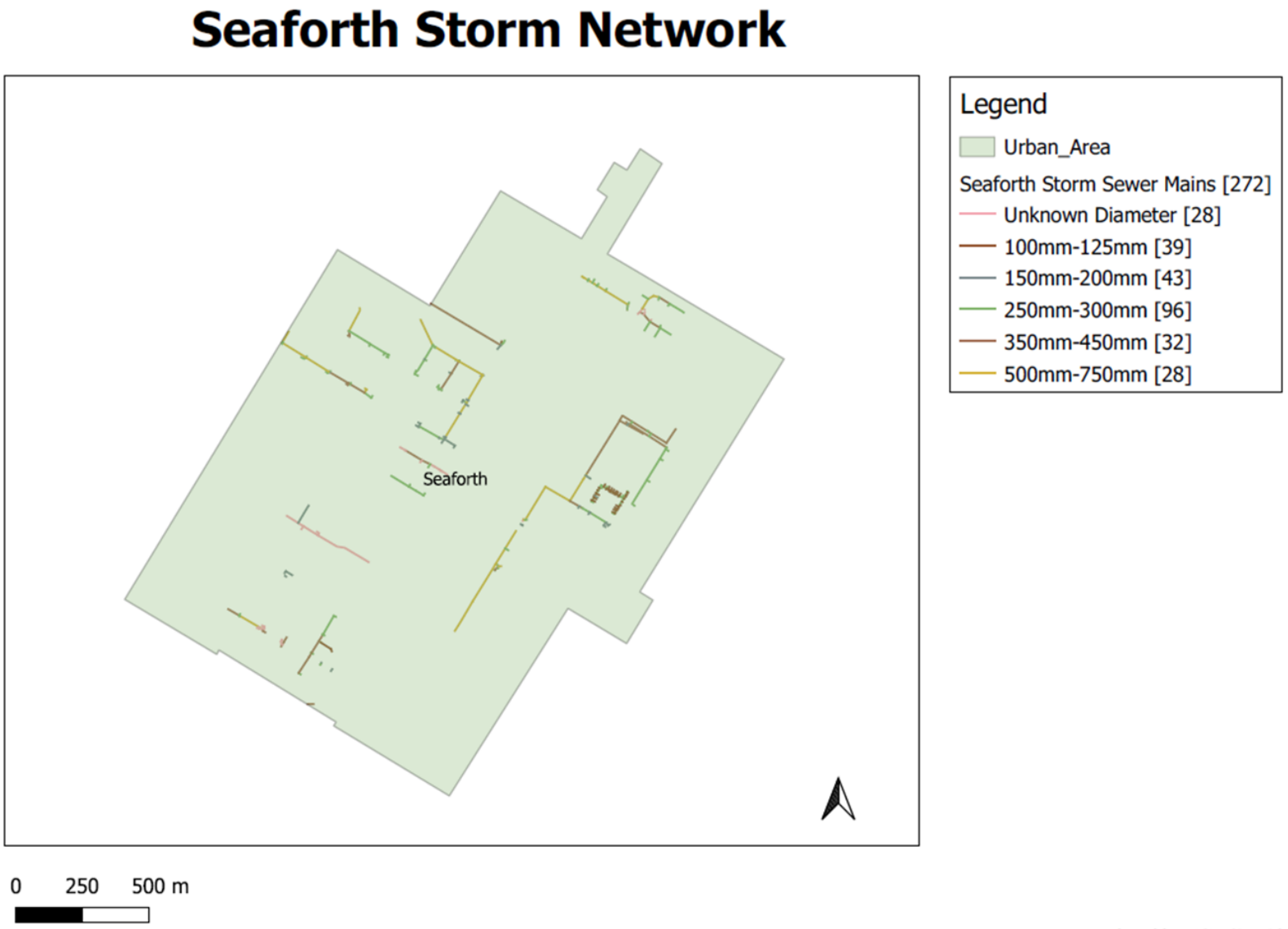
Sanitary Network Map – Seaforth



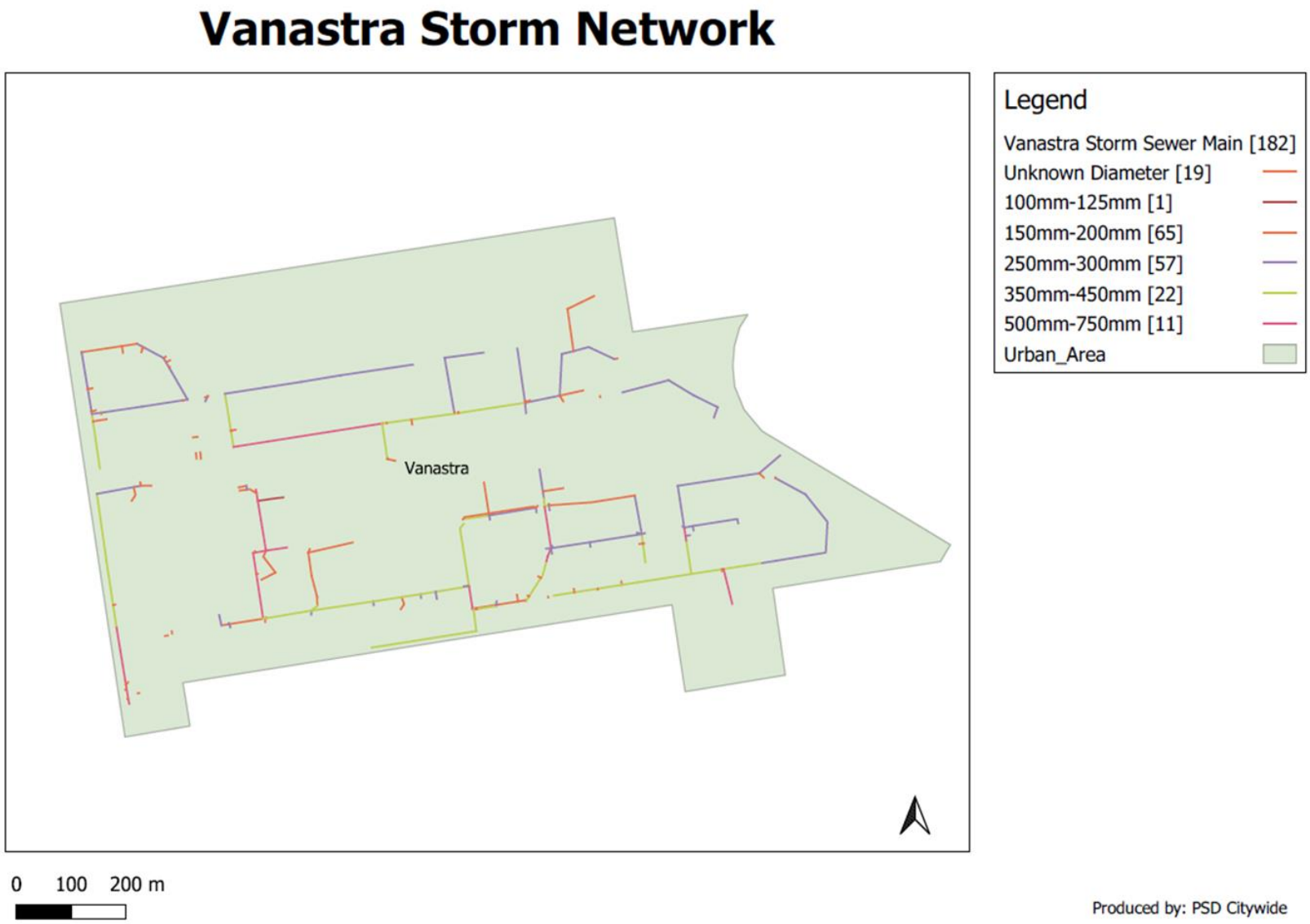
Sanitary Network Map – Vanastra



Storm Network Map – Seaforth



Storm Network Map - Vanastra



Bridges & Culverts – Examples

<table>
<tr><th colspan="2">Images of Bridge in Poor Condition
Bridge Road (M3)
Inspected: June 12th, 2020</th><th colspan="2">Images of Culvert in Good Condition
Manley Line (M24)
Inspected: June 12th, 2020</th></tr>
<tr><td> 
Facing East</td><td> 
North Railing – Broken Rails</td><td> 
Facing North</td><td> 
West Elevation</td></tr>
<tr><td> 
Soffit</td><td> 
South Elevation</td><td> 
Barrel Facing East</td><td> 
East Elevation</td></tr>
</table>

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 municipal transportation network. Two of the municipality's structures have loading and dimensional restrictions meaning that most types of vehicles, including heavy transport, motor vehicles, and emergency vehicles can cross most structures without restriction.

Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes

Stormwater can enter sanitary sewers due to cracks in sanitary mains or through indirect connections (e.g., weeping tiles).

In the case of heavy rainfall events, sanitary sewers may experience a volume of water and sewage that exceeds its designed capacity. In some cases, this can cause water and/or sewage to overflow backup into homes.

Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration

The disconnection of weeping tiles from sanitary mains and the use of sump pumps and pits directing storm water to the storm drain system can help to reduce the chance of this occurring.

The municipality follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers. These standards have been determined with consideration of the minimization of sewage overflows and backups

Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system

Effluent refers to water pollution that is discharged from a wastewater treatment plant, and may include suspended solids, total phosphorous and biological oxygen demand. The Environmental Compliance Approval (ECA) identifies the effluent criteria for municipal wastewater treatment plants

Appendix D – Public Engagement Questionnaire

The following section summarizes results from the 2024 Huron East Citizen Questionnaire, an engagement initiative designed to inform the Municipality's asset management practices and level of service planning. The findings provide valuable insights into community values, infrastructure priorities, and resident expectations. These inputs support alignment between the Municipality's technical strategies and its responsibility to deliver sustainable, citizen-centric services.

Participation Profile

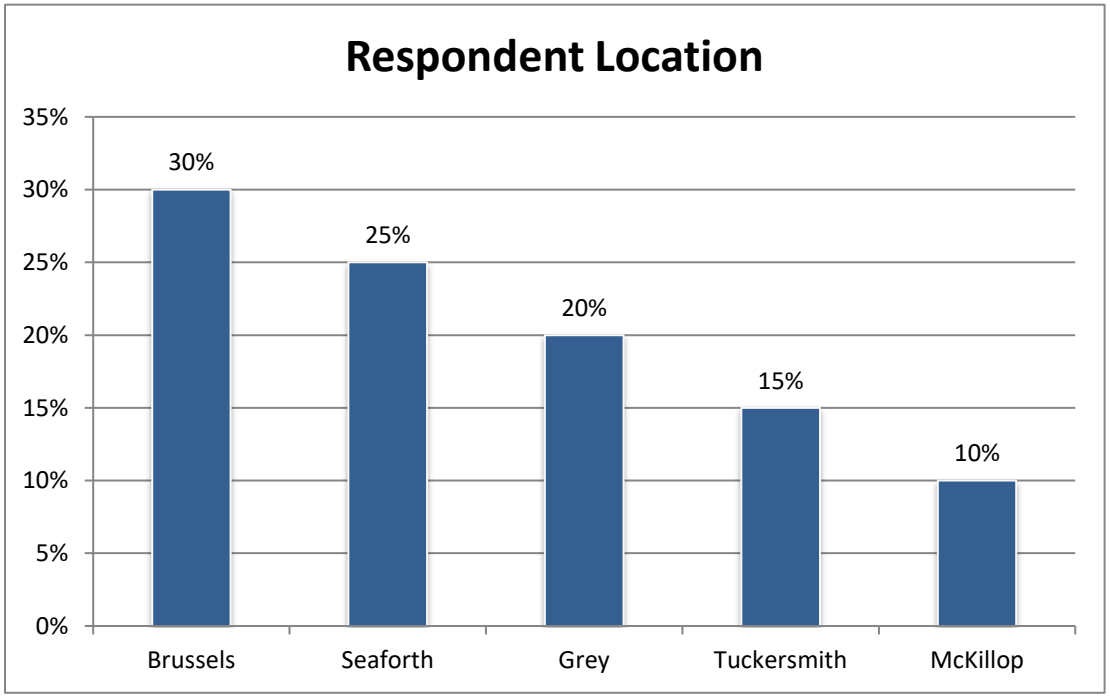


Table 53: Public Engagement - Respondent Location

This chart highlights the distribution of questionnaire respondents across Huron East's communities. Brussels, Seaforth, and Grey reported the highest levels of participation.

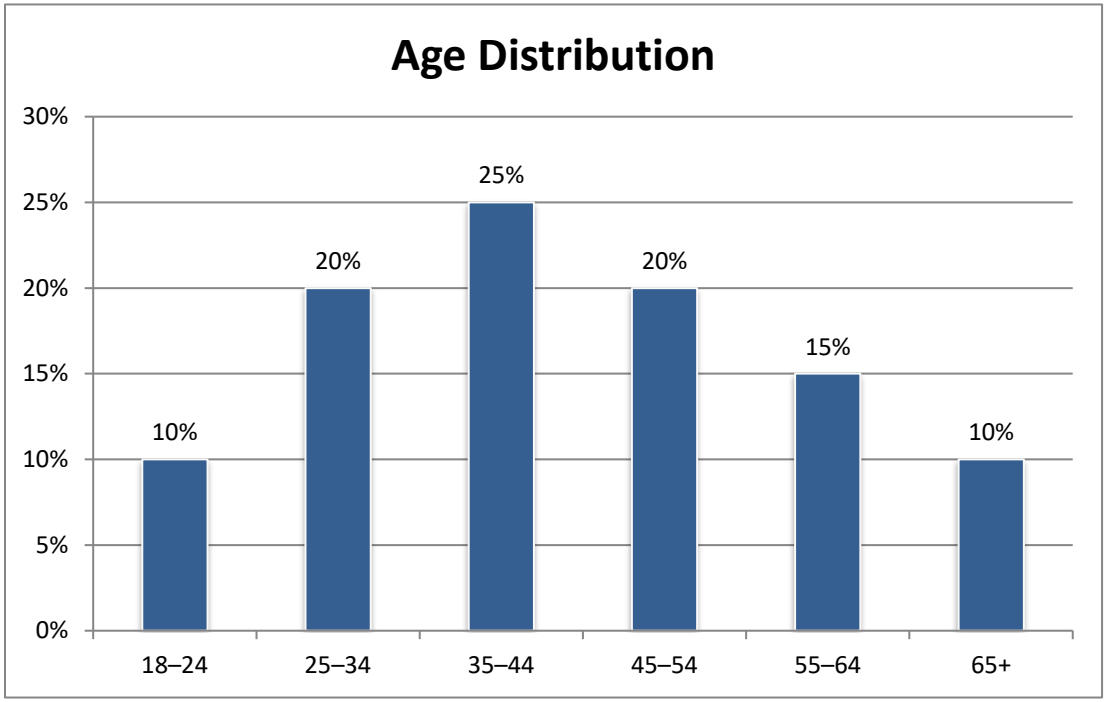


Table 54: Public Engagement - Age Distribution

Most respondents fall within the 30–64 age range. These age groups are typically homeowners, commuters, and service users. The representation of younger and older residents was lower, indicating an opportunity to improve outreach to students, young adults, and seniors — groups that may experience services differently but are often underrepresented in questionnaires.

Communication Preferences

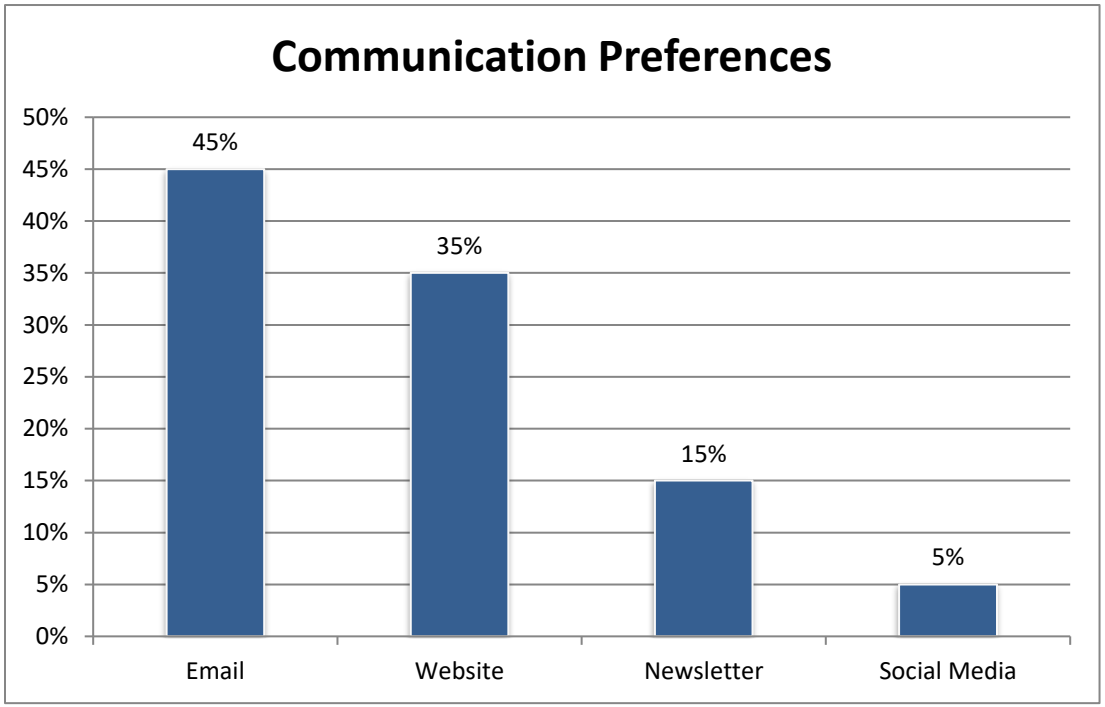


Table 55: Public Engagement - Communication Preferences

Email and municipal websites are the most preferred methods of communication, followed by traditional mail. This shows a clear shift toward digital communication. As such, future public engagement efforts should prioritize digital channels to ensure information is delivered efficiently and consistently. However, the continued relevance of newsletters suggests a hybrid approach may still be necessary for reaching all residents.

Infrastructure Priorities & Services Value

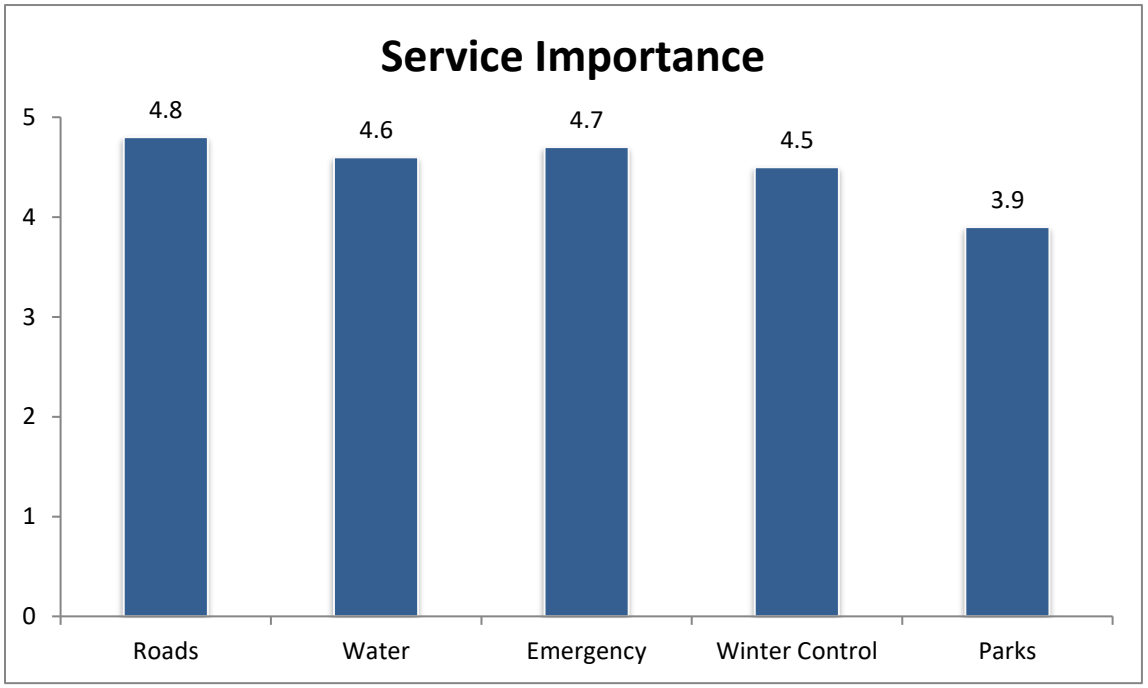


Table 56: Public Engagement - Service Importance

Residents rated roads, drinking water, emergency services, and winter control as the most important services provided by the Municipality. This reinforces the need to prioritize core infrastructure assets in asset management planning and to ensure these high-impact services maintain acceptable levels of performance. Lower importance ratings for services such as recreation (ex. Parks) do not imply they are unimportant but may reflect the community's view of them as supplementary rather than essential.

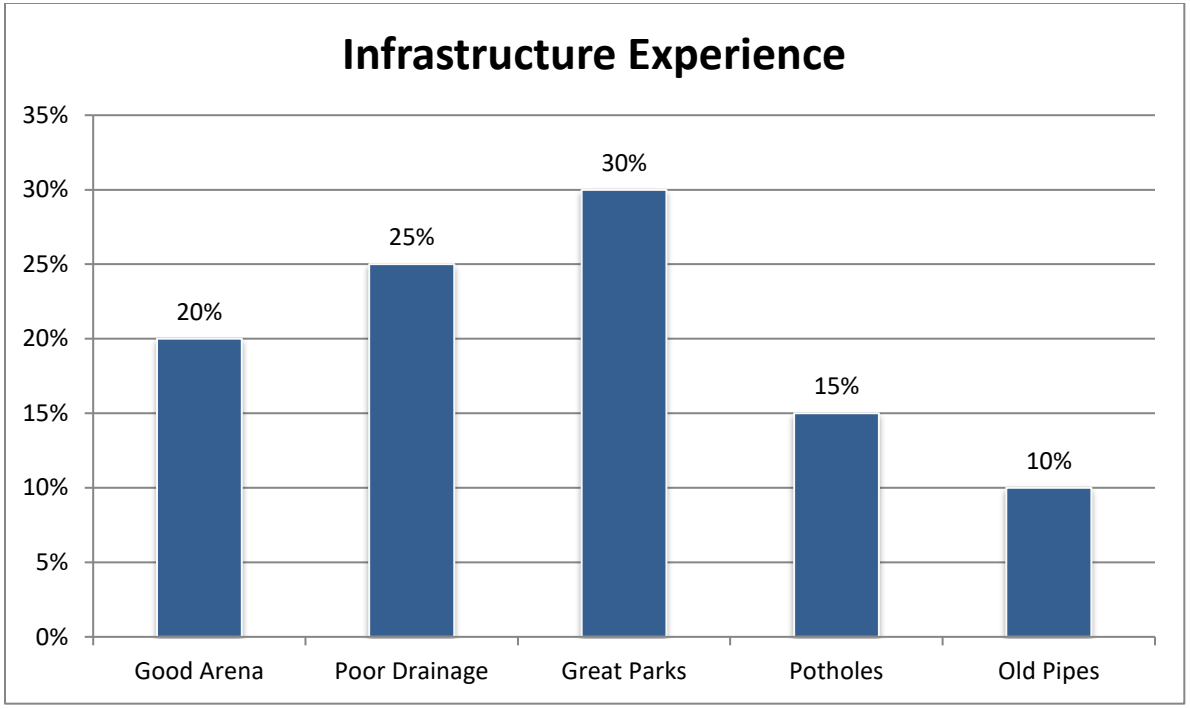


Table 57: Public Engagement - Experience with Infrastructure

Experiences with municipal infrastructure were mixed. Many praised recreational amenities, but concerns were raised regarding drainage systems, road surfaces, and aging underground infrastructure. These practical observations from residents underscore the importance of field-level maintenance data and validate the need for asset renewal programs targeting underground and stormwater systems.

Desired Services & Future Planning

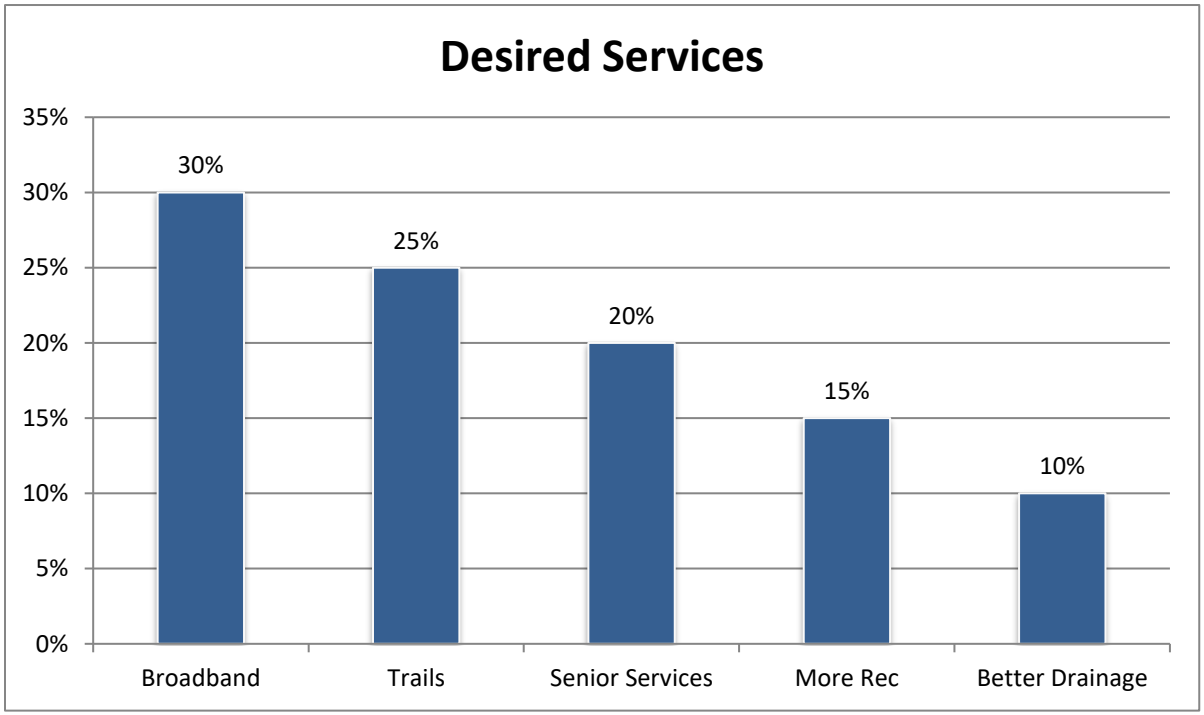


Table 58: Public Engagement - Desired Services

Broadband internet access emerged as the most desired improvement, especially in rural and underserved areas. Other requests included new trails, expanded senior services, and improvements to stormwater and recreational infrastructure. These priorities can inform long-term planning and service level targets, especially for capital expansion and future growth strategies.

Capital Investment & Decision Criteria

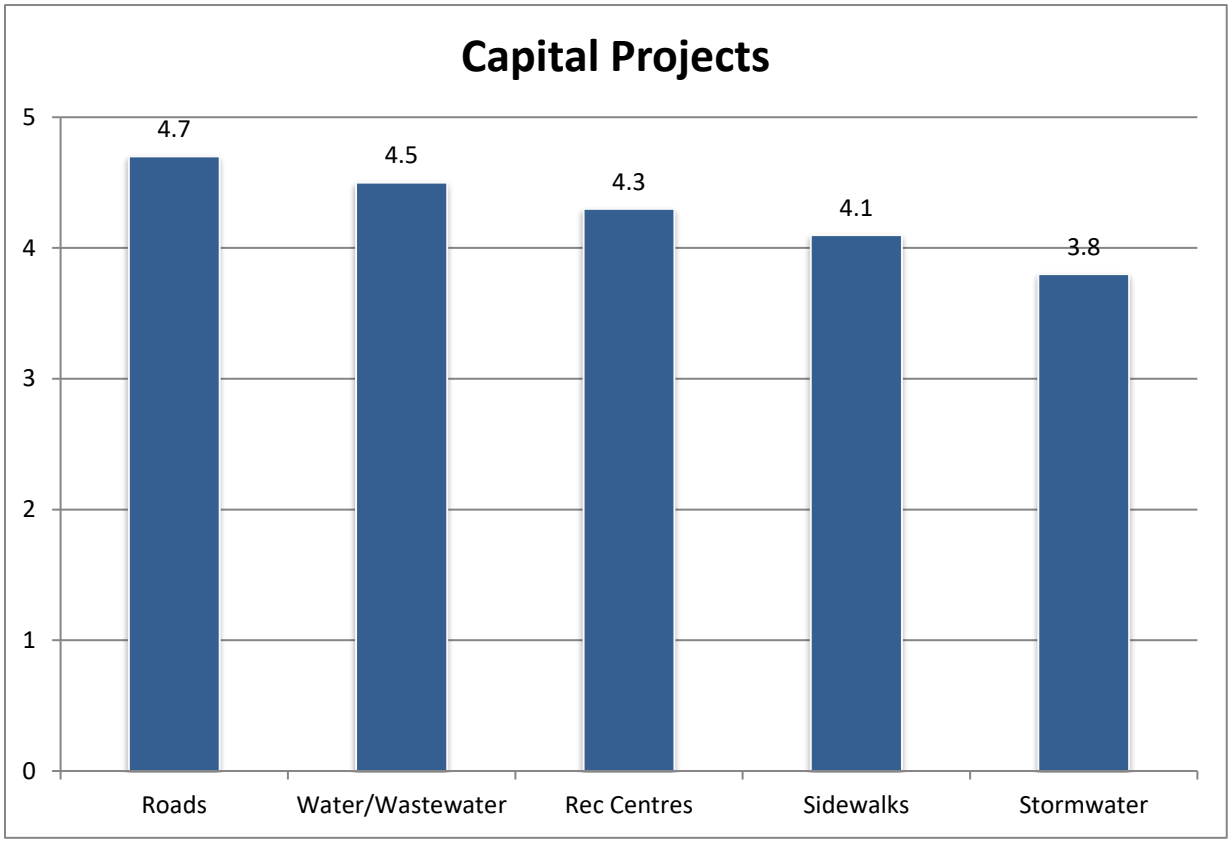


Table 59: Public Engagement - Capital Projects Support

When asked to prioritize capital investment areas, residents chose roads, water and wastewater, recreation facilities, and sidewalks as top priorities. This reflects a clear interest in both mobility and health-related infrastructure, with support for continued investment in essential and community-enhancing assets.

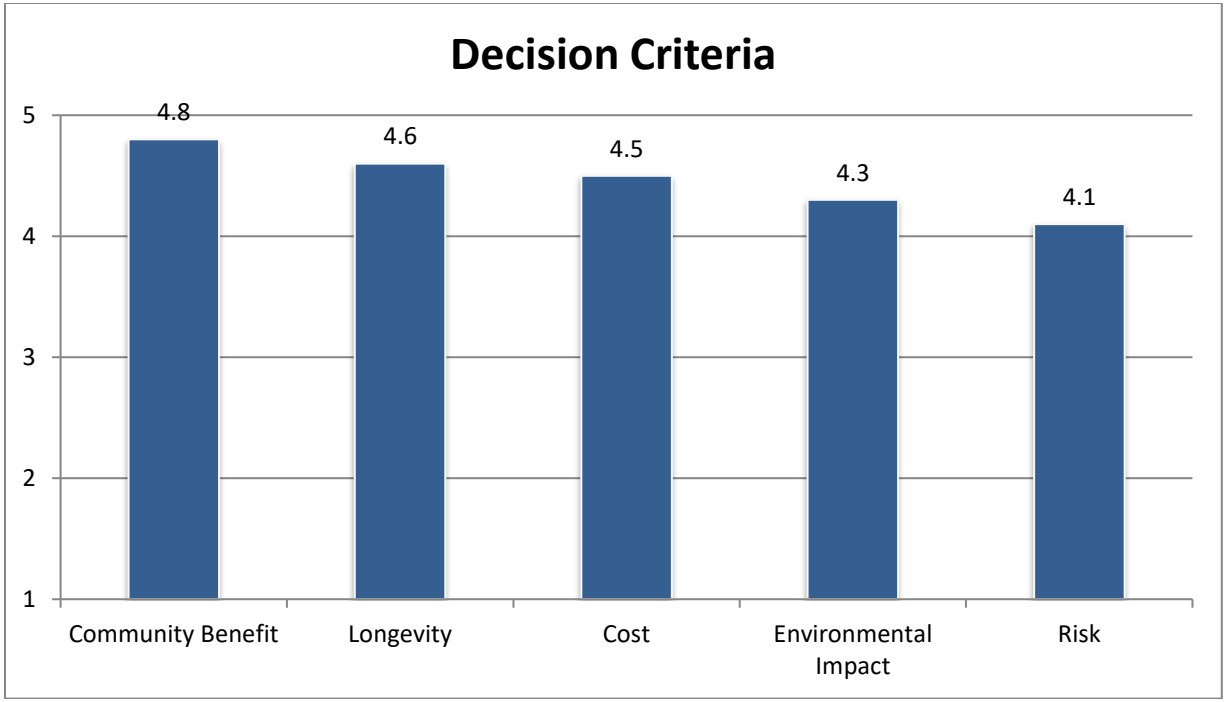


Table 60: Public Engagement - Decision Criteria

Residents identified long-term community benefit, environmental responsibility, durability, and cost control as the most important factors when making infrastructure decisions. These priorities align strongly with the Municipality's asset management principles, reinforcing the need for sustainable, transparent, and well-justified investment planning.

Implications for Asset Management Planning

The questionnaire responses reflect a community that supports long-term, proactive infrastructure planning. Prioritization of roads, water, and emergency services support the continued use of risk-based asset management approaches. Public endorsement of sustainability, fiscal responsibility, and lifecycle strategies further validates the principles used in this AMP.

Residents also supported maintaining Huron East's rural identity while enabling strategic growth. These insights may inform level of service targets, community performance measures, and public-facing communication strategies that accompany the AMP.

Appendix E: Condition Assessment Guidelines

Condition Assessment Guidelines

The foundation of good asset management practice is accurate and reliable data on the current condition of infrastructure. Assessing the condition of an asset at a single point in time allows staff to have a better understanding of the probability of asset failure due to deteriorating condition.

Condition data is vital to the development of data-driven asset management strategies. Without accurate and reliable asset data, there may be little confidence in asset management decision-making which can lead to premature asset failure, service disruption and suboptimal investment strategies. To prevent these outcomes, the County's condition assessment strategy should outline several key considerations, including:

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

Role of Asset Condition Data

The goal of collecting asset condition data is to ensure that data is available to inform maintenance and renewal programs required to meet the desired level of service. Accurate and reliable condition data allows County staff to determine the remaining service life of assets, and identify the most cost-effective approach to deterioration, whether it involves extending the life of the asset through remedial efforts or determining that replacement is required to avoid asset failure.

In addition to the optimization of lifecycle management strategies, asset condition data also impacts the County's risk management and financial strategies. Assessed condition is a key variable in the determination of an asset's probability of failure. With a strong understanding of the probability of failure across the entire asset portfolio, the County can develop strategies to mitigate both the probability and consequences of asset failure and service disruption. Furthermore, with condition-based determinations of

future capital expenditures, the County can develop long-term financial strategies with higher accuracy and reliability.

Guidelines for Condition Assessment

Whether completed by external consultants or internal staff, condition assessments should be completed in a structured and repeatable fashion, according to consistent and objective assessment criteria. Without proper guidelines for the completion of condition assessments there can be little confidence in the validity of condition data and asset management strategies based on this data.

Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating criteria, in a format that can be used for asset management decision-making. As a result, it is important that staff adequately define the condition rating criteria that should be used and the assets that require a discrete condition rating. When engaging with external consultants to complete condition assessments, it is critical that these details are communicated as part of the contractual terms of the project.

There are many options available to the County to complete condition assessments. In some cases, external consultants may need to be engaged to complete detailed technical assessments of infrastructure. In other cases, internal staff may have sufficient expertise or training to complete condition assessments.

Developing a Condition Assessment Schedule

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

1. **Relevance**: every data item must have a direct influence on the output that is required
2. **Appropriateness**: the volume of data and the frequency of updating should align with the stage in the assets life and the service being provided

3. **Reliability**: the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current
4. **Affordability**: the data should be affordable to collect and maintain