Asset Management Plan 2025

Municipality of Casselman

May 2026

CASSELMAN

psdcitywide

This Asset Management Plan was prepared by:

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

Key Statistics

$379.3m	2024 Replacement Cost of Asset Portfolio
$233 k	Replacement Cost of Infrastructure Per Household
80%	Percentage of Assets in Fair or Better Condition
80%	Percentage of Assets with Assessed Condition Data
$6.3m	Annual Capital Infrastructure Deficit[1]
10-20 Years	Recommended Timeframe for Eliminating Annual PLOS Deficit
2.1%	Target Investment Rate (PLOS, year 10)
0.54%	Actual Investment Rate

[1] Based on the selected Proposed Level of Service.

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1. Executive Summary

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

1.1 Scope

This Asset Management Plan (AMP) evaluates proposed Level of Service (LOS) options and selects one considering risks, costs, and achievability of the options presented. Projected LOS over a ten-year period and the estimated costs and risks of delivery are outlined. Additionally, the Municipality's projected sustainable funding available and funding shortfalls to meet the proposed LOS are estimated. Strategies for addressing the funding gap are included. As detailed in Appendices A to H, the Municipality has identified their asset inventory and associated asset replacement cost, condition, and lifecycle management strategies. The 2025 AMP furthers the Municipality's asset management program by evaluating Proposed LOS options and selecting one with consideration for risk, affordability and achievability.

This AMP includes the following asset categories:

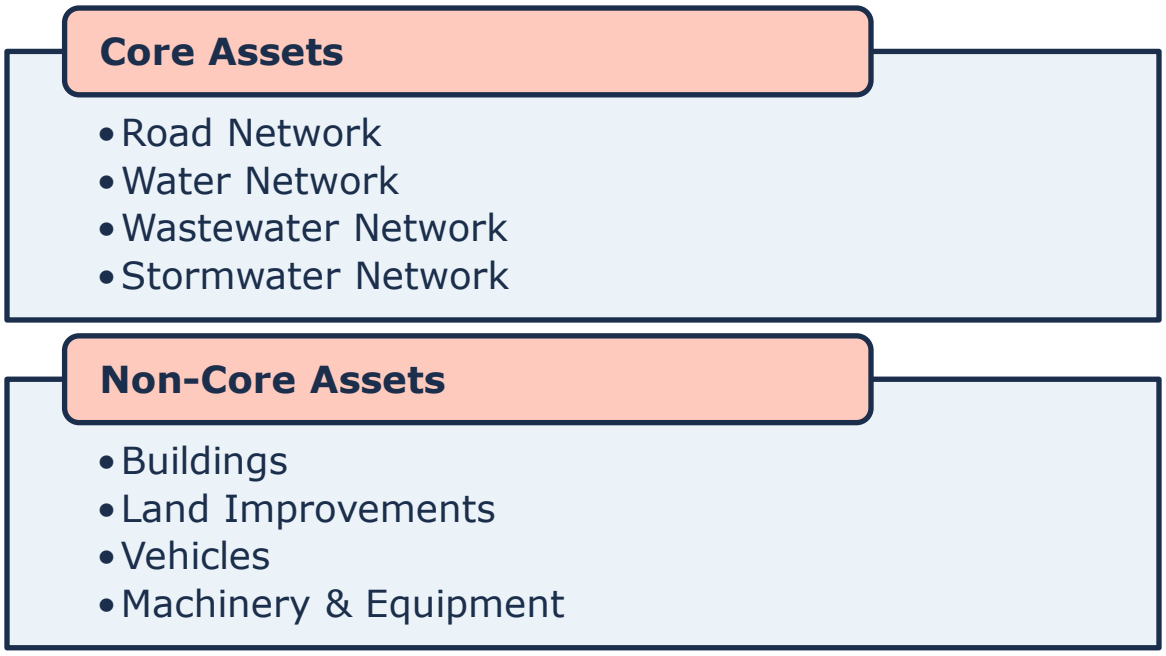


Figure 1 Core and Non-Core Asset Categories

1.2 Compliance

With the development of this AMP the Municipality of Casselman has achieved compliance with July 1, 2025, requirements under O. Reg. 588/17. This includes requirements for proposed levels of service.

1.3 Findings

To determine suitable proposed LOS options, the Strategic Plan Survey results were reviewed and considered. The survey explored residents' experience with municipal infrastructure, their infrastructure priorities, their desired service level changes, and their willingness to pay for changes in service levels. Key findings indicated:

- Over 80% of respondents indicated they were very satisfied or satisfied with municipal services, with the balance indicating they were dissatisfied or very dissatisfied with municipal services. This suggests that current service levels are broadly acceptable.
- Slightly more than one third of respondents indicated willingness to maintain current tax levels and accept service level reductions, and slightly more than a third opted to increase taxes and maintain services. This indicates respondents generally understand that increased investment is needed without expectations of having higher service levels.
- Residents frequently identified infrastructure-based changes as a strategy for improving Casselman as a great place to live. This indicates that respondents see infrastructure investment as a key strategy for enhancing the municipality.

Council members were also surveyed to understand their views on asset performance, investment priorities, and acceptable increases in taxes and rates towards increased infrastructure investment. Key details from council surveys include:

- Generally, most councilors indicated that complaints from residents are within an acceptable range, however the water network had a significant rate of unacceptable complaint volumes indicated. For most asset categories, staff responsiveness to complaints was considered acceptable, except for the road network where a larger portion of councilors indicate staff response to be marginally adequate or inadequate.
- All councilors indicated a preference to focus funding increases on priority asset categories first. All councilors indicated their priority as the water network followed by buildings.
- 80% of Councilors indicated a willingness to increase taxes and rates to support increased infrastructure investment. For those willing to increase taxes, the range considered acceptable was between 2-8% annually, with a 4-6% annual increase as the most common response.

Resident survey findings were considered alongside key details about the Municipality's infrastructure assets, including the following:

- The overall replacement cost as of December 2024 of the asset categories included in this AMP totals $379,320,000. To replace all assets at the end of their useful life and complete rehabilitations for the road network, the average annual capital requirement is $9.04 million; this represents the optimal funding level. Currently, capital investment from sustainable sources is $1.76 million. Considering the funding gap, it is anticipated that some assets will be in use beyond their estimated useful life which may impact reliable

service delivery and carry additional risks. Considering the scale of the funding gap, the proposed LOS options explored investment levels slightly below optimal funding.
- As of December 2024, most (80%) of the Municipality's infrastructure portfolio was in fair or better condition, with the remaining 20% in poor or worse condition (as further detailed in Section 3: Portfolio Overview). A 2021 review of Ontario Municipal Infrastructure completed by the Financial Accountability Office of Ontario indicates that within the economic region of Ottawa, 38.7% of assets are in fair or better condition (page 20).

The Strategic Plan was also considered when developing proposed LOS options. With a vision of bold decisions and innovative actions, the Strategic Plan suggests that ambitious proposed LOS options may be supported. The service excellence pillar also reiterates the importance of considering resident opinions when evaluating proposed LOS options.

A workshop with senior leadership staff was held to review the survey results, alongside key infrastructure details. Additional context was gathered, namely:

- The residents and council focus on the water network may reflect water discoloration and wastewater capacity challenges that happen to be occurring at the time of survey.
- Additional contextual challenges, notably geo-political instability, the Municipality's two-tier structure, and high inflation in recent years, pose additional challenges to stable and predictable governance, including the setting and execution of the selected Proposed LOS.

Considering all the above, the following three proposed LOS options were selected, modelled, and evaluated:

Table 1: Proposed LOS Options

Scenario	Description
1	Maintain current investment for all asset categories
2	Maintain current condition for all asset categories
3	Increasing investment for all asset categories to investment is increased to 70% average annual requirement (AAR)[2].

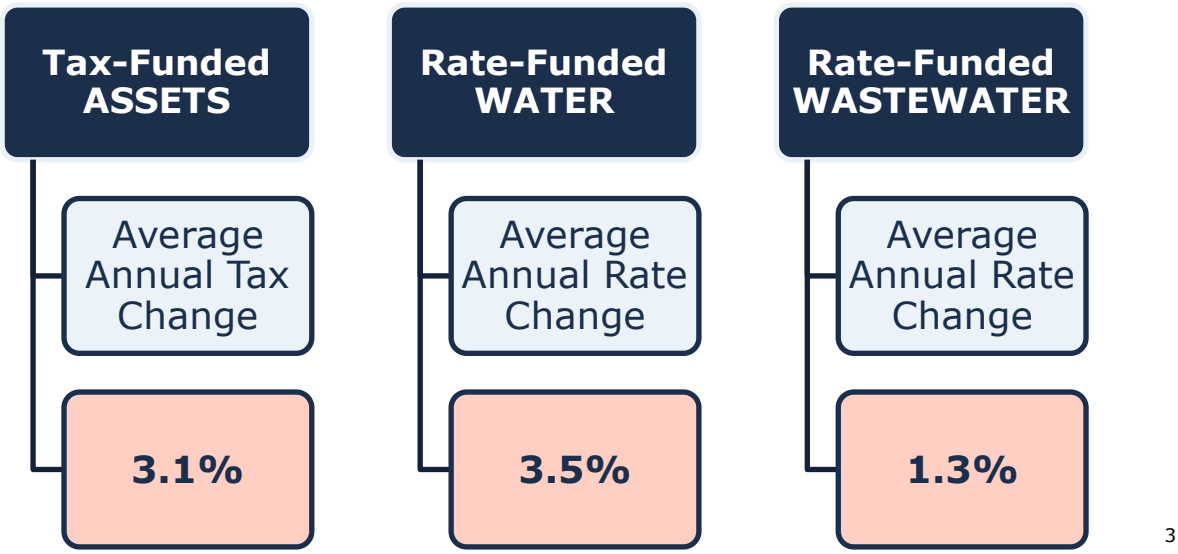
Considering the risks, achievability, and affordability of each option, staff provided a recommendation to council to select scenario 2 (maintain condition). On Tuesday February 10th a council meeting was held and council adopted scenario 2 (maintain condition) as the proposed LOS (resolution 2026-38).

A financial strategy to meet the required investment is detailed in Section 6. Key findings indicate total tax revenues must increase by 3.1 % annually for 20 years. Water rates must increase annually by 3.5% for 20 years and wastewater rates must increase by 1.3% each year for 10 years. Debt reallocation is a strategy explored and considerations of existing reserve levels are noted. Reserves are particularly important considering projected capital investment requirements.

[2] Funding the AAR to 100% is considered the optimal investment. This allows for every single asset to be replaced at the end of its estimated useful life (EUL) and for rehabilitations to be completed on the road network.

1.4 Recommendations

A financial strategy was developed to address the annual capital funding gap. The following graphics shows annual tax change required to fund the proposed LOS for the Municipality's infrastructure based on a 20-year plan for tax funded assets and the water network and a 10-year plan for wastewater network:



[3]

Figure 2 Proposed Tax/Rate Changes

Recommendations to guide continuous refinement of the Municipality's asset management program are also identified. Some key recommendations include:

- Develop a condition assessment standard and an associated data review and update process to ensure asset information, especially condition, is accurate and uniformly reported.
- Use the asset management plan to inform capital project selection, staff and project resourcing and procedural changes such as asset data collection, review and updates.

[3] The annual increases noted require that upon the expiration of debts the associated debt repayment funds are reallocated to capital investment requirements. If debt is not reallocation annual increases required over the same period noted above and based on the current asset inventory are 3.4% for the water network, 3.3% for the wastewater network, and remain at 2.7% for tax funded assets.

2. Introduction & Context

2.1 Community Profile

The Municipality of Casselman is in eastern Ontario in the United Counties of Prescott and Russell. Casselman is conveniently located 55 kilometers southeast of downtown Ottawa, with easy access to passenger rail service to Montreal and Toronto.

In 1832, the area was discovered by Martin Casselman while on a hunting trip. Twelve years later Martin Casselman built a sawmill in the Town, which he named "Casselman". Over the years, Casselman has evolved from an agriculture-based community into a small urban municipality offering a diverse range of products and services from local businesses and organizations. The Town has also attracted larger investments, such as an automotive parts distribution centre, thanks to its ideally centralized location along Highway 417, which enables businesses to efficiently serve the Ottawa market as well as regional restaurants and commercial clients.

As summarized in Table 2 below, Casselman has experienced about twice the amount of population growth between 2016 and 2021 as the province of Ontario. This is based on 2021 Census population data.

Census Characteristic	Municipality of Casselman	Ontario
Population 2021	3,970	14,223,942
Population Change 2016-2021	11.4%	5.8%
Total Private Dwellings	1635	5,929,250
Population Density	770/km^2	15.9/km^2
Land Area	5.16 km^2	892,411.76 km^2

Table 2 Municipality of Casselman Community Profile

Casselman is a proud Franco-Ontario community, and it is not uncommon to see Franco-Ontario flags throughout. In the 2021 census, over 72% of residents indicated fluency in French and English and almost 13% indicated French only.

2.2 Climate Change

Climate Change is a global phenomenon impacting human and natural systems worldwide. The effects of climate change include increasing temperatures, higher levels of precipitation, droughts, and extreme weather events.

The Canada's Changing Climate Report by the Environment and Climate Change Canada in 2019 indicated that between 1948 and 2016, the average temperature increase across Canada was 1.7°C, with a more significant rise of 2.3°C in Northern Canada. Looking ahead, the projections

are concerning. If significant emission reductions are not achieved, Canada is expected to have a temperature rise by a staggering 6.3°C by the year 2100 compared to 2005 levels.

Climate change not only affects temperatures but also disrupts precipitation patterns. Canada has witnessed an increase of approximately 20% in precipitation between 1948 and 2012 according to the CCCR. These trends are expected to continue, with projections indicating an additional 24% increase in precipitation by the late 21st century.

Canadians are already experiencing the consequences of climate change through an increase in extreme weather events. These include droughts, floods, heatwaves, cold snaps, wildfires, and shrinking Arctic Sea ice. These events not only disrupt daily life but also cause significant damage to infrastructure and the environment. Canada's infrastructure, including roads, bridges, buildings, and power grids, is particularly vulnerable to climate change. Extreme weather events like droughts, floods, and freeze-thaw cycles can damage and accelerate wear on this infrastructure. Additionally, extended periods of high temperatures, strong winds, and wildfires pose further threats.

The burden of protecting communities from the impacts of climate change falls heavily on municipalities. Canadian cities and towns are on the front lines, facing the challenge of safeguarding their local economies, residents, environment, and physical assets. Developing and implementing adaptation strategies is crucial for Canadian municipalities to build resilience in the face of our changing climate.

Casselman Climate Profile

The Municipality of Casselman is expected to face several challenges due to climate change. According to Climatedata.ca, a collaboration supported by Environment and Climate Change Canada (ECCC), suggests the following trends for Casselman:

Higher Average Annual Temperature

- Between the years 1971 and 2000 the annual average temperature was 5.9 ºC.
- Under a high emissions scenario, the annual average temperatures are projected to be 8.9 ºC for the 2021-2050 period, 11 ºC for the 2051-2080 period and 12.8 ºC for 2070 to 2100

Increase in Total Annual Precipitation

- Under a high emissions scenario, Casselman is projected to experience a 12% increase for the 2051-2080 period and a 17% increase by the end of the century.

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.

Typically, the acquisition of capital assets accounts for about 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 rehabilitate and replace existing municipal infrastructure assets.

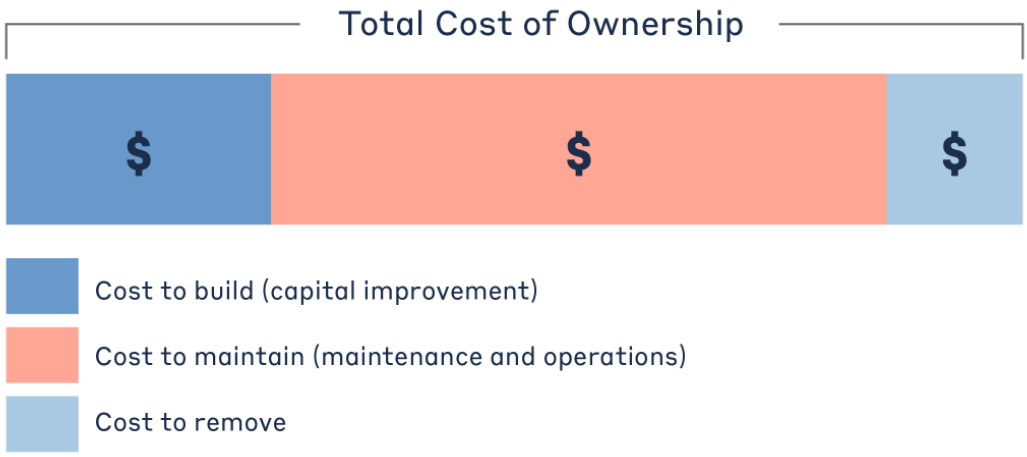


Figure 3 Total Cost of Asset Ownership

Total lifecycle costs 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.

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.

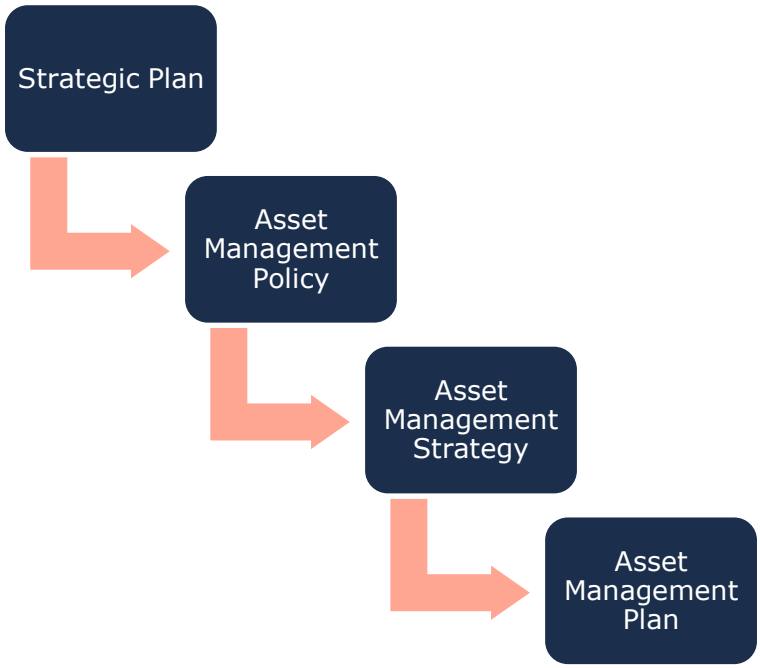


Figure 4 Foundational Asset Management Documents

The Municipality's 2024-2028 Strategic Plan advances a vision of bold decisions and innovative actions and a mission to deliver services that enriches lives and drive growth. It is supported by five values to advance three strategic priorities; these are:

Values

1. Sustainability
2. Vitality
3. Cultural heritage
4. Welcoming
5. Integrity

Strategic Priorities

1. Infrastructure
2. Community well-being
3. Service excellence

Of strong relevance to asset management is the strategic priority for infrastructure. Some key items to highlight include the adoption of best practices for asset management planning with the desired outcome of integrating the AMP into operational planning to encourage more efficient resource use.

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 of Casselman adopted policy number F9 "Strategy Asset Management Plan Policy" on April 23rd, 2019, in accordance with Ontario Regulation 588/17. The policy details guiding principles, policy application and requirements. Some examples include:

- Strategic Alignment: Use of an integrated and practical asset management planning approach that aligns with overarching community responsibilities and goals
- Guiding Principles: Consideration of all assets; portfolio optimization rather than specific assets; risk management grounded in cost/benefit analysis and priority of public safety; decisions founded in lifecycle cost.
- Policy Application: Council commitment to asset management; stakeholder consideration in asset management planning
- Policy Requirements: Asset management plan and program advancement considered annually alongside budget development; alignment of asset management planning with the official plan.

Asset Management Strategy

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

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

Asset Management Plan

The asset management plan (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;

Lifecycle Activity	Cost	Typical Associated Risks
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 3 Lifecycle Management: Typical Lifecycle Interventions

The Municipality's approach to lifecycle management is described by asset category in Appendices A to H. 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.

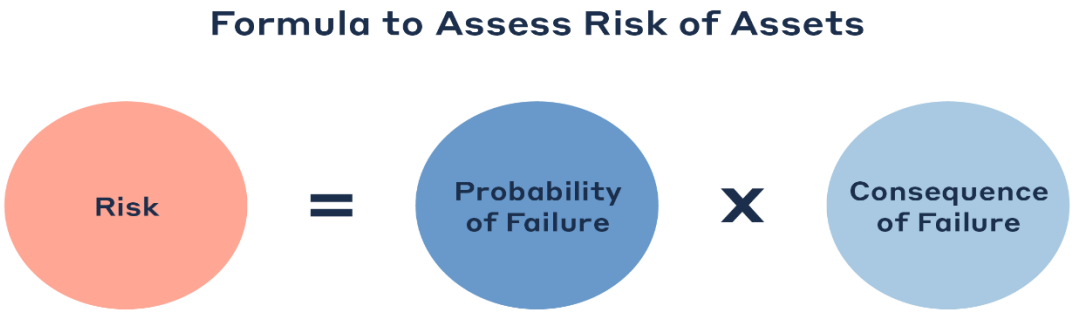


Figure 5 Risk Equations

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 4 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.

Type of Consequence	Description
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 4 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. Appendix A to H includes risk summaries by asset class and Appendix M details risk models used for each asset category.

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.

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories as applicable (Roads, Bridges & Culverts, Water, Wastewater, Stormwater) the province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP. For non-core assets the Municipality has selected LOS metrics based on measures deemed relevant and informative to them.

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 the province, through O. Reg. 588/17, has also provided technical metrics that are required to be included in this AMP. For non-core assets the Municipality has selected LOS metrics based on measures deemed relevant and informative to them.

Current and Proposed Levels of Service

Current LOS reflects the current community or technical LOS for (most often) a group of assets as of a defined past measurement date. In contrast, a proposed LOS reflects the Municipality's goal for asset performance by a define future date.

It is important to note that O. Reg 588/17 does not dictate the proposed LOS values required. Meaning, a proposed LOS may be maintaining or even reducing current performance.

Regardless of what the selected proposed LOS is, O. Reg 588/17 requires Municipalities to demonstrate the feasibility of the proposed LOS. This must consider the associated costs, risks, and impact of population and economic activity over the period (O. Reg. 588/17 6,2). The proceeding sections outline O. Reg 588/17 reporting requirements and how the Municipality's AMP meets them, while noting any additional considerations made.

2.4 Scope & Methodology

2.4.1 Data Effective Date

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

2.4.2 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.

2.4.3 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 6 Service Life Remaining Calculation

2.4.4 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 7 Target Reinvestment Rate Calculation

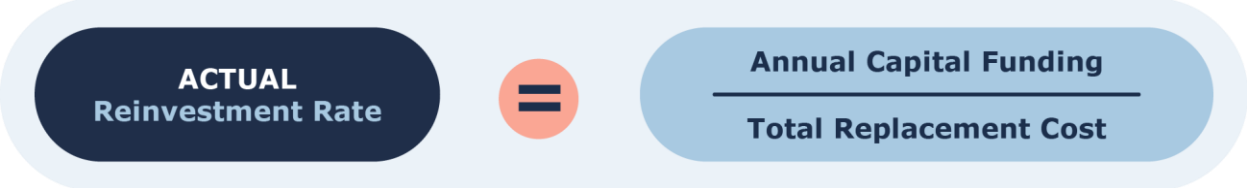


Figure 8 Actual Reinvestment Rate Calculation

2.4.5 Deriving Asset Condition

An incomplete or limited understanding of asset conditions 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	60-79.9
Fair	Requires attention	Signs of deterioration, some elements exhibit significant deficiencies	40-59.9
Poor	Increasing potential of affecting service	Approaching end of service life, condition below standard, large portion of system exhibits significant deterioration	20-39.9
Very Poor	Unfit for sustained service	Near or beyond expected service life, widespread signs of advanced deterioration, some assets may be unusable	<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)[4]. Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

Figure 9 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

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

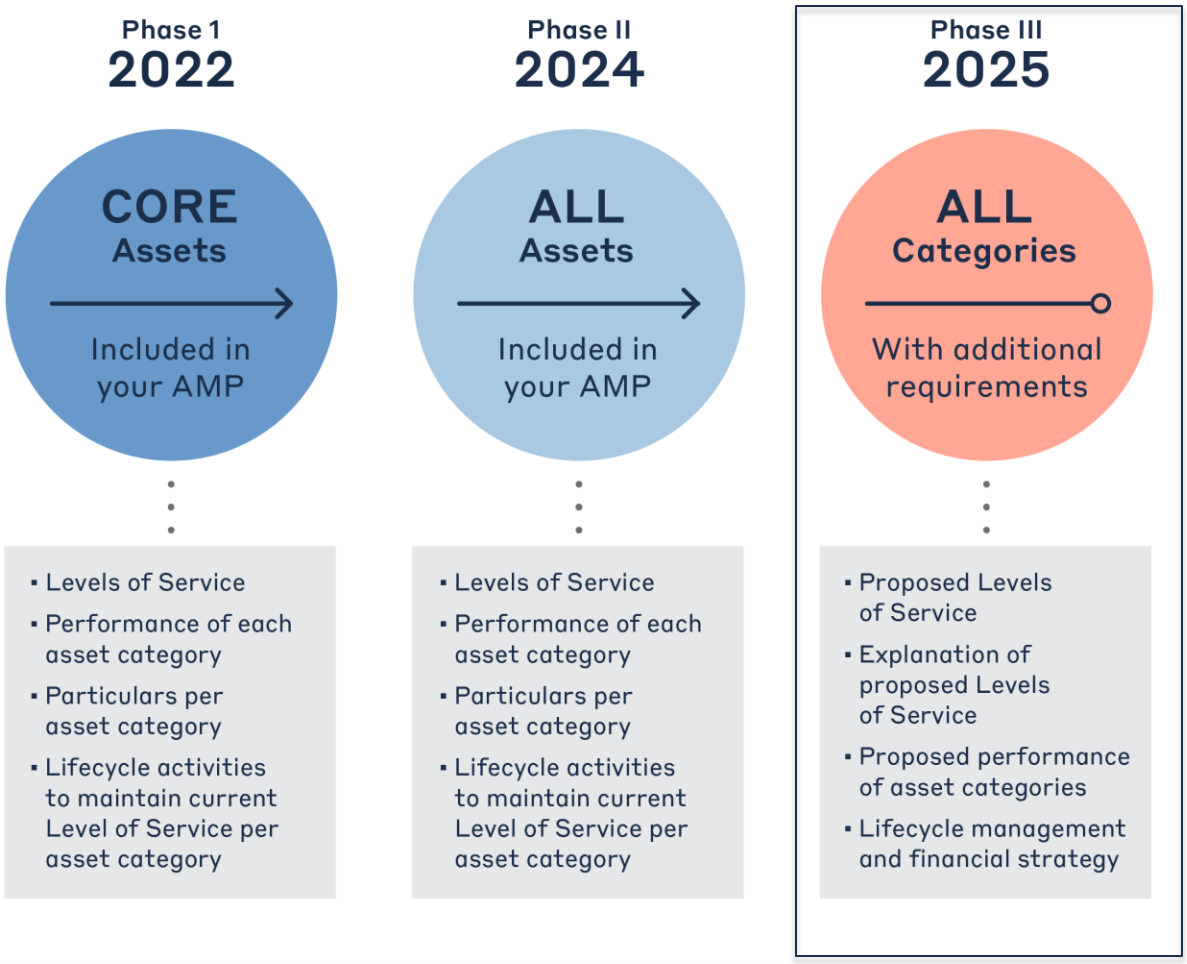


Figure 9 O. Reg. 588/17 Requirements and Reporting Deadlines

2.5.1 O. Reg. 588/17 Compliance Review

The following table identifies the requirements outlined in Ontario Regulation 588/17 for municipalities to meet by July 1, 2025. Next to each requirement a page or section reference is included in addition to any necessary commentary.

Table 6: 2025 Legislative Requirements

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Growth assumptions and considerations for Proposed LOS	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	4	Complete
Proposed LOS over 10 years for each asset category	6 (1) 1	5.3.3	Complete
Why Proposed LOS are Appropriate	6 (1) 2 (i., ii,iii,iv)	5.2-5.3	Complete
Proposed LOS 10-year Breakdown	6 (1) 3	5.3.3	Complete

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Proposed LOS Risk Management	6 (1), (B)	5.3.2	Complete
Proposed LOS Lifecycle Management	6 (1) 4 (i., A,B, C, D)	5.3.1	Complete
Proposed LOS Financial Strategy	6 (1) 4 (i.,D,ii.,iii.,iv.)	6	Complete

3. Portfolio Overview

This section summarizes the inventory, condition, age profiles, and other key performance indicators for the Municipality's infrastructure portfolio. These details are also presented by asset category in Appendix A to H.

3.1 Asset Hierarchy & Data Classification

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

Figure 10 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 $379.3 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 11 illustrates the replacement cost of each asset category; at 30% of the total portfolio, the water network forms the largest share of the Municipality's asset portfolio, followed by buildings 23%.

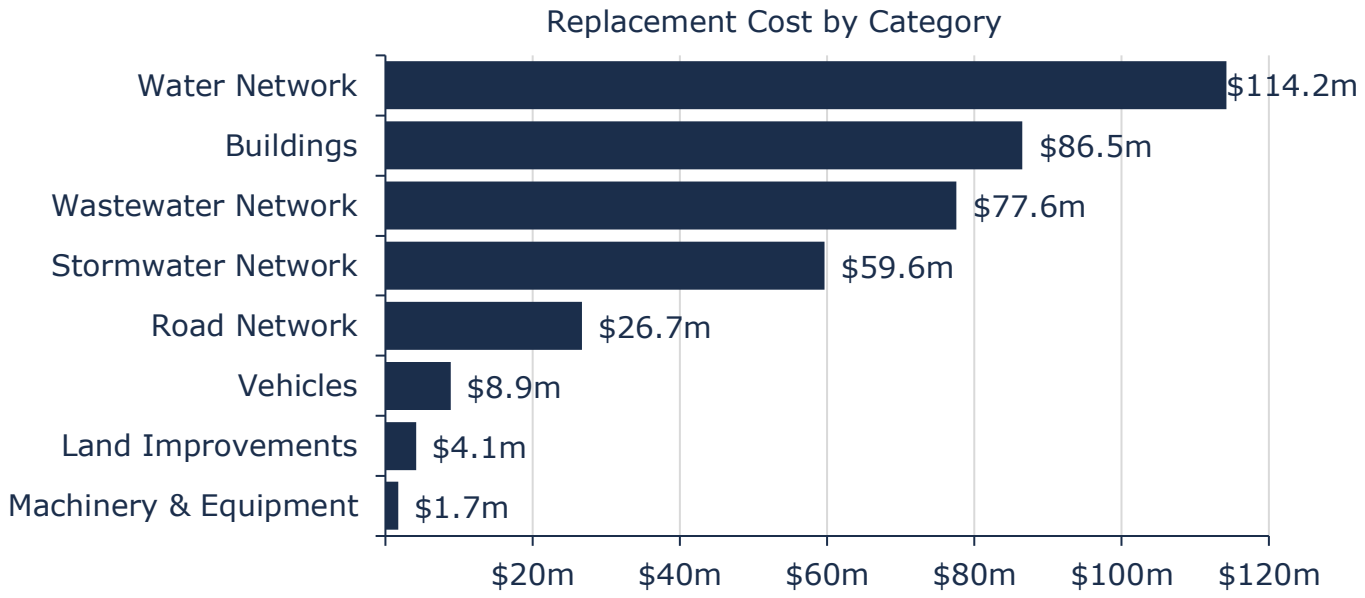


Figure 11 Current Replacement Cost by Asset Category

3.2.2 Condition of Asset Portfolio

Figure 12 and Figure 13 summarize asset conditions at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 80% of the Municipality's infrastructure portfolio is in fair or better condition, with the remaining 20% in poor or worse condition. Typically, assets in poor or worse conditions 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 core infrastructure assets including the road network, stormwater network, water network, and wastewater network assets. For remaining core infrastructure assets, including major infrastructure such as stormwater mains and service connections, age was used as an approximation of condition. Age-based condition estimations

can skew data and lead to potential under or overstatement of asset needs. For non-core assets, condition data was available for all buildings, all machinery and equipment, all vehicles and all land improvement assets.

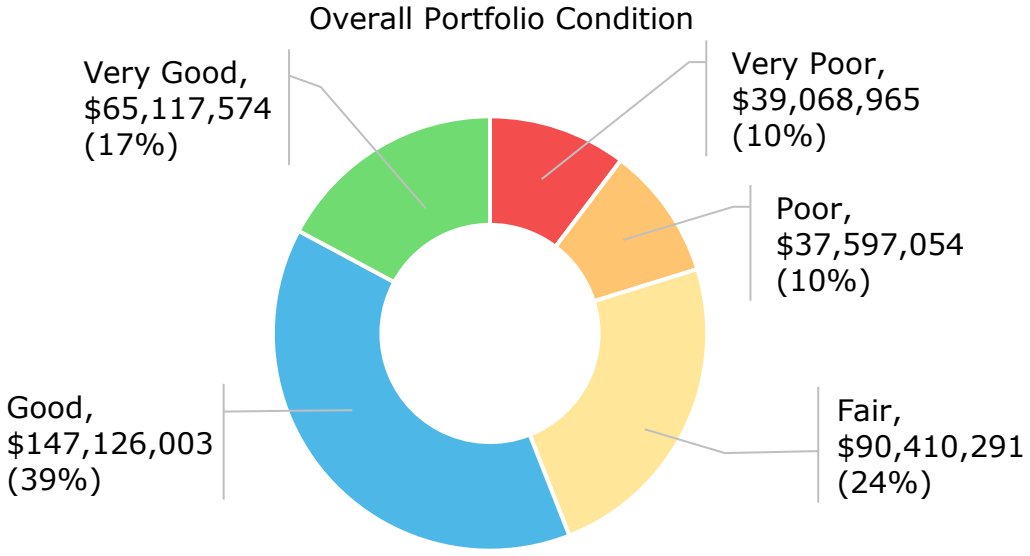


Figure 12 Asset Condition: Portfolio Overview

As further illustrated in Figure 13 at the category level, most core infrastructure assets are in fair or better condition, based on mostly in-field condition assessment data. Most vehicles and machinery and equipment are also in fair or better condition, based on recent condition assessments. See Table 7 for details on how condition data was derived for each asset segment.

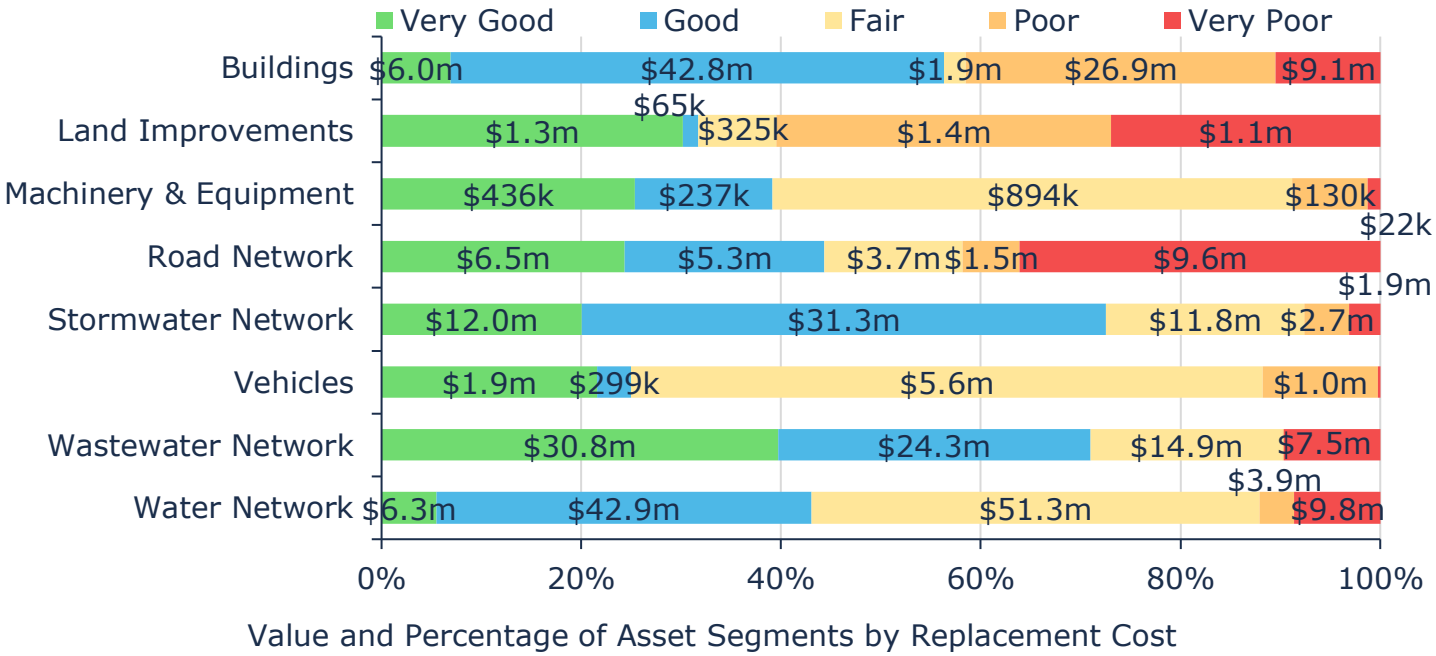


Figure 13 Asset Condition by Asset Category

Source of Condition Data

This AMP relies on assessed condition for 80% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. Table 7 below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	Asphalt Road Base	3%	Staff Assessments
	Asphalt Road Surface	94%	CityLogix (84%) Staff Assessments (16%)
	Sidewalks	100%	CityLogix (98%) Staff Assessments (2%)
	Streetlights	100%	2021 AMP
Water Network	Hydrants & Leads	86%	2021 AMP
	Mains	75%	
	Water Tower	100%	Master Plan
	WTP & Equipment	87%	Staff Assessments
Wastewater Network	Lagoon	100%	2021 AMP (26%) Staff Assessments (74%)
	Pumping Stations	100%	
	Manholes	72%	2021 AMP
	Mains	76%	
Stormwater Network	Catch Basin Manholes	100%	2021 AMP
	Catch Basins & Leads	70%	
	Mains	24%	
	Manholes	60%	
Buildings	Administration	99%	Staff Assessments
	Fire	100%	Staff Assessments
	Public Works		
	Recreation & Culture		Staff Assessments (71%) BCA (29%)
Land Improvements	Fields & Courts	100%	Staff Assessments (35%) 2021 AMP (65%)
	Landfill		2021 AMP

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
	Outdoor Structures & Parking		BCA (21%) 2021 AMP (21%) Staff Assessments (58%)
	Play Structures		2021 AMP (94%) Staff Assessments (6%)
Vehicles	All	100%	Staff Assessments
Machinery & Equipment	All	100%	Staff Assessments

Table 7 Source of Condition Data

3.2.3 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 14% of the Municipality's assets will require replacement within the next 10 years.

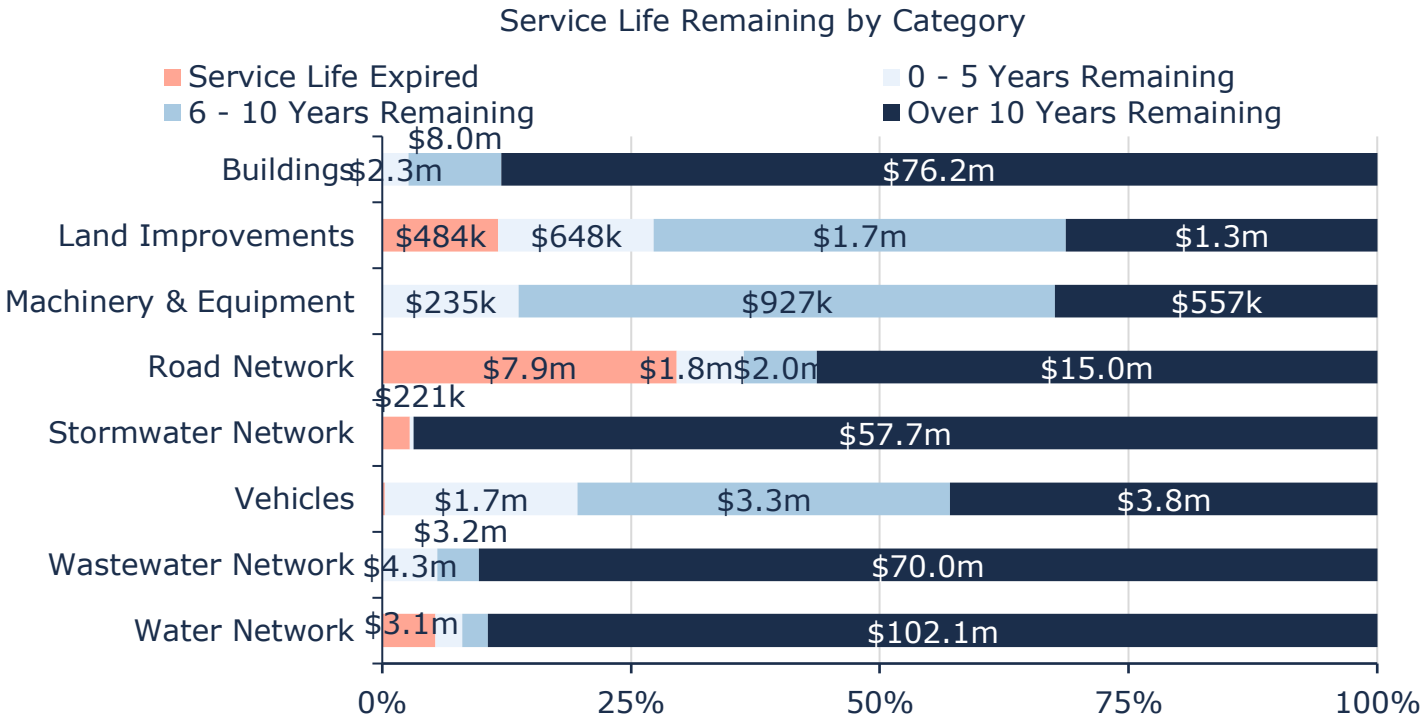


Figure 14 Service Life Remaining by Asset Category

3.2.4 Risk Matrix

Using the risk equation and preliminary risk models,

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$108,252,174 (29%)	$67,339,158 (18%)	$13,129,367 (3%)	$74,135,358 (20%)	$116,463,828 (31%)

Figure 15 shows how 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
$108,252,174 (29%)	$67,339,158 (18%)	$13,129,367 (3%)	$74,135,358 (20%)	$116,463,828 (31%)

Figure 15 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 31% of the Municipality's assets, with a current replacement cost of approximately $116.4 million, carry a risk rating of 15 or higher (red) out of 25. Assets in this group may have a high probability of failure based on available condition data and age-based estimates and were considered to be most essential to the Municipality.

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 consequences of failure ratings were determined to be low based on the attributes used and the data available.

Similarly, assets with very high condition ratings can receive a moderate to high-risk rating despite a low probability of failure. These assets may be deemed as highly critical to the 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.

4. 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.

4.1 Growth Assumptions

The Municipality of Casselman is a lower-tier municipality in the United Counties of Prescott and Russell (UCPR). As part of its formal comprehensive review to update its Official Plan, a Growth Management Strategy (GMS) was conducted for the UCPR for the period until 2046. As per the *Planning Act*, UCPT is required to set growth projections for its lower-tier municipalities.

Within the county, population growth has been steady since 1970. Since 2016 there has been a growth surge, mostly a result from intra-provincial migration from the City of Ottawa. It is anticipated that steady and sustained intra-provincial migration will continue over the long-term and that this will fuel growth. The UCPR Growth Management Study provides growth forecasts until the year 2046 for the Municipality of Casselman. Historic and projected housing growth for the Municipality of Casselman is summarized in Figure 16 below; population and employment forecasts are detailed in Table 8 below.

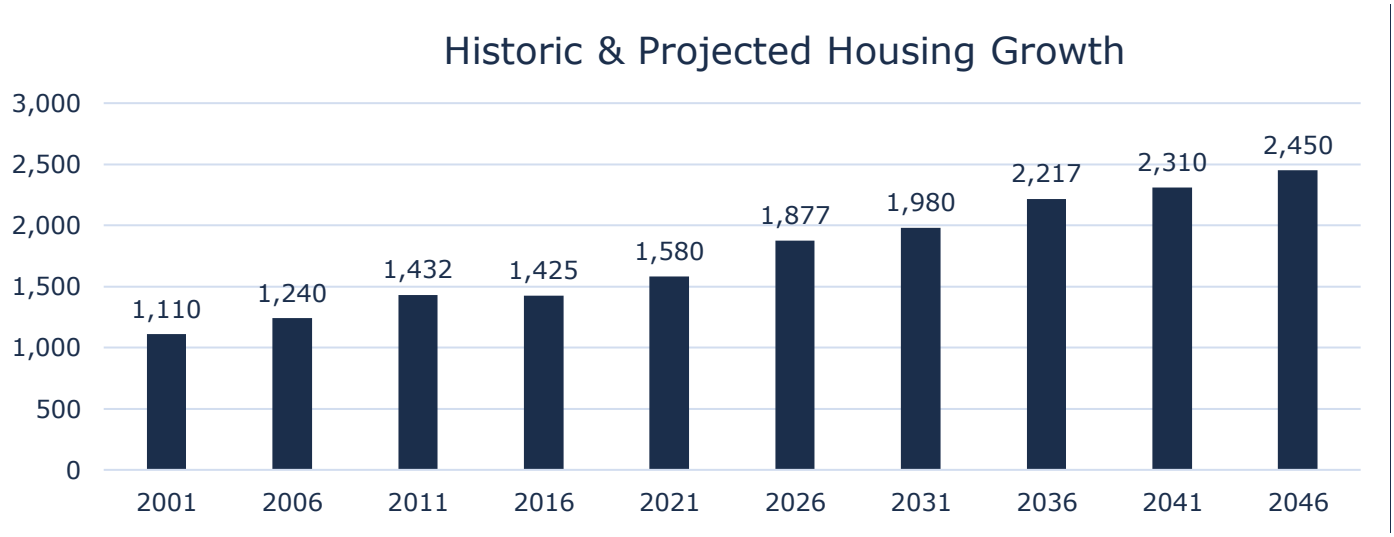


Figure 16: Historic and Projected Housing Growth

Table 8: Household & Employment Projections

	2021	2046	Change
Population	3,960	5,820	1,860
Household	1,583	2,450	870
Employment	1,930	2,200	290

The Municipality of Casselman is 100% an urban settlement area and designated for growth. As per the UCPR official plan 15% of all new residential units created over this period (until 2046) shall be within existing built-up areas with sufficient servicing capacity. This is generally a more cost-effective means of residential growth as existing infrastructure assets, especially core assets, are used. In contrast, most other forms of growth require the construction of new net infrastructure assets like roads and water mains. Therefore, based on the above noted projections it is estimated that approximately 740 residential units built in this period will require infrastructure servicing.

Using projected growth values for 2026 and 2036, annual population and housing counts are interpolated between 2027 and 2035 as outlined below.

Table 9: Projected Population and Household Changes

	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35
Households	1,877	1911	1945	1979	2013	2047	2081	2115	2149	2183
Population	4750	4804	4858	4912	4966	5020	5074	5128	5182	5236

Projected LOS metrics have been calculated based on the Table 9 population and household projections. These outputs are further detailed in section 5.3.2.

4.2 Impact of Growth on Lifecycle Activities

O. Reg. 588/17 requires that municipality's like Casselman, with a population of less than 25,000, as reported by Statistics Canada in the most recent census, identify how assumptions regarding future population growth are considered in the lifecycle and financial strategy. Financial Impacts of population change are estimated based on the Development Charges Background Study as discussed below.

Development Charges Background Study

In accordance with the Development Charges Act (D.C.A), 1997 the Municipality of Casselman has identified the forecasted growth-related capital expenditures from new development based on a period. Section 5(1) 6 of the D.C.A. provides that, "the increase in the need for service must be reduced by the extent to which an increase in service to meet the increased need would benefit existing development." Common examples of benefit to existing development include:

- Repair or unexpanded replacement of existing assets in need of repair
- Increase in average service level of quantity or quality
- Providing services where none previously existed
- The elimination of a chronic problem not created by growth

Based on these criteria the Development Charges Background Study has identified projects with benefit to existing development and determined their associated cost share. As these costs cannot be recovered from Development Charges they are considered a cost of growth.

The Municipality has established that Benefits to Existing (BTE) costs are to be funded by taxes and rates as applicable. Considering this strategy, growth costs associated with the BTE are summarized in Table 10 and included in the financial analysis herein. The lifecycle strategies

deployed to any new assets are generally expected to be a continuation of existing lifecycle strategies as described for each asset category in Appendices A to H

Table 10: Benefit to Existing Capital Cost Projections

Funding Source	5 Year Average Annual	10 Year Average Annual	15 Year Average Annual	20 Year Average Annual
Tax Funded	528,109	249,778	199,254	149,441

5. Proposed Levels of Service

5.1 Overview

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

Current LOS reflects the current technical LOS for (most often) a group of assets as of a defined *past* measurement date. In contrast, a Proposed LOS reflects the Municipality's *goa*l for asset performance by a define *future* date. It is important to note that O. Reg 588/17 does not dictate the proposed LOS values required. Meaning, a Proposed LOS may be maintaining or even reducing current performance.

O. Reg. 588/17 requires Municipalities to report on Proposed Levels of Service, including an overview of the following:

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

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

1. Identification of lifecycle activities needed to provide the proposed LOS.
2. Annual costs over the next 10 years to achieve the proposed LOS.
3. Identification of proposed funding projected to be available.

5.2 Proposed LOS Options & Analysis

5.2.1 Setting Proposed LOS Options: Process and Considerations

To determine three suitable Proposed LOS scenarios to analyze, the following process was completed:

1. Strategic Plan Review
2. Resident Survey Analysis
3. Council Survey Analysis
4. Staff Workshop
5. Proposed LOS Options Scenario Analysis

The next sections, detail key findings and considerations from each of these stages and, based on this, the three Proposed LOS options that were selected.

Strategic Plan Review

The Municipality of Casselman's Strategic Plan (2024-2028 and beyond) details the Municipality's vision, mission, values, and strategic priorities. The plan was developed with extensive engagement from residents and community stakeholders through surveys, focus groups, interviews, and workshops with councilors and senior staff. The Strategic Plan's vision, mission, and values are:

Vision: Bold Decisions, innovative actions

Mission: Service delivery that enriches lives and drives growth

Values:

1. Sustainability
2. Vitality
3. Cultural Heritage
4. Welcome
5. Integrity

This vision, mission, and values are demonstrated and advanced by three strategic priorities with associated actions and desired outcomes, which are summarized in Table 11 as follows:

Table 11: Strategic Plan Priorities

Strategic Priority	Key Details	AMP & Proposed LOS Relevance
Infrastructure	Infrastructure is central to service delivery that supports resident's quality of life.	Sustainable infrastructure ownership requires an effective asset management program, including development and ongoing reference to foundational documents like this Asset Management Plan and associated asset inventory information.
Community Well-being	Supporting and advancing resident well-being is an important goal and function of the municipality.	Assets, particularly land improvements and buildings, provide opportunities for social interaction and physical activity that promote physical and mental health. Maintaining these assets is a strategy for advancing this strategic priority.
Service Excellence	Effective, efficient, and resident focused service delivery are key elements of responsible and responsive governance.	Asset Management improves extent, quality, and access to important information that can better inform investment decisions and long-term planning. Proposed Levels of Service, where aligned with strong data and service delivery objectives, can promote responsive and responsible governance.

The Strategic Plan identifies that Casselman values and prioritizes asset management and its key role in asset stewardship. A vision of bold decisions and innovative actions suggests that

ambitious proposed LOS options may be supported. The service excellence pillar indicates the importance of considering resident opinions in proposed LOS options.

Resident Survey Analysis

As part of the Strategic Plan development, several stakeholder engagement activities were conducted in the fall of 2023. These included:

- An online survey opened[5] from August 14th to September 29th
- Focus groups conducted on September 19th and 20th
- Public meeting held on September 19th
- Correspondence from residents via email and social media from residents unable to attend other sessions

Key infrastructure focused findings from the survey, especially in the context of proposed levels of service, are summarized in Table 12 below.

Table 12: Resident Satisfaction by Asset Category

Asset Category	% of Respondents Satisfied	% of Respondents Dissatisfied
Water Services[6]	21	79
Wastewater Services [7]	21	79
Road Infrastructure	68	32
Buildings[8]	71	29
Fleet[9]	89	11
Machinery & Equipment	89	11

The survey included additional services (e.g. By-law enforcement, communication with residents, land use and development planning), however these are not considered within this report as their delivery is minimally reliant upon the Municipality's assets and infrastructure.

Residents were asked to identify the most important municipal services, the following table details the most to least important asset categories:

[5] In total, 386 responses were received. Using 2021 census population figures, this represents nearly a 10% response rate which is considered high.
[6] Readers should note that the resident satisfaction survey conducted as part of the Strategic Plan coincided with a period of elevated manganese levels in the drinking water system, which resulted in discolored water for approximately three to four weeks. This event may have influenced respondents' perceptions and, consequently, the survey results—particularly with respect to the perceived importance and performance of water-related services. As a result, responses may be more reflective of concerns related to drinking water during that period and may not fully represent typical views on wastewater services or overall service delivery under normal operating conditions.
[7] The survey grouped water and wastewater together, however, to align with the AMP reporting structure they have been separated.
[8] The survey identified this as recreational sports facilities which is mostly comprised of assets within the building category of this AMP.
[9] Data reported reflects survey categories Recycling and Garbage Services and Fire Rescue which are primarily composed of fleet and machinery and equipment assets.

Table 13: Asset Category Importance Ranking

Asset Category	Importance Rank
Water Services	1
Wastewater Services [10]	1
Fleet[11] (Fire)	2
Machinery & Equipment (Fire)	2
Road Infrastructure	3
Buildings[12]	4
Land Improvements	4

The survey also evaluated respondents' satisfaction with municipal services. Over 80% of respondents indicated they were very satisfied or satisfied with municipal services, with the balance (17%) indicating they were dissatisfied or very dissatisfied with municipal services.

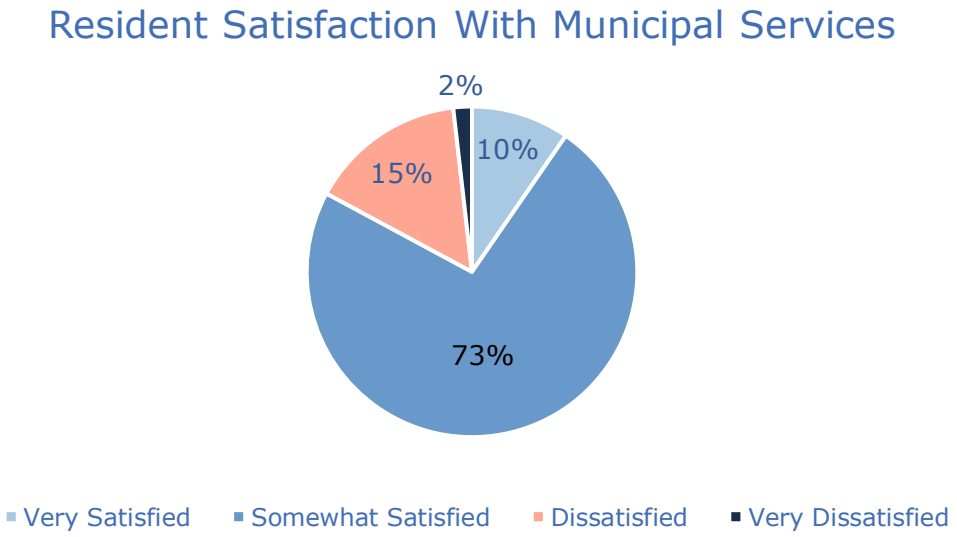


Figure 17: Resident Satisfaction with Municipal Services

The survey outlined the relationship between infrastructure spending and service noting "Municipal property taxes are the primary source of funds used to provide services in Casselman. We must balance taxation and service delivery levels to deal with uncontrollable costs associated with maintaining current service levels." Respondents were offered four options to select from. As illustrated in Figure 18 below, slightly more than one third of respondents selected maintain current tax levels (noting that this may result in service level reductions), and slightly more than a third opted to increase taxes and maintain services. Nearly one-fifth indicated increasing taxes

[10] The survey grouped water and wastewater together, however, to align with the AMP reporting structure they have been separated.
[11] Data reported reflects survey categories Recycling and Garbage Services and Fire Rescue which are primarily composed of fleet and machinery and equipment assets.
[12] The survey identified this as recreational sports facilities which is mostly comprised of assets within the building category of this AMP.

enough to expand, increase or otherwise grow services. The smallest proportion (8%) selected to reduce taxes and provide minimal service standards.

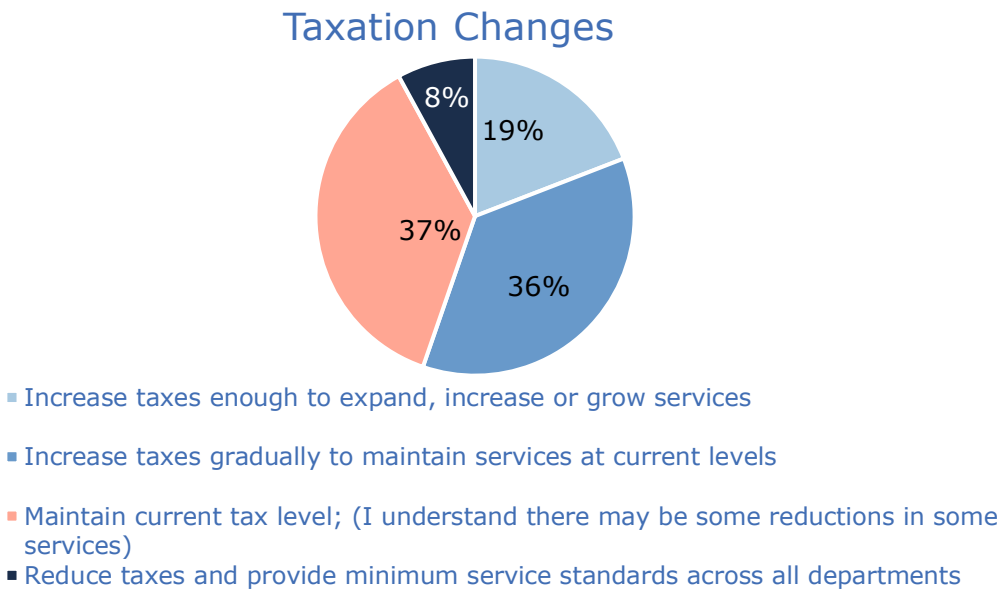


Figure 18: Resident Taxation Change Preference

The survey also sought information about opportunities to further improve the Municipality as a great place to live. Respondents were able to select up to three options from a diverse list which included items such as providing better food and shopping choices, instituting more festivals and events, and developing Casselman as a tourist destination. Infrastructure and asset related options and their corresponding rate of selection are summarized in the following table:

Table 14: Infrastructure Opportunities for Enhancement

Option Selected	Related Asset Categories	Percentage of Total Responses
Invest in Municipal Infrastructure	All	61
Improve Outdoor Wellness/Recreation Spaces	Land Improvements	29
Improve Indoor Wellness/Recreation Spaces	Buildings	21
Other: walking trails, Bike Paths, parks	Land Improvements	14

This indicates that respondents see infrastructure investment as a key strategy for enhancing the municipality. Additionally, internal stakeholder interviews with senior municipal staff were conducted. In the context of proposed LOS, the following are key findings from these interviews:

- The municipal office design is not appropriate for their needs, considerations for a new city hall
- Public works equipment has minimal redundancies, and this may cause service disruptions
- A strong focus on water and wastewater infrastructure improvements and associated long-term planning

Council Survey

Members of the Municipality of Casselman's Municipal Council (2022-2026 term) were also surveyed to inform proposed LOS options. The survey sought to identify high-priority assets for capital reinvestment, gauge the tolerance for tax adjustments, and establish a balance between immediate resident expectations and the future sustainability of the Municipality's service levels.

Figure 19 illustrates Council's perception of resident complaint volumes across various asset categories. The data indicates that complaint levels are generally viewed as manageable, with most responses falling into the *Expected/Anticipated* or *Rarely Hear* categories. The exception to this is the water network where 60% indicated too many complaints and 40% indicated expected/acceptable number of complaints.

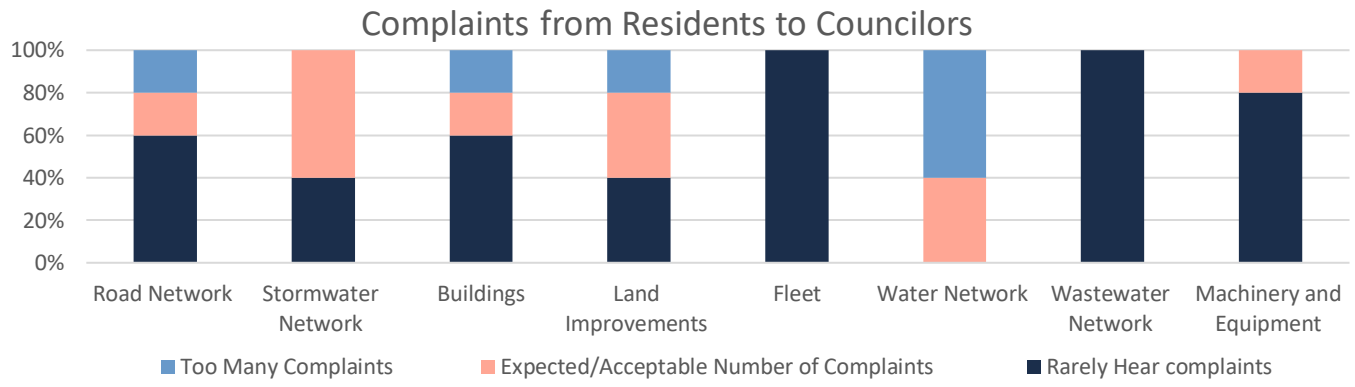


Figure 19: Councilor's Perception of Resident Complaint Frequency

Overall, most councilors identified that staff response to complaints was acceptable. However, a notable percentage identified staff responsiveness to complaints about the road network is more often marginally adequate or inadequate. The land improvements and water network categories also had some respondents indicating that staff response is inadequate or marginally adequate. This is summarized in Figure 20 below.

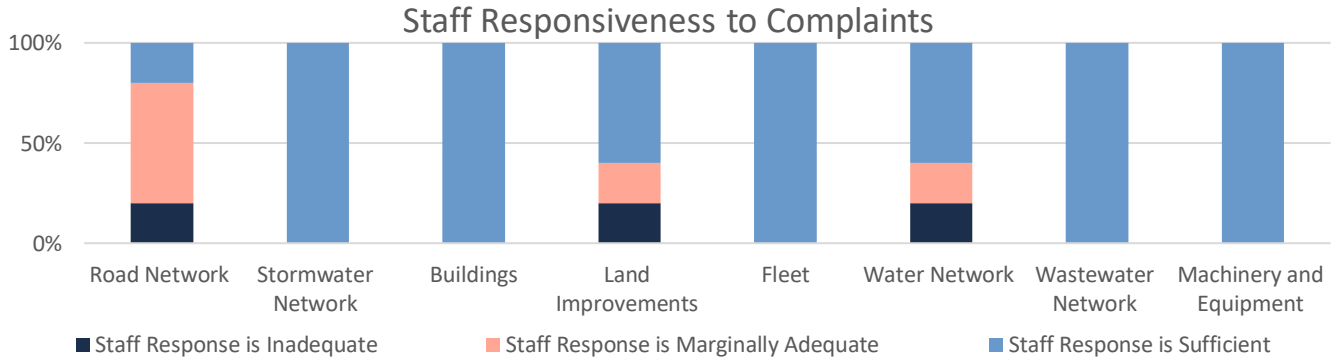
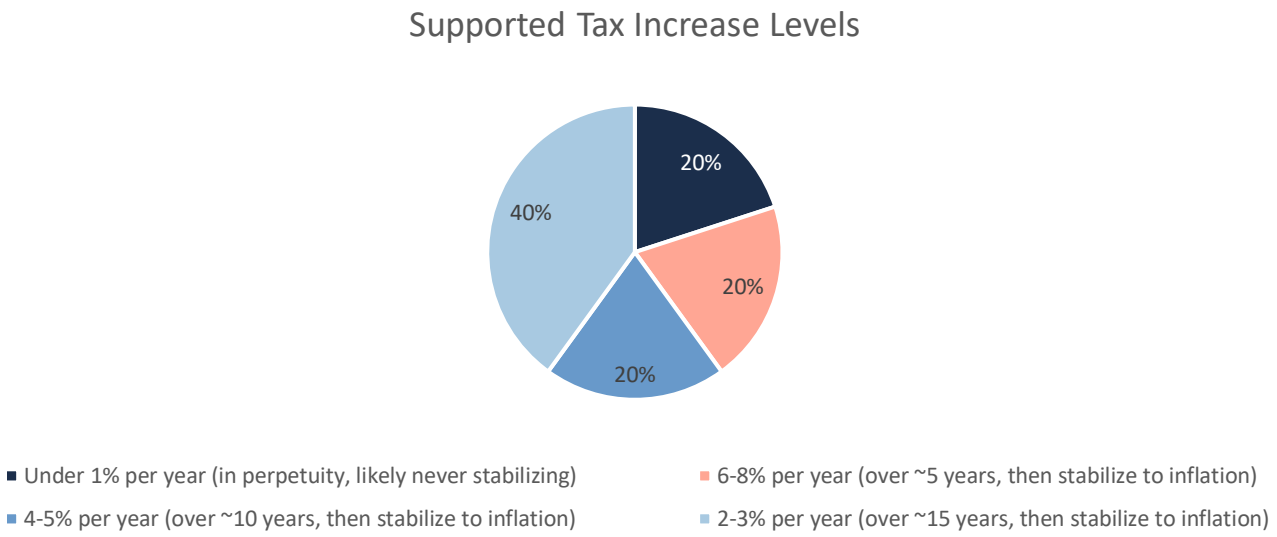


Figure 20: Staff Responsiveness to Resident Complaints

The council survey noted that the optimal level of funding was significantly less than the current funding levels and that funding increases would be required. Considering this, councilors were asked: Understanding that it will take time to increase capital funding levels, what approach

would you prefer for funding increases by Asset Category? All councilors indicated a preference to focus funding increases on priority asset categories first. All respondents also indicated that their priority for investment is the water network. Buildings were identified as the second highest priority asset category.

The survey also sought to understand the level of investment increase that councilors felt their constituents would accept. Councilors indicated acceptance of a wide range between less than 1% and up to 8%; however, the most accepted increase is 2-3%, as summarized below.



Considering all the above, the following are the most impactful details for selecting proposed Levels of Service options:

- The Strategic Plan advances and supports asset management and recognizes it as an important tool to achieve strategic priorities
- Core infrastructure assets, especially water and wastewater, are identified as a priority but residents are generally less satisfied with them
- Survey respondents are willing to maintain or increase taxation to support increased infrastructure investment and recognize that maintaining taxation may result in reductions to service level
- Land improvement assets are valued and as outlined in the strategic plan, they are identified as an important tool for quality of life.

Staff Workshop

Findings from the resident and councilor surveys were summarized and a meeting was held with Municipal staff to discuss. Additional considerations for setting Proposed LOS were confirmed and identified, specifically:

- The Municipality's has limited water and wastewater capacity to support additional development, heightening the urgency of increased capacity solutions. The Municipality is actively evaluating WWTP solutions.

- Investments in new, growth-related infrastructure (largely recoverable through development charges) must be carefully balanced against the need to reinvest in existing infrastructure to maintain reliability and manage risk.
- The two-tier municipal structure limits local flexibility to raise taxation to levels fully aligned with infrastructure needs, as a substantial share of infrastructure responsibilities sits at the lower tier while upper-level taxation constrains residents' overall ability to pay additional local taxes.
- Construction costs are escalating at rates higher than the Consumer Price Index (CPI), while municipal budget increases generally track CPI, reducing purchasing power for planned capital projects over time.
- Geo-political uncertainty and evolving intergovernmental relationships are contributing to market volatility, including potential price impacts such as tariffs and supply-chain disruptions.
- Accessibility objectives are intended to be funded primarily through special or one-time external sources (for example, grants), and these are not included in the Proposed LOS financial analysis, instead tracking them separately as targeted initiatives.

Proposed LOS Options

Considering all the above, the following three scenarios were selected for analysis and consideration as a proposed LOS option:

Table 15: Proposed LOS Scenarios

Scenario	Annual Capital Budget Amount
1	Maintain current investment for all asset categories
2	Maintain current condition for all asset categories
3	Increasing investment for all asset categories to 70% of the average annual requirement (AAR)[13].

[13] Funding the AAR to 100% is considered the optimal investment. This allows for every single asset to be replaced at the end of its estimated useful life (EUL) and for rehabilitations to be completed on the road network.

5.2.2 Proposed LOS Options: Analysis

Several key areas of consideration were deployed in the selection of the Proposed LOS. These primarily were:

1. Associated Risks
2. Affordability
3. Achievability

Associated Risks

Various risks were identified and determined to be applicable to all scenarios at various severity levels. The following table outlines the relative severity of all identified risks by scenario and by tax funded and rate funded asset categories.

Table 16: Identified Risks and Associated Severities

Applicable Scenario(s)	Severity: Tax Funded	Severity: Rate Funded
1	High	High
2	Low	Mid
3	Mid	Low

The risks identified, and their definitions are outlined in Table 17 below:

Table 17: Proposed LOS Risks Identified and Defined

Risk	Defined
Reliance on Grants	Increased capital funding requirements are not palatable to ratepayers, and the additional investment can only be funded by conditional grants, as they become available. While grants and senior government funding reduce the financial burden on residents, they are considered an unsustainable revenue source. The Municipality will be more vulnerable to changes in provincial and federal policy and funding programs.
Increased Infrastructure Backlog	The average annual capital investment is less than the average annual capital requirement. Therefore, for many years assets are insufficiently funded, and lifecycle management is not optimal. Reduced and/or deferred lifecycle activities threaten reliability and increase the potential for costly (and unbudgeted) repairs, rehabilitation and replacements to maintain service.

Risk	Defined
Increased Rate of Asset Failure	Underinvestment in assets will result in a lower average condition and an increased rate of asset failure. This will affect the reliability of infrastructure, and the quality of service provided.
Increased Liability Risks	As assets decline in condition there is a general increase in liability risk to the Municipality. Liability increases due to an increased potential for asset failure due to declining conditions. This may impact the extent of work that can be completed and/or the quality of it. This could have impacts on compliance with other regulations such as O. Reg. 239/02 for municipal roadways or O. Reg 714/94 for fire safety gear.
Increased Severity of Asset Failure	Underinvestment in assets is correlated to an increased severity of asset failure. This may mean that assets are beyond the point of repair and require premature replacement. In some instances, this may result in a period where the Municipality does not have functional assets that are critical to their operations.

In addition to the above noted qualitative risks, there are measurable risks held by each asset. Risks are quantified based on the probability and consequence of asset failure models detailed in Appendix M. Table 18 below illustrate the average portfolio risk under each scenario over time. The maximum risk score is 25, representing the most severe level of risk possible, and the lowest risk score is 1, representing the least severe level of risk possible. All proposed LOS options have average risk scores in the moderate range. Scenario two has the lowest average risk, followed by scenario three and then scenario one.

Table 18: Average Risk by Scenario

Scenario	Average Risk
1: Maintain Investment	16.70
2: Maintain Condition	11.52
3: 70% AAR Funded	14.01

Risk is dynamic and changes over time.

Figure *21* below illustrates projected risk over time for the road network.

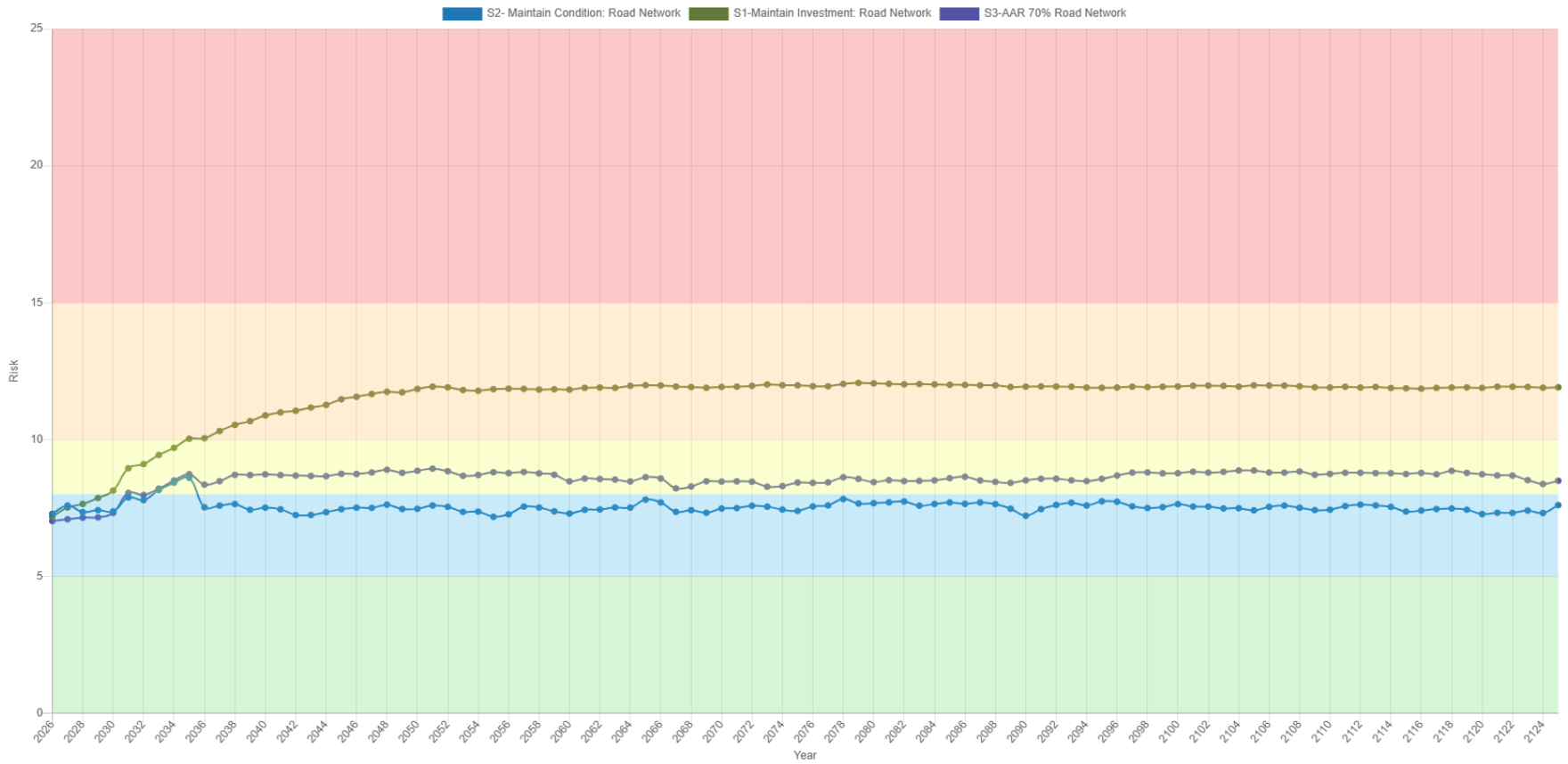


Figure 21: Road Network Risk Projections by Scenario

Between the three scenario options, the general trends remain consistent across asset categories. These trends can be described as follows

- Risk levels are highest under Scenario 1: maintain investment option.
- Risk levels are lowest under Scenario 2: maintain condition option
- Risk levels are in a moderate position under Scenario 3: 70% AAR funded

The above noted trends between scenarios can be reviewed for each asset category in Appendix J.

Affordability

Affordability of the proposed LOS options is also an important consideration. Tax and rate increases required are highest for scenario 2: maintain current condition, second highest for scenario 3: 70% AAR funded and lowest for scenario 1: maintain current investments. This is summarized in Table 19 below.

Table 19: PLOS Options Affordability Rank

Scenario	Annual Service Level Deficit: Tax	Annual Service Level Deficit: Rate	Affordability Rank
1: Maintain current investment	$0	$0	1
2: Maintain current condition	$3,891,000	$2,417,000	3
3: 70% average annual requirement (AAR)[14] funded.	$3,062,000	$1,509,000	2

The Financial Strategy (Section 6) provides details into options to increase the affordability of the selected proposed LOS option.

Achievability

There are several factors that may impact the ability to execute on the proposed LOS options. The following are identified barriers:

- **Sustained Council Support:** This refers to the likelihood of obtaining council approval for the proposed LOS option and the associated capital investment required. It also considers the likelihood of consistent council approval over the phase in period as applicable.
- **Internal Capacity:** This refers to the additional burden of Municipal staff to administer (e.g. issue, review, and action requests for proposal, quotation) and oversee capital projects. It reflects the Municipality's modest administration staff complement and the many diverse duties and responsibilities that staff already hold.
- **Uncertain Intergovernmental Funding:** Some capital projects may rely, at least in part, on provincial or federal grant programs which are often application based. Further, they tend to operate on short timelines and/or misaligned planning cycles (i.e. preliminary design required to apply for funding and preliminary design not yet complete). This can stall projects while waiting for decisions, holding risks of future cost escalation and continued asset degradation risks.

The severity of each of these factors is generally consistent by scenario, as summarized in Table 20 below.

[14] Funding the AAR to 100% is considered the optimal investment. This allows for every single asset to be replaced at the end of its estimated useful life (EUL) and for rehabilitations to be completed on the road network.

Table 20: Proposed LOS Achievability Constraints

Scenario	Resourcing	Sustained Council Support	Internal Capacity	Intergovernmental Funding
1: Maintain current investment		Low		
2: Maintain current condition		High		
3: 70% average annual requirement (AAR)[15] Funded		Moderate		

While the achievability constraints of scenario 2 are the highest of all options, scenario 2 carries the lowest risks as outlined in earlier sections.

5.3 Selected Proposed LOS

The three above noted scenarios were analyzed and results were reviewed. Staff provided a recommendation to council on Tuesday February 10th, 2026. With consideration for achievability, risks, and affordability, the Municipality of Casselman selected **Scenario 2** as their proposed LOS. The financial strategy and 10-year capital forecasts reported herein reflect scenario 2 and are based on a 20-year phase in period.

Scenario 2: Maintain current condition for all asset categories

5.3.1 Required Lifecycle Strategies

The following tables details the anticipated lifecycle strategy changes that are required to meet the proposed LOS:

Table 21: Lifecycle Strategy Changes to Support Proposed LOS

Asset Category	Lifecycle Changes to Reach PLOS	AMP Section
Road Network	Continue application of lifecycle strategies with regular increased capital funding to replace and/or save for the replacement of assets.	7.7
Water Network		7.13
Wastewater Network		7.19

[15] Funding the AAR to 100% is considered the optimal investment. This allows for every single asset to be replaced at the end of its estimated useful life (EUL) and for rehabilitations to be completed on the road network.

Asset Category	Lifecycle Changes to Reach PLOS	AMP Section
Stormwater Network	Implementation of recommendations surrounding asset data (noted in section 7.2) are anticipated to improve the accuracy and quality of proposed LOS reporting outputs.	7.25
Buildings		7.31
Land Improvements		7.37
Vehicles		7.43
Machinery & Equipment		7.49

5.3.2 Risk & Achievability Mitigations Measures

Associated risks and achievability constraints for all proposed LOS factors were identified in section 5.2.2. The following table highlights the identified risks and risk mitigation strategies based on scenario 2: maintain condition.

Table 22: Risk Mitigation Measures

Risk Factor	Risk Mitigation
Reliance on Grants	A strong asset management program is an important resource for securing grants. It demonstrates that the Municipality has long-term considerations for investment and that grant funding received is a well-managed investment. This increases the likelihood of receiving grants and is therefore a risk mitigation measure.
Increased Rate of Asset Failure & Increased Severity of Asset Failure	The Municipality will invest in assets strategically to target failures to less critical assets. While this will not necessarily reduce the sheer number of asset failures it can reduce the severity and extent of impact due to asset failures.
Increased Infrastructure Backlog	Capital projects can be prioritized to assets with high risks score which indicate they have a high probability and consequence of failure. This does not reduce the infrastructure backlog, but it does reduce the amount of risk held by the Municipality because of the infrastructure backlog
Increased Rate of Asset Failure & Increased Severity of Asset Failure	The Municipality will invest in assets strategically to target failures to less critical assets. While this will not necessarily reduce the sheer number of asset failures it can reduce the severity and extent of impact due to asset failures.

The following table identifies the achievability factors previously noted, and mitigation strategies for them.

Table 23: Achievability Mitigation Strategies

Achievability Factor	Achievability Mitigation
Sustained Council Support	Staff will continue to provide information to council to inform decisions such as budgets which have direct impacts to the achievability of the selected Proposed LOS.
Internal Capacity	Staff will explore external resources (i.e. contract administration) where they may be viable and beneficial to assist. Additional procurement strategies such as longer-term contracts may also provide efficiencies that can mitigate this achievability factor.
Uncertain Intergovernmental Funding	The financial strategy of the selected proposed LOS uses only sustainable funding sources which do not include one-time government grants. This reduces the reliance on grant funding to complete projects and should grant funding become available the financial position of the municipality only improves.

5.3.3 Proposed LOS Over 10 Years

Changes to Community and Technical Levels of Service for Scenario 2

The Municipality of Casselman anticipates changes to qualitative community levels of services to align with changes in technical levels of service. For example, where the average condition declines for an asset category, the community level of service description would adjust to communicate a lower average condition. All asset categories will see adjustments to their technical levels of service over time. Proposed LOS are informed by the investments provided under scenario 2; these values are summarized in the next section.

Technical LOS

The Tables below summarize the proposed LOS overtime. The trend box summarizes how the metric is projected to change over the 10-year period. These projections are based on the selected scenario; however, a phase-in period is not incorporated into the projections. For this reason, it is anticipated that projections will be slightly higher performing than actuals.

Table 24: Projected Average Weighted Condition

Average Weighted Condition (%)												
	'24	**'26**	**'27**	**'28**	**'29**	**'30**	**'31**	**'32**	**'33**	**'34**	**'35**	**Trend**
Road Network	50	52	50	50	50	50	50	50	47	43	43	Decreasing
Water Network	55	53	53	52	50	49	48	46	44	42	41	
Wastewater Network	66	67	65	69	67	65	64	62	60	59	57	
Stormwater Network	62	60	58	56	54	52	50	48	46	44	42	
Buildings	43	61	59	57	55	53	51	49	47	45	43	Maintaining
Land Improvements	45	45	45	46	48	46	45	50	46	62	57	Increasing
Vehicles	58	44	39	48	40	42	37	32	30	42	66	
Machinery & Equipment	63	51	43	38	32	51	48	54	47	52	56	

Table 25: Projected Percentage of Assets in Good or Better Condition

Percentage (%) of Assets at or Above Good or Very Good												
	'24	**'26**	**'27**	**'28**	**'29**	**'30**	**'31**	**'32**	**'33**	**'34**	**'35**	**Trend**
Road Network	44	29	25	31	33	37	43	49	49	50	49	Increasing
Water Network	43	30	38	45	47	48	53	44	45	43	42	Fluctuating
Wastewater Network	71	62	62	27	27	27	27	22	23	18	17	Decreasing
Stormwater Network	72	40	25	25	25	25	21	21	21	21	40	
Buildings	56	22	20	16	9	5	5	5	15	38	22	
Land Improvements	32	49	51	60	62	40	44	31	31	27	49	Increasing
Vehicles	25	29	27	27	41	39	46	46	49	54	29	Maintaining
Machinery & Equipment	39	22	13	15	42	40	63	66	44	50	22	Decreasing

Table 26: Percentage of Assets Beyond their Useful Life

Percentage (%) of Assets Beyond their Useful Life[16]												
	'24	**'26**	**'27**	**'28**	**'29**	**'30**	**'31**	**'32**	**'33**	**'34**	**'35**	**Trend**
Road Network	29	16	15	11	8	5	2	0	0	0	0	Decreasing
Water Network	6	3	2	0	0	1	0	0	0	1	0	
Wastewater Network	0	0	0	0	0	0	0	0	0	0	0	Maintaining
Stormwater Network	1	0	0	0	0	0	0	0	0	0	0	
Buildings	0	3	4	4	4	11	11	12	12	12	13	Increasing
Land Improvements	3	17	13	9	3	4	0	0	21	7	7	
Vehicles	0	0	0	0	0	0	0	0	0	0	9	
Machinery & Equipment	0	0	0	0	0	0	1	0	4	1	0	Maintaining

[16] Reported values are weighted by replacement cost of the asset and reported overall by category. Assets beyond their useful life have reached 0% condition.

Table 27: Total Annual Maintenance Budget Per Household

	Total Annual Maintenance Budget Per Household ($)											
	'25[17]	'26[18]	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Road Network	84	90	78	79	80	81	82	84	85	86	87	Increasing[19]
Stormwater Network	15	22	18	19	19	19	19	19	20	20	20	
Buildings	34	42	39	40	40	41	41	42	42	43	44	
Land Improvements	25	28	29	29	29	30	30	31	31	31	32	
Vehicles	26	33	31	32	32	33	33	33	34	34	35	
Machinery & Equipment	26	36	37	37	38	38	38	39	40	40	41	
Water Network	141	195	147	149	193	110	108	120	122	123	125	
Wastewater Network	42	72	63	77	63	45	44	55	56	57	58	

Table 28: Total Annual Maintenance Budget Per Capita

	Total Annual Maintenance Budget Per Capita ($)											
	'25	'26[20]	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Road Network	35	36	31	32	32	33	34	34	35	36	36	Increasing
Stormwater Network	6	11	11	12	12	12	12	13	13	13	13	
Buildings	14	17	16	16	16	17	17	17	17	18	18	

[17] 2025 Financial values are based on audited actuals.
[18] 2026 Accounting year represents the approved budget
[19] The primary cause of the increasing trend is that the number of households are projected to increase at a slower rate than costs.
[20] 2026 Accounting year represents the approved budget

	Total Annual Maintenance Budget Per Capita ($)											
	'25	'26[20]	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Land Improvements	10	11	11	12	12	12	12	13	13	13	13	
Vehicles	11	13	12	13	13	13	13	14	14	14	15	
Machinery & Equipment	10	14	15	15	15	15	16	16	16	17	17	Increasing
Water Network	59	77	59	60	78	45	44	49	50	51	52	
Wastewater Network	18	29	25	31	26	18	18	23	23	24	24	

Table 29: Total Annual Maintenance Budget

	Total Annual Maintenance Budget ($)											
	'24	'26[21]	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Road Network	50,280	169,847	150,000	154,500	159,135	163,909	168,826	173,891	179,108	184,481	190,016	
Stormwater Network	30,951	40,500	35,000	36,050	37,132	38,245	39,393	40,575	41,792	43,046	44,337	
Buildings	68,653	78,747	75,000	77,250	79,568	81,955	84,413	86,946	89,554	92,241	95,008	
Land Improvements	50,280	52,363	55,000	56,650	58,350	60,100	61,903	63,760	65,673	67,643	69,672	
Vehicles	53,225	62,250	60,000	61,800	63,654	65,564	67,531	69,556	71,643	73,792	76,006	
Machinery & Equipment	52,106	68,014	70,000	72,100	74,263	76,491	78,786	81,149	83,584	86,091	88,674	Increasing
Water Network	284,201	366,000	300,000	309,000	318,270	327,818	337,653	347,782	358,216	368,962	380,031	

[21] 2026-year values are based on the approved budget. Future values are estimated based on a 3% annual increase.

	Total Annual Maintenance Budget ($)											
	'24	'26[21]	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
Wastewater Network	84,685	135,500	100,000	103,000	106,090	109,273	112,551	115,927	119,405	122,987	126,677	

Table 30: Mandated LOS Metrics

Mandated LOS Metrics (Core Assets only)				
Category	**Metric**	**2024**	**2025-2034**	**Trend**
Road Network	Lane-km of arterial roads per land area (km/km2) N/A	None	Current	Maintain
	Lane-km of collector roads per land area (km/km2)	None		
	Lane-km of local roads per land area (km/km2)	12.07 km/km2		
Water Network	% of properties connected to the municipal water system	98.6%	2024 levels	Maintain
	% of properties where fire flow is available	99.1%		
	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0 vs. 1716	0-1	Maintain
	# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system	0 vs. 1716		
Wastewater Network	% of properties connected to the municipal wastewater system	98.2%	2024 Levels	Maintain

Mandated LOS Metrics (Core Assets only)				
Category	**Metric**	**2024**	**2025-2034**	**Trend**
	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	0 vs. 1704	0-1	Maintain
	# of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system	0 vs. 1704	0-1	
	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0 vs. 1704	0-1	
Stormwater Network	Percentage of properties in municipality resilient to a 5-year storm	100%[22]	100%	Maintain
	Percentage of properties in municipality resilient to a 100-year storm	100%[23]	100%	

[22] As reported in 2024 compliant AMP with note: Staff have identified only few properties in a flood zone although there have not been any floods in recent years.
[23] As reported in 2024 compliant AMP with note: Based on assets that have 1 or greater years of remaining useful life.

6. Financial Strategy

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

This plan (2025 AMP) identifies the financial requirements to meet the identified proposed LOS. It is based on the inventory of assets as of December 2024 and the required funding to meet the proposed LOS (as summarized in Section 5.1). It also considers and accounts for the projected financial impacts from economic and population growth. The financial plan considers and accounts for traditional and non-traditional sources of municipal funding, which are:

1. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Debt
    d. Development charges
2. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
3. 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.

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 the 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.

6.1 Annual Requirements & Capital Funding

6.1.1 Annual Requirements

The annual requirements represent the amount the Municipality should allocate annually to each asset category to meet the proposed LOS. For the Municipality of Casselman, the proposed LOS provides for an annual capital investment increase of $3,892,000 for tax funded assets and $1,774,000 and $643,000 for water and wastewater asset categories respectively. For tax funded assets, by year 20 on average 86% of the average annual requirement (AAR) will be funded. Generally, this means that under this proposed LOS tax funded assets are being replaced slightly later than recommended. However, it should be noted that this level of investment is an increase from the current level of investment (14% AAR funded) and therefore the proposed LOS is still higher than it would be if existing levels of capital funding continued.

For rate funded assets, the proposed LOS results in 97% and 88% of the AAR of water and wastewater assets respectively being funded. This is also a significant increase from current investment levels (28% and 39% AAR funded).

For most asset categories the annual requirement has been calculated based on a "replacement only" scenario, in which capital costs are only incurred at the construction and replacement of each asset. However, for the Road Network, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal of the roads.

6.1.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Municipality is committing approximately $1,767,000 towards capital projects per year. Based on the selected proposed LOS to maintain asset condition the annual capital investment requirement is $8,076,000. Therefore, the current funding gap is $6,309,000 annually.

6.2 Funding Objective

We have developed a scenario that would enable Municipality of Casselman to achieve full funding within 20 years for the following assets:

1. **Tax Funded Assets:** Road Network, Stormwater Network, Buildings & Facilities, Machinery & Equipment, Land Improvements, Vehicles

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

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

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

6.3 Financial Profile: Tax Funded Assets

6.3.1 Current Funding Position

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

Asset Category	Avg. Annual Require-ment (PLOS)	Annual Funding Available				Annual Deficit
		Taxes	CCBF	OCIF	Total Available	
Road Network	740,094	73,034	32,751	66,206	171,991	568,103
Stormwater Network	1,043,278	111,972		101,503	213,474	829,804
Buildings	1,729,557	146,592			146,592	1,582,965
Machinery & Equipment	154,950	14,877			14,877	140,073
Land Improvements	186,871	19,550			19,550	167,321
Vehicles	670,022	65,994			65,994	604,028
Total	**$4,524,772**	**432,019**	**32,751**	**167,709**	**632,479**	**3,892,292**

Table 31 Annual Available Funding for Tax Funded Assets

The average annual investment requirement to meet the Proposed LOS for the above categories is $4,524,772. Annual revenue currently allocated to these assets for capital purposes is $632,479 leaving an annual deficit of $3,892,292. Put differently, the current level of investment is 14% of the investment needed to achieve the proposed LOS.

6.3.2 Full Funding Requirements

In 2026, the Municipality of Casselman had budgeted annual tax revenues of approximately $5,040,000. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Road Network	11.3%
Stormwater Network	16.5%
Buildings	31.4%
Machinery & Equipment	2.8%

Asset Category	Tax Change Required for Full Funding
Land Improvements	3.3%
Vehicles	12.0%
Total	**77.3%**

Table 32 Tax Increase Requirements for Full Funding

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

a) Casselman's debt payments for these asset categories will be increasing by $446,000 between 2024 and 2029 (5 years)
b) Between 2024 and 2034 debt payments will increase by $277,000 (10 years)
c) Between 2024 and 2040 debt payments will increase by $241,000 (15 years)
d) Between 2024 and 2044 debt payments will increase by $76,000 (20 years)

Additionally, as noted in Section 4.2, there are Benefits to Existing (BTE) growth costs that are projected to occur over the same period. The average annual costs over the noted period reflect the changes in debt costs and the BTE growth costs outlined above.

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

	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	3,892,293	3,892,293	3,892,293	3,892,293
Benefit to Existing Growth Costs	528,109	249,778	199,254	149,441
Change in Debt Costs	445,638	277,335	240,628	75,753
Resulting Infrastructure Deficit:	4,866,039	4,419,405	4,332,175	4,117,486
Tax Increase Required	96.6%	87.7%	86.0%	81.7%
Annually:	14.5%	6.5%	4.3%	3.1%

Table 33 Tax Increase Options 5-20 Years

6.3.3 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 tax revenues by 3.1% (assuming debt reallocation) 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) allocating the current CCBF and OCIF revenue as outlined previously.
c) reallocating appropriate revenue from categories in a surplus position to those in a deficit position.

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

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment[24].
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.

6.4 Financial Profile: Rate Funded Assets

6.4.1 Current Funding Position

The following tables show, by asset category, Casselman's average annual asset investment requirements to meet the proposed LOS, current funding positions, and funding increases required for water and wastewater network assets.

Asset Category	Avg. Annual Requirement ($)	Annual Funding Available				Annual Deficit ($)
		Rates	CCBF	OCIF	Total Available	
Water Network	2,412,047	335,610	100,100	202,347	638,057	1,773,990
Wastewater Network	1,139,427	327,506	55,942	113,084	496,532	642,895
Total	**3,551,474**	**663,116**	**156,041**	**315,431**	**1,134,588**	**2,416,886**

Table 34 Annual Available Funding for Rate Funded Assets

The average annual investment requirement for the above categories is $3,551,000. Annual revenue currently allocated to these assets for capital purposes is $1,135,000 leaving an annual deficit of $2,417,000. Put differently, these infrastructure categories are currently funded at 32% of the investment required to meet the proposed LOS.

[24] 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.

6.4.2 Full Funding Requirements

In 2026, Casselman had budgeted annual revenues of $1,690,000 and $1,640,000 for the water and wastewater network 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
Water Network	105.0%
Wastewater Network	39.2%

Table 35 Rate Increase Requirements for Full Funding

In the following tables, we have expanded the above scenario to present multiple options. Due to the significant increases required, we have provided phase-in options for up to 20 years:

Water Network				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit ($)	$1,773,990	$1,773,990	$1,773,990	$1,773,990
Benefit to Existing Growth Costs ($)	0	0	0	0
Change in Debt Costs ($)	0	-124,501	-124,501	-124,501
Resulting Infrastructure Deficit:	1,773,990	1,649,489	1,649,489	1,649,489
Tax Increase Required	105.0%	97.6%	97.6%	97.6%
Annually:	15.5%	7.1%	4.7%	3.5%

Table 36 Water Rate Increase Options 5-20 Years

Wastewater Network				
	5 Years	**10 Years**	**15 Years**	**20 Years**
Infrastructure Deficit ($)	642,895	642,895	642,895	642,895
Benefit to Existing Growth Costs ($)	0	0	0	0
Change in Debt Costs ($)[25]	-197,728	-415,590	-592,837	-592,837
Resulting Infrastructure Deficit:	445,168	227,305	50,058	50,058
Tax Increase Required	27.1%	13.9%	3.1%	3.1%
Annually:	4.8%	1.3%	0.2%	0.2%

Table 37 Wastewater Rate Increase Options 5-20 Years

6.4.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 20-year option for the water network and the 10-year option for the wastewater network. This involves meeting the funding level required for the select proposed LOS being achieved over 20 and 10 years respectively by:

a) Assuming debt reallocation[26], increasing rate revenues by 3.5% for water services and 1.3% for the wastewater network each year for the next 20 and 10 years respectively. This will enable the funding required to meet the proposed LOS for the current asset inventory to be achieved within 20 and 10 years respectively.
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.

[25] Changes in debts reported exclude all development charge funded debts as their inclusion would misrepresent debt changes and the resultant rate increase required to support the selected proposed LOS.
[26] If debt is not reallocated the required annual increase is 3.7% for the water network each year for 20 years and 3.3% for the wastewater network each year for 10 years.

6.5 Use of Debt

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

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

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

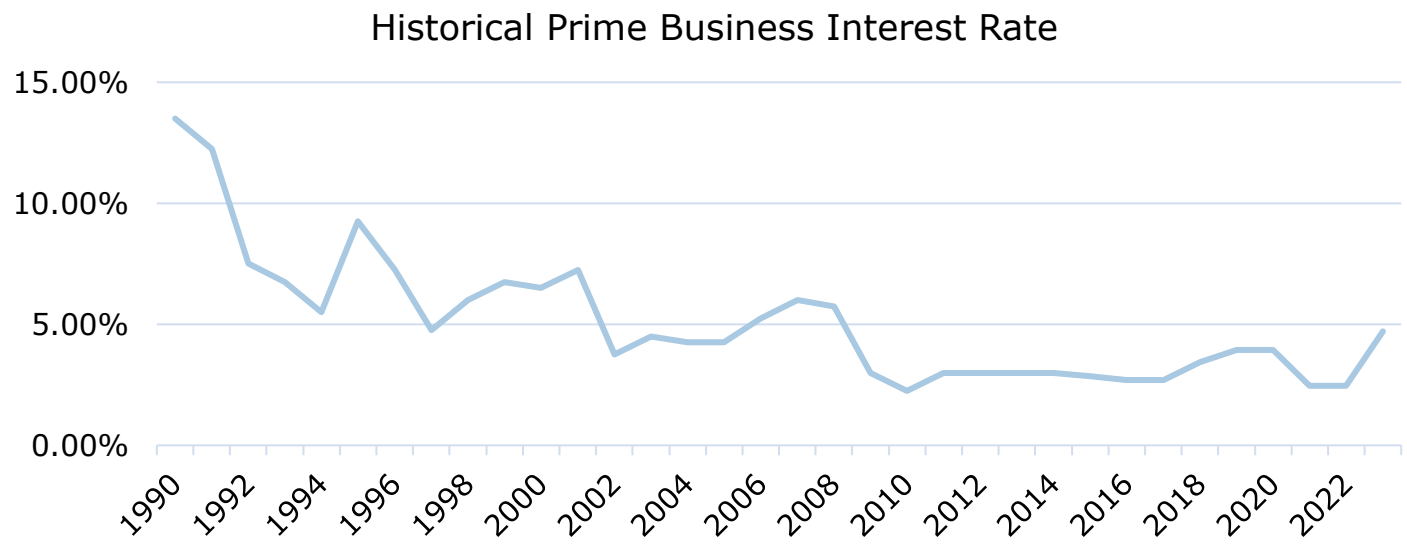


Figure 22 Historical Prime Rate

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

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a $1,000,000 project financed at 3.0%[27] over 15 years would result in a 26% premium or $260,000 of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

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

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

Table 38 Interest Premiums Paid

The following tables outline how Casselman has historically used debt for investing in the asset categories as listed. As of year-end 2024, debts of existing assets funded by taxes or rates, including debts related to wastewater development charges, totaled $14,123,000 with corresponding principal and interest payments of $2,198,000.

Asset Category	Use of Debt in the Last Five Years ($)				
	2020	2021	2022	2023	2024
Road Network	0	0	0	0	0
Stormwater Network	97,087	89,011	79,979	70,773	61,380
Buildings	837,482	763,689	687,212	608,608	527,810
Machinery & Equipment	0	0	0	0	0
Land Improvements	227,469	204,598	2,960,660	2,793,768	2,626,178
Vehicles	0	0	0	0	0
Total Tax Funded	**1,162,038**	**1,057,297**	**3,727,851**	**3,473,150**	**3,215,369**
Water Network	1,089,613	994,765	894,860	792,367	687,180
Wastewater Network	12,845,430	12,221,776	11,576,350	10,911,699	10,227,198
Total Rate Funded	**13,935,043**	**13,216,541**	**12,471,211**	**11,704,065**	**10,914,378**

Table 39 Casselman Use of Debt 2020-2024

Asset Category	Principal & Interest Payments in the Next Ten Years ($)						
	2024	2025	2026	2027	2028	2029	2034
Road Network	0	0	0	0	0	0	0
Stormwater Network	10,729	10,729	10,729	10,729	10,729	10,729	0
Buildings	119,294	119,294	119,294	104,137	96,559	96,559	0
Machinery & Equipment		0	0	0	0	0	0
Land Improvements	304,517	296,807	799,759	792,417	785,364	772,889	711,875
Vehicles		0	0	0	0	0	
Total Tax Funded	**434,540**	**426,830**	**929,782**	**907,284**	**892,653**	**880,178**	**711,875**
Water Network	124,501	124,501	124,501	124,501	124,501	124,501	0
Wastewater Network	1,638,827	1,531,005	1,420,089	1,305,990	1,012,367	870,118	962,856
Total Rate Funded	**1,763,328**	**1,655,506**	**1,544,591**	**1,430,491**	**1,136,869**	**994,619**	**1,087,358**

Table 40 Casselman Principal and Interest Payments

While DCs are intended to recover capital costs from future development, the timing of DC collections may vary significantly from when capital expenditures and debt repayments are due. Furthermore, recent legislative changes to Ontario's Development Charges Act Under Bill 17, the Protect Ontario by Building Faster and Smarter Act, have introduced greater uncertainty around when and how DC payments are realized by Municipality. Considering this, Table 39 and Table 40 above include debts funded by DCs in part or full.

This strategy assumes debt servicing obligations must be funded through general tax or rate revenues. This ensures that the long-term financial position of the municipality remains sound if DC revenues are insufficient or are received after debt payments are due.

Please note, as highlighted in footnote 25 on page 55, that the financial strategy to fund the proposed LOS has intentionally excluded debts funded by Development Charges. In these instances, their conclusion mis-represents the financial changes required to fund the proposed LOS. Further, to date development charge funded debts have not require contributions from rates collected. The revenue options outlined in this plan allow the Municipality of Casselman to fully fund its long-term infrastructure requirements without further use of debt

6.6 Use of Reserves

6.6.1 Available Reserves

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

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

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

Asset Category	Balance at December 31, 2024
Road Network	113,485
Stormwater Network	0
Buildings	0
Machinery & Equipment	69,000
Land Improvements	59,964
Vehicles	0
Total Tax Funded:	
Water Network	$345,027
Wastewater Network	-$153,199[28]
Total Rate Funded:	

Table 41 Casselman Reserve Balances

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

a) breadth of services provided
b) age and condition of infrastructure

[28] This reserve fund receives annual total budget surplus contributions. In the event of a deficit, the reserve is used to balance the budget. At this point in time, the reserve held a negative balance due to a total budget deficit.

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 Casselman'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.

7. Recommendations & Key Considerations

7.1 Financial Strategies

1. Solely for the purpose of phasing in the funding required to meet the Proposed LOS for the asset categories covered in this section of the AMP:
    a. Increasing taxes by 3.1% per year over a period of 20 years.
    a. Increasing water rates by 3.5% per year over a period of 20 years; and
    b. Increasing wastewater rates by 1.3% per year over a period of 10 years.

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

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

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

5. It is anticipated, based on the selected proposed LOS, that reserves funds will be increasingly utilized. Currently there are no dedicated reserve funds for several asset categories. It is recommended that the Municipality explore creating dedicated reserve funds for these assets categories.

6. Continue to apply for project specific grant funding to supplement sustainable funding sources. This is of particular importance to the water network and the wastewater network due to projected expenditures relative to revenues over the next decade.

7. It is anticipated, based on the selected proposed LOS, that cash flow requirements may be higher in some years than others and that long-term cash flow planning and funding strategies may be required for water and wastewater network categories. It is recommended that the Municipality explore methods of addressing cash flow shortages as applicable to ensure that the investments required to meet the proposed LOS and the associated asset replacements are available.

7.2 Asset Data

1. Continuously review, refine, and calibrate lifecycle and risk profiles to better reflect actual practices and improve capital projections. In particular:
    a. Work towards an internal assessment program. Ensure that the program identifies and documents a standard condition scale, associated definitions and reference examples, frequency of assessments and persons responsible for assessment completion, review, and update to the asset inventory. Review capital forecasts, risks, and priorities for replacement based on any updates to asset condition.

b. Identify opportunities to leverage, streamline, and align data review and update processes updates across systems and reports. This can provide efficiency in terms of time to complete data tasks and improvements in the accuracy of informational outputs.
c. Regularly review asset data and incorporate valuable information from reports and studies (i.e. Road Needs Studies, water, storm, and wastewater CCTV assessments etc.) into the asset register. Consider additional data collection and align with other data collection (i.e. condition) as able. Notable attributes to collect include road class, number of lanes, street from, street to (available from GIS data).
d. Consider procurement of a Building Condition Assessment (BCA) based on the Uniformat II structure. While some building components are reflected in the current data structure, the implementation of a formal, third-party assessment is anticipated to provide more accurate details regarding what components exist, their condition, estimated replacement costs, and recommendations for investments such as rehabilitations. This provides more accurate information to better inform long-term planning.

2. Replacement costs are dynamic and will change over time. Complete regular reviews and updates of replacement costs to improve the value and accuracy of projections. Recent comparable acquisitions are a good reference source for project costs. Additionally inflationary indexes, especially non-residential building CPI for example, can also be a helpful estimation aid.

7.3 Risk & Levels of Service

1. Continue to refine risk models to incorporate additional Probability and Consequence of failure metrics that leverage available, relevant, and impactful asset data. This may include attributes such as asset location, available redundancy, and/or service criticality.

2. Review risk results and consider them as a tool in capital project prioritization and associated capital planning and budgeting activities. This will assist in more strategic and objective project prioritization and associated capital budget development.

3. Levels of Service projections have been made based on the selected LOS scenario and the data as of December 2024. It is recommended that actual LOS metrics are reported each year of the forecast period to identify any differences in the actual and projected values. Where differences are material, there is benefit in understanding the cause of the differences.

7.4 Compliance & Operational Integration

1. To meet O.Reg. 588/17 compliance requirements it is recommended that:
    a. Municipal Council approves by resolution the 2025 Compliant Asset Management Plan and authorizes staff to post the plan on the Municipality's website.
    b. The Municipality review and, as necessary and beneficial, update it at least once every five years. Ensure that the AM Policy is posted on the municipal website and

is easily retrievable by the public. Opportunities for enhancement to the existing policy include:

i. Inclusion of version control details such as Policy enactment date, amendment dates, review dates.
ii. More explicitly outline staff roles involved in asset management, their scope of work, and the nature of the involvement. Consider a framework such as RACI[29].
iii. Clear commitment to ongoing improvements and identification of key areas of focus. These may include data quality, communications, documentation and asset tracking, and/or process integration.

2. Use the Asset Management Plan as a key informing tool for capital budget recommendations and associated deliberations. When developing other key strategic documents, such as the Strategic Plan Update, work to provide alignment. This advances the Line-of-Sight Principle, which is the connection between an organization's key objectives and the daily activities performed on their assets so that they can aid in the delivery of the organizational objectives.

[29] The RACI framework is a responsibility assignment matrix used in project management to define and clarify roles—Responsible, Accountable, Consulted, and Informed—for tasks, ensuring clear ownership, reducing ambiguity, and preventing bottlenecks

Appendices

Appendix A: Road Network

The Municipality's road network represents a modest portion of its overall infrastructure portfolio, accounting for approximately 7% of total asset value, with a current replacement cost of approximately $26.6 million. The road network consists of asphalt roads, and is supported by related transportation infrastructure including curbs, sidewalks, and streetlights.

7.5 Inventory & Valuation

Table 42 summarizes the quantity and current replacement cost of the Municipality's various road network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Asphalt Road Base	29,416	Length (Meters)	$8,838,531	Cost/Unit
Asphalt Road Surface	30,527		$12,210,884	Cost/Unit
Curbs	17,914		$2,687,077	Cost/Unit
Sidewalks	8,457		$1,902,924	Cost/Unit
Streetlights	314	Assets	$1,032,240	CPI
TOTAL			**$26,671,656**	

Table 42 Detailed Asset Inventory: Road Network

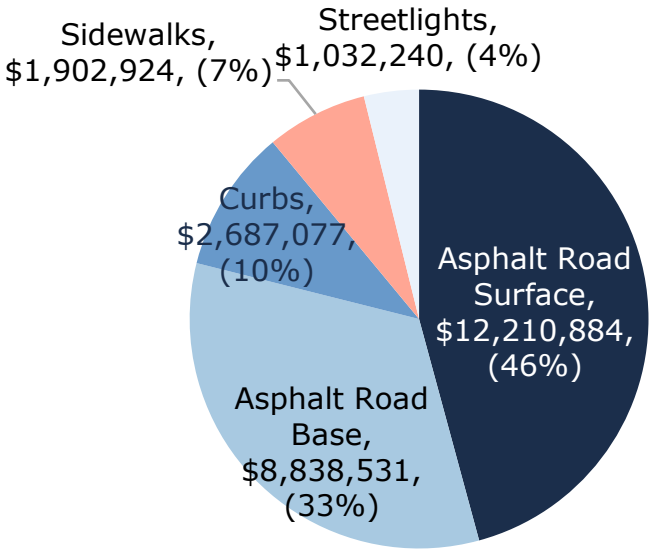


Figure 23 Portfolio Valuation: Road Network

7.6 Asset Condition

Figure 24 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 94% of asphalt road surfaces and 100% of sidewalks and streetlights, based on replacement cost. Minimal condition data was available for asphalt road bases and curbs. This condition data was projected from inspection date to the data effective date.

Assets in poor or worse conditions may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 24, the majority of the Municipality's road network assets are in fair or better condition.

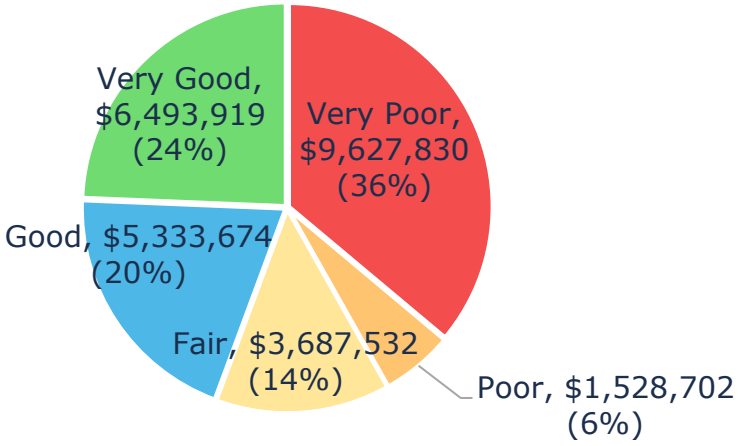


Figure 24 Asset Condition: Road Network Overall

As illustrated in Figure 25, based mostly on condition assessments, the majority of the Municipality's asphalt road surface and sidewalks are in fair or better condition. In contrast, asphalt road bases and curbs, which use age-based condition, are in poor or worse condition.

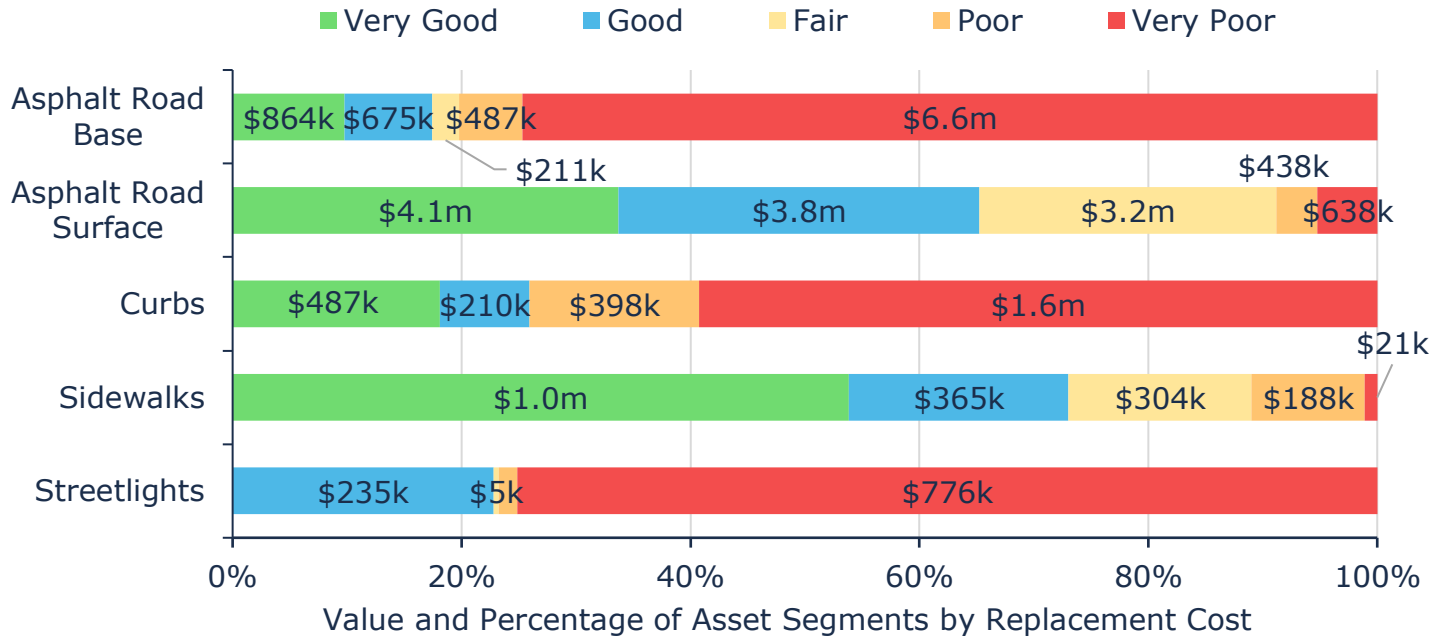


Figure 25 Asset Condition: Road Network by Segment

7.7 Age Profile

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

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

Figure 26 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

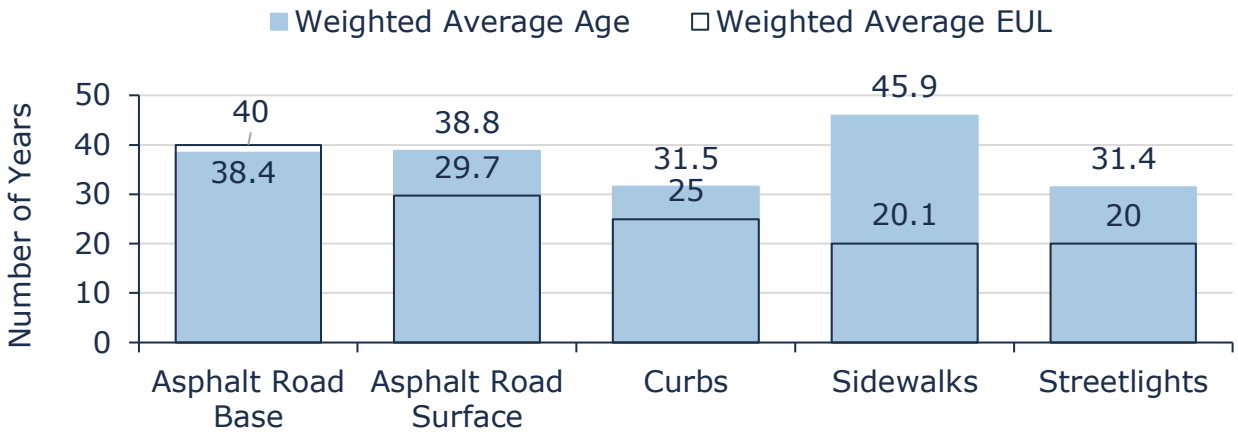


Figure 26 Estimated Useful Life vs. Asset Age: Road Network

Age analysis shows that except for asphalt road base, the remaining road network assets continue to remain in service well beyond their expected useful life.

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.

7.8 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 asset's characteristics, location, utilization, maintenance history and environment.

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

Asphalt Road Base		
Event Name	**Event Class**	**Event Trigger**
Base Rehabilitation	Rehabilitation	At 35 to 55 Condition
Full Reconstruction	Replacement	At 0 Condition

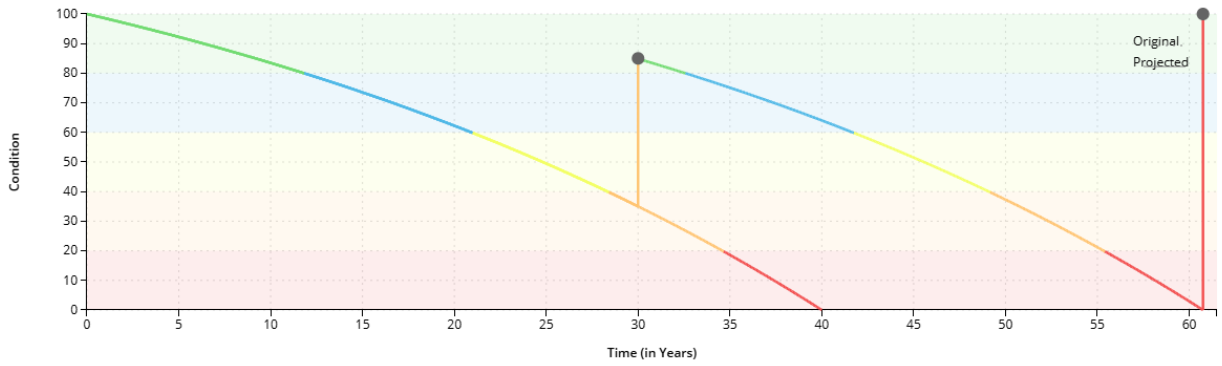


Table 43 Lifecycle Management Strategy: Road Network (Asphalt Road Base)

Paved Roads (LCB)		
Event Name	**Event Class**	**Event Trigger**
Full Reconstruction	Replacement	At 0 Condition

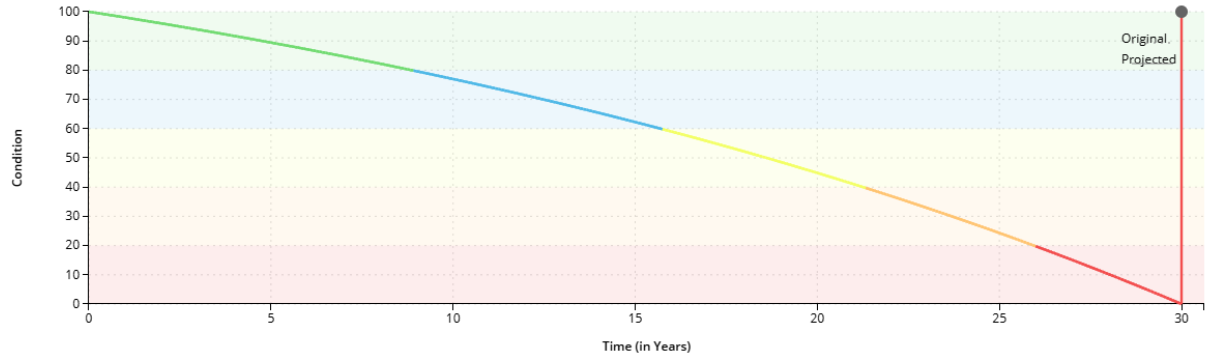


Table 44 Lifecycle Management Strategy: Road Network (Asphalt Road Surface)

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

Activity Type	Description of Current Strategy
Inspection & Maintenance	Historically road assets have been assessed internally by Municipal Staff using a scale of 1 (very good) to 5 (very poor). Beginning in 2025, the entire road and sidewalk network will receive a third-party condition assessment, which will utilize a 100 (perfect) to 0 (very poor) scale. The intention is to complete this external assessment once every five (5) years.
	Regular weekly patrols are conducted on all roadway assets. Most often these patrols trigger maintenance activities such as the identification of cracks, potholes, and other safety hazards.
	The estimated annual cost of routine maintenance is approximately $850,000

Rehabilitation	Following the 2025 condition assessment, rehabilitation activities will be primarily driven by third-party recommendations and noted priorities.
	Historically common rehabilitation activities included structural repairs, resurfacing, and upgrading outdated design standards. Activities are priroitized based on health and saftey risks, levels of service, and risk of failure upon other road assets or components (e.g. risk of impacting the road base if surface is neglected).
Replacement	Road reconstruction projects are considered when an asset's condition has deteriorated significantly, and rehabilitation is no longer cost effective.
	Capital budgets are determined annually based on asset conditions, critical needs, and safety concerns. Currently, there are no contingency budgets available for unexpected needs. Most often reserves and general surplus funds are used.

Table 45 Lifecycle Management Strategy: Road Network

7.9 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** $9,159,436 (34%)	5 - 7 **Low** $5,181,230 (19%)	8 - 9 **Moderate** $3,179,796 (12%)	10 - 14 **High** $4,601,926 (17%)	15 - 25 **Very High** $4,549,268 (17%)

Figure 27 Risk Matrix: Road Network

7.10 Levels of Service

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

7.10.1 Community Levels of Service

The tables that follow summarize the Municipality's community levels of service for the road network. The technical LOS is reported in section 5.3.2.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps of the road network in the municipality and its level of connectivity	The Municipality's asphalt road network spans approximately 30 linear km of paved roads which provide access throughout the Municipality's 5.13 km² of area. The system consists of local roads only. See Appendix L: Level of Service Maps & Photos
Quality	Description or images that illustrate the different levels of road class pavement condition	The condition of the paved road network ranges from very poor to very good, however the majority (65%) of road surfaces are in good or very good condition. Please refer to section 2.4.5 to review condition ranges and associated descriptions.

Table 46 O. Reg. 588/17 Community Levels of Service: Road Network

Appendix B: Water Network

The Municipality owns a municipal drinking water system that includes a water treatment plant, an elevated water storage tank, a distribution system of over 29 km of watermains, and other infrastructure such as hydrants, leads and service connections. The system is operated by the Ontario Clean Water Agency (OCWA).

7.11 Inventory & Valuation

Table 47 summarizes the quantity and current replacement cost of the Municipality's various water network assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Hydrants & Leads	1,411	Assets	$1,964,844	Cost per Unit
Mains	29,926	Meters	$27,386,450	Cost per Unit
Service Connections	1,672	Assets	$18,224,800	User-Defined
Valves	298	Assets	$2,110,500	User-Defined
Water Tower	1	Assets	$12,000,000	User-Defined
WTP & Equipment	26	Assets	$52,542,015	User-Defined
TOTAL			**$114,228,609**	

Table 47 Detailed Asset Inventory: Water Network

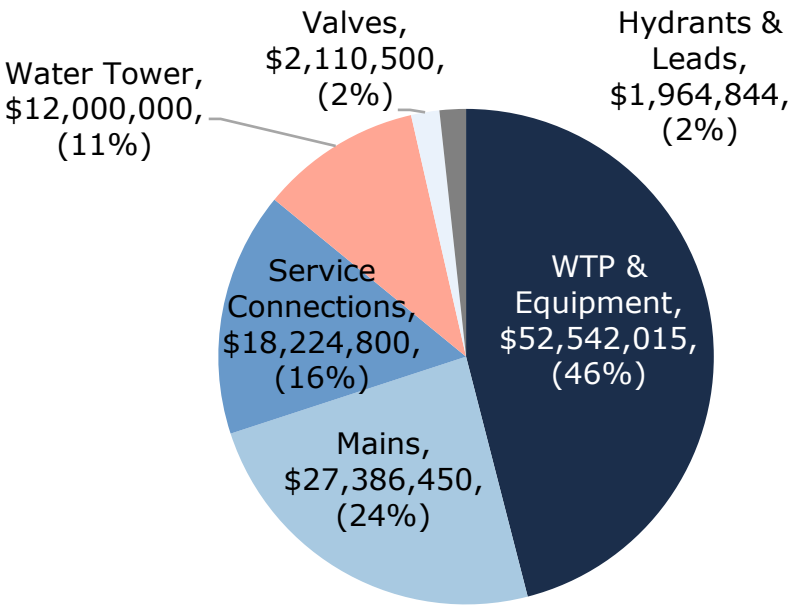


Figure 28 Portfolio Valuation: Water Network

7.12 Asset Condition

Figure 29 summarizes the replacement cost-weighted condition of the Municipality's water network. Based on a combination of field inspection data and age, 87% of assets are in fair or better condition; the remaining 13% of assets are in poor to very poor condition. Condition assessments were available for all segments except service connection assets.

Assets in poor or worse conditions 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 29, the majority of the Municipality's water network assets are in fair or better condition.

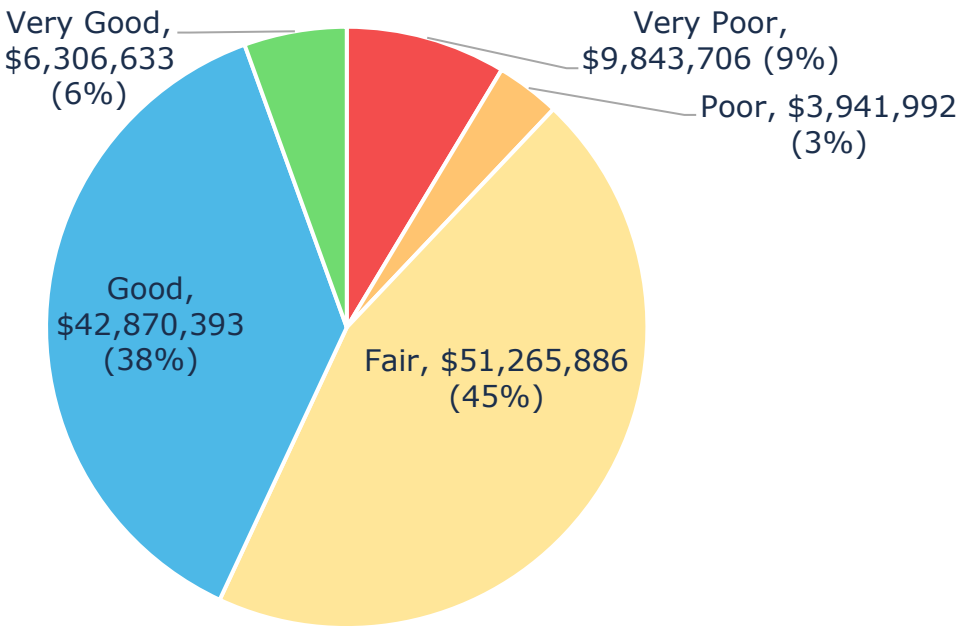


Figure 29 Asset Condition: Water Network Overall

As illustrated in Figure 30, based on condition assessments and age-based conditions, apart from the service connections, most other assets are in good condition.

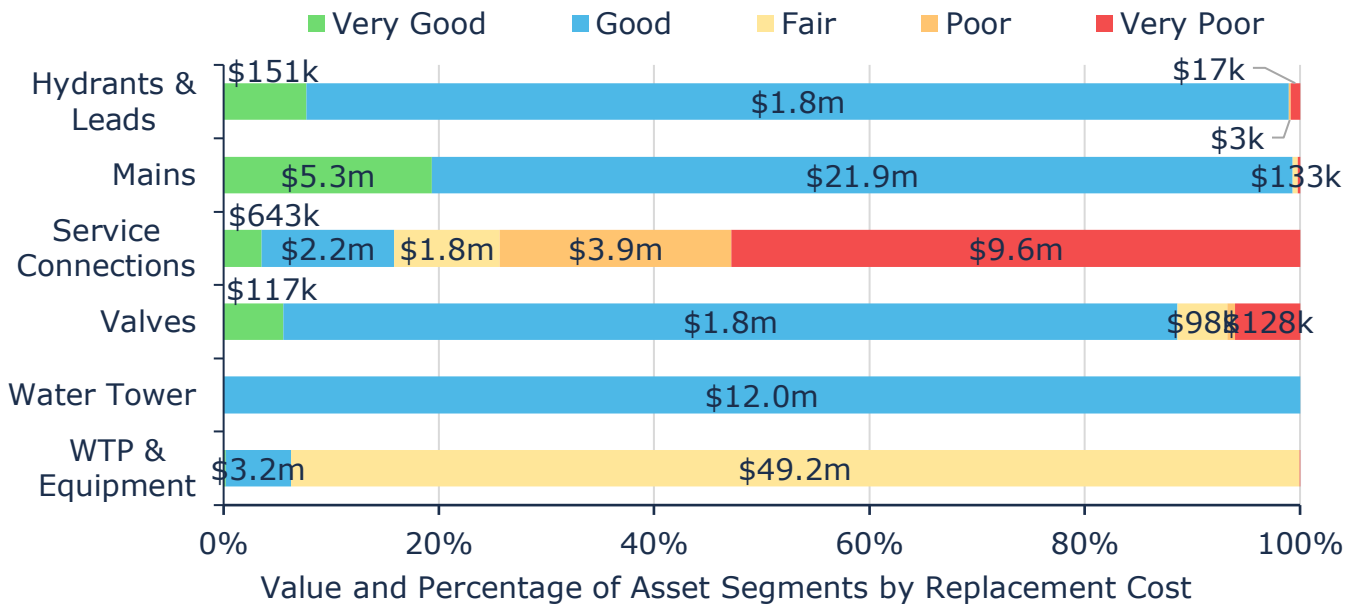


Figure 30 Asset Condition: Water Network by Segment

7.13 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 31 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

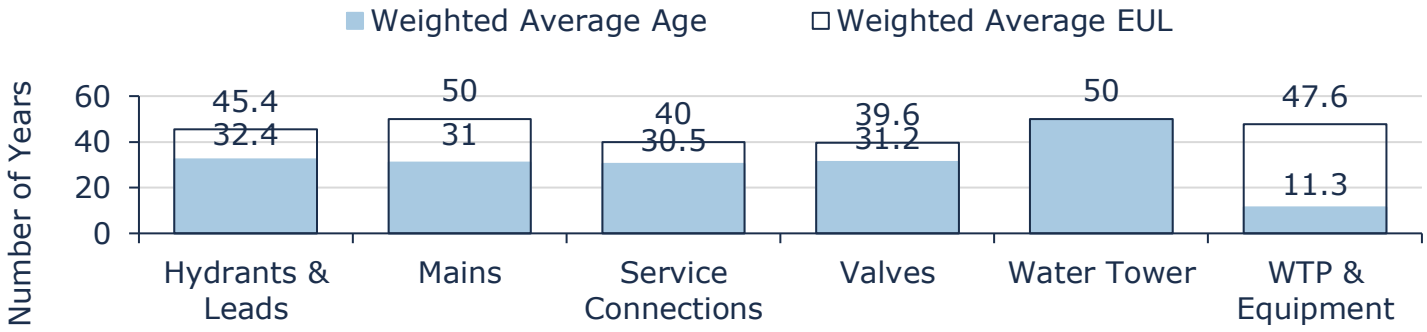


Figure 31 Estimated Useful Life vs. Asset Age: Water Network

7.14 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
Inspection	The water mains were most recenty assessed in November 2022 as part of the Water and Wastewater Master Plan. Information collected included pipe inventory,diameter, material, and age, and an assessment of condition based on a 5 point scale of very good to very poor.
	Water hydrants are assessed annually to ensure compliance with saftey and functionality requirements. In most cases, assessments are externally conducted. At this time, condition information is not gathered.
	At the time of this report's publication, the Municipality was conducting a valve data collection program to improve inventory information and to inform and trigger annual repairs and assessments.
Maintenance	Routine maintenance activities includes valve turning, flushing, and minor repairs. This is completed twice a year for the full network of mains and primary valves. The estimated annual maintenance operating costs are approximetaly $830,000.
	Most often, maintenance activities are triggered by visual inspection findings and Operating authority report findings.
Rehabilitation/ Replacement	Rehabilitation activities include structural repairs and system upgrades. Rehabilitation is triggered by structural assessments, and expert information and recommendations.
	Assets are prioritized for replacement when they are nearing the end of their life expectancy, and/or when they are incurring frequent and costly repairs.
	At the time of this report's publication there is no dedicated contingency budget for unexpected maintenance or replacement needs. When such needs arise, the municipality generally relies on reserves and general surplus funds. In the case of planned infrastructure projects there is a contingency budget, the amount of which considers the project costs and complexity.

Table 48 Lifecycle Management Strategy: Water Network

7.15 Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and pipe size where applicable. The risk ratings for assets without useful attribute data were calculated using only condition 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**
$34,016,926 (30%)	$16,393,279 (14%)	- (0%)	$14,760,653 (13%)	$49,057,750 (43%)

Figure 32 Risk Matrix: Water Network

7.16 Levels of Service

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

7.16.1 Community Levels of Service

The tables that follow summarize the Municipality's community levels of service for the water network. The technical LOS is reported in section 5.3.2.

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system	The water network provides services throughout the Municipality. Please refer to Appendix L: Level of Service Maps & Photos.
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow	The Municipality has identified that fireflow is available throughout most of the water network system. Under existing conditions, 75.2% of

Service Attribute	Qualitative Description	Current LOS (2024)
		junctions, commonly fire hydrants, meet general targets.
Reliability	Description of boil water advisories and service interruptions	There were no boil water advisories or water service interruptions in 2024. On occasion, water service interruptions may occur due to unexpected main breaks, maintenance activities, or water infrastructure replacement. Staff make every effort to keep service interruptions to a minimum.

Table 49 O. Reg. 588/17 Community Levels of Service: Water Network

Appendix C: Wastewater Network

The wastewater network provides the essential service of wastewater collection, disposal, and treatment for the community, and has a current replacement value of over $77.6 million. The system consists of a sewage treatment system, sewage pumping stations, sanitary mains of over 30 km long, and manholes.

7.17 Inventory & Valuation

Table 50 summarizes the quantity and current replacement cost of the Municipality's various wastewater network assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Lagoon	5	Assets	$33,797,318	User-Defined
Mains	30,890	Meters	$23,747,621	Cost per Unit
Manholes	457	Assets	$685,500	Cost per Unit
Pumping Stations	6	Assets	$19,322,472	User-Defined
TOTAL			**$77,552,911**	

Table 50 Detailed Asset Inventory: Wastewater Network

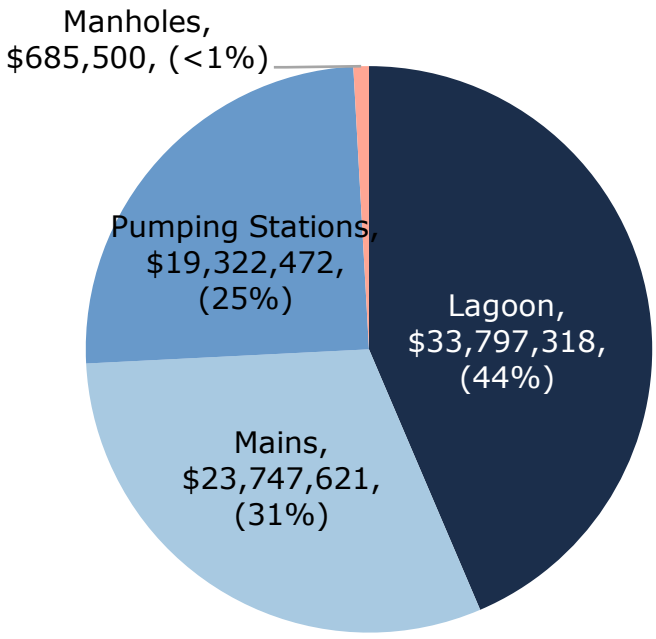


Figure 33 Portfolio Valuation: Wastewater Network

7.18 Asset Condition

Figure 34 summarizes the replacement cost-weighted condition of the Municipality's wastewater network. Based on a combination of field inspection data and age, 90% of assets are in fair or better condition; the remaining 10% of assets are in poor to very poor condition. Condition assessments were available for the lagoons, pump stations, and the majority of mains and manholes, based on replacement cost. This condition data was projected from inspection date to the data effective date.

Assets in poor or worse conditions 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 34 the majority of the Municipality's wastewater network assets are in fair or better condition.

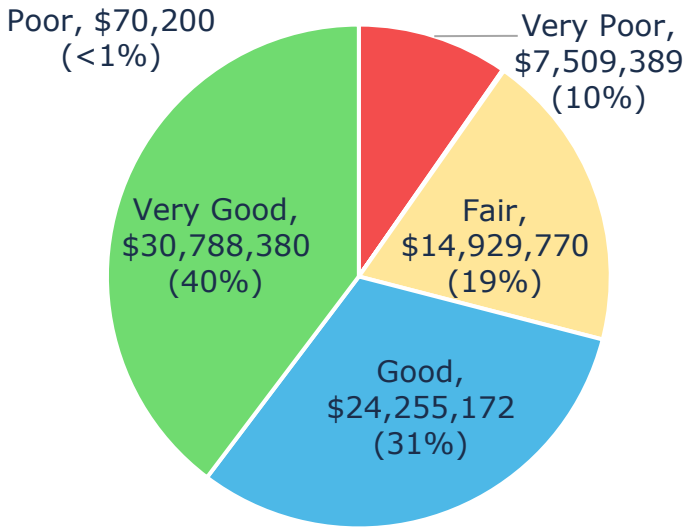


Figure 34 Asset Condition: Wastewater Network Overall

As illustrated in Figure 35, based on condition assessments and age-based conditions, the majority of the Municipality's Wastewater network assets are in very good condition.

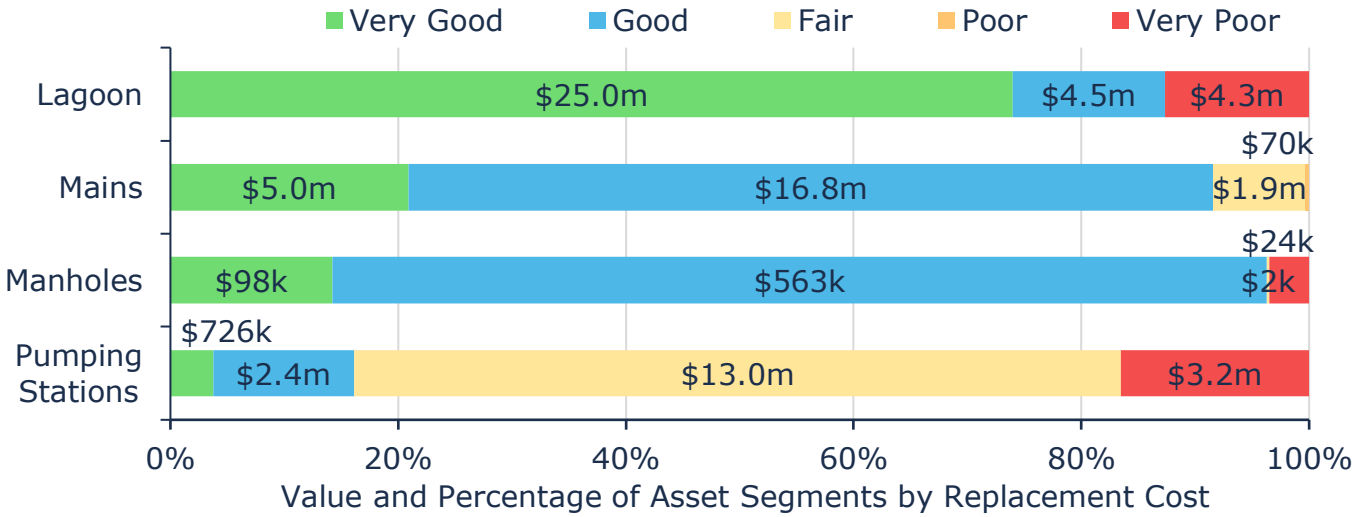


Figure 35 Asset Condition: Wastewater Network by Segment

7.19 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 fulfill 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 36 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.

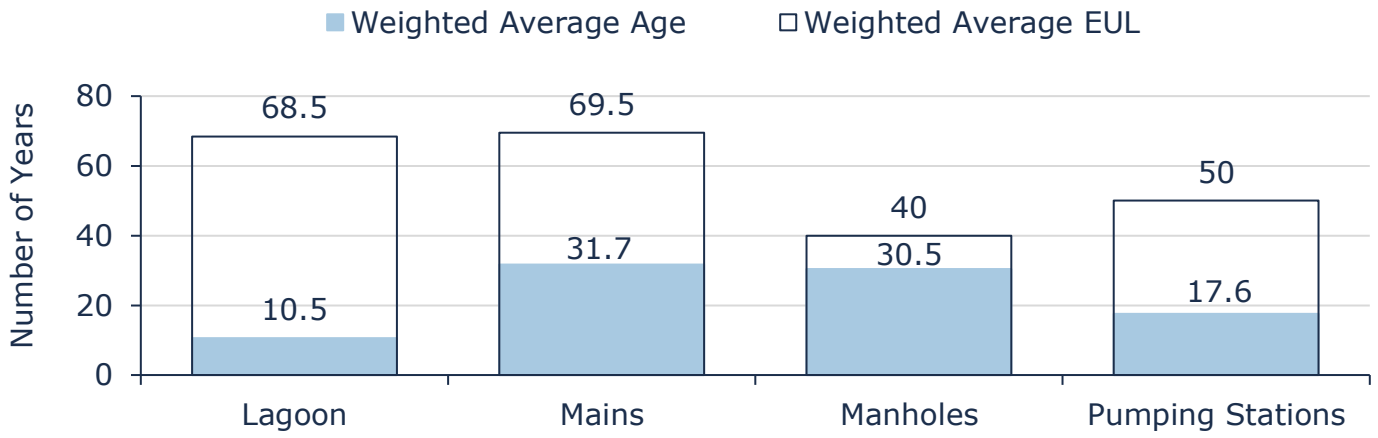


Figure 36 Estimated Useful Life vs. Asset Age: Wastewater Network

7.20 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
Inspection	The wastewater mains were most recently assessed in November 2022 as part of the Water and Wastewater Master Plan. Information collected included pipe inventory,diameter, material, and age, and an assessment of condition based on a 5 point scale of very good to very poor.
	Pumping stations are assessed annually and a portion of manholes are assessed each year. Inspections of manhole top covers and frames are

Activity Type	Description of Current Strategy
	completed each year after winter operations are complete, otherwise manholes are inspected as issues arise. In most cases, these assesments are conducted by the Operating Authority and/or other external consultants.
Maintenance	Annual maintenance activities include main flushing, cleaning, and minor repairs. Minor repairs are completed as needed. The annual operating cost of maintenance activities is approximetly $440,000
Rehabilitation/ Replacement	Asset condition information guides the Municipality's budgeting process and helps to identify priorities for investment.
	Replacement is considered when an asset's condition has deteriorated significantly or if identified for replacement for future growth.
	At the time of this report's publication there is no dedicated contingency budget for unexpected maintenance or replacement needs. When such needs arise, the municipality generally relies on reserves and general surplus funds. In the case of planned infrastructure projects there is a contingency budget, the amount of which considers the project costs and complexity.

Table 51 Lifecycle Management Strategy: Wastewater Network

7.21 Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and pipe size where applicable. The risk ratings for assets without useful attribute data were calculated using only condition, 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
$22,213,780 (29%)	$26,374,190 (34%)	$3,902,203 (5%)	$4,577,349 (6%)	$20,485,389 (26%)

Figure 37 Risk Matrix: Wastewater Network

7.22 Levels of Service

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

The technical LOS is reported in section 5.3.2.

7.22.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	The wastewater network provides services throughout the Municipality. Please refer to Appendix L: Level of Service Maps & Photos
Reliability	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	There are no combined sewers in the municipality.
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	
	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	The Municipality has noted that stormwater infiltration is generally quite limited. Potential paths of entry include illegal connections; however, the rate is expected to be quite low. Cracks in pipes, especially in areas with a high-water table, is another way stormwater may enter sanitary mains. Again, this is anticipated to be minor as where the water table is high the pipes are recently installed.
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	Pumping station #1, which is the last station and carries all the flow to the lagoon, has an overflow alarm. This is combined with an overflow pipe on the north side of the river.
	Description of the effluent that is discharged from sewage treatment	The effluent discharged from treatment is demonstrated to meet wastewater quality

Service Attribute	Qualitative Description	Current LOS (2024)
	plants in the municipal wastewater system	standards. This is summarized in the Wastewater Infrastructure Master Plan, Table 28.

Table 52 O. Reg. 588/17 Community Levels of Service: Wastewater Network

Appendix D: Stormwater Network

The Municipality's stormwater network comprises stormwater mains and other critical supporting capital assets such as catch basins manholes, catch basins leads, and manholes with a total current replacement cost of approximately $59.6 million. The Municipality is responsible for 14.1 kilometers of stormwater mains.

7.23 Inventory & Valuation

Table 53 summarizes the quantity and current replacement cost of all stormwater network assets available in the Municipality's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Catch Basin Manholes	47	Assets	$2,350,000	Cost/Unit
Catch Basins & Leads	1,511	Assets	$27,037,412	Cost/Unit
Mains	14,139	Meters	$14,273,855	Cost/Unit
Manholes	319	Assets	$15,950,000	Cost/Unit
TOTAL			**$59,611,267**	

Table 53 Detailed Asset Inventory: Stormwater Network

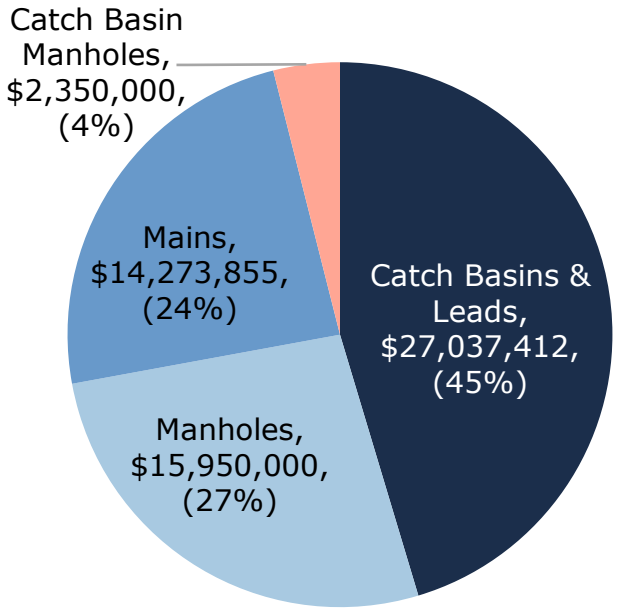


Figure 38 Portfolio Valuation: Stormwater Network

7.24 Asset Condition

Figure 39 summarizes the replacement cost-weighted condition of the Municipality's stormwater network assets. Based on a combination of field inspection and age data, approximately 92% of assets are in fair or better condition and 8% of assets 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.

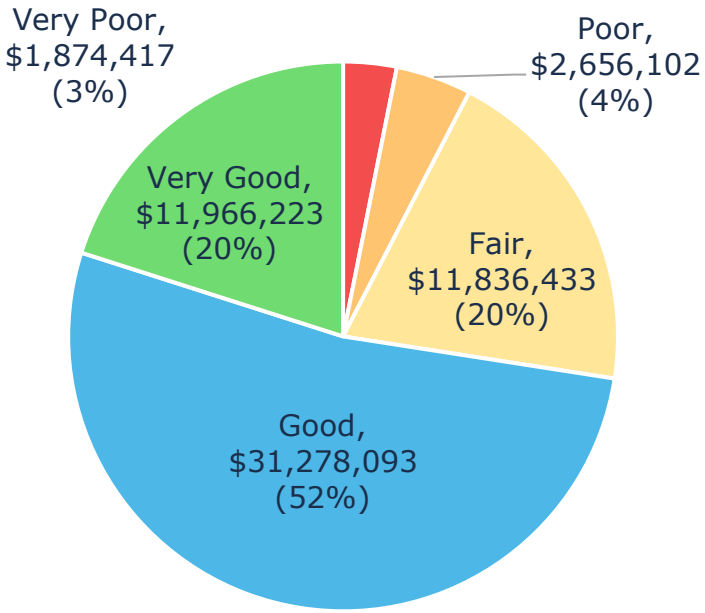


Figure 39 Asset Condition: Stormwater Network Overall

Figure 40 summarizes the condition of stormwater network assets. Based on a combination of field inspection and age data, the analysis illustrates that the majority of stormwater assets are in fair or better condition. However, 26% of mains, with a current replacement cost of $3.7 million, are in poor or worse condition.

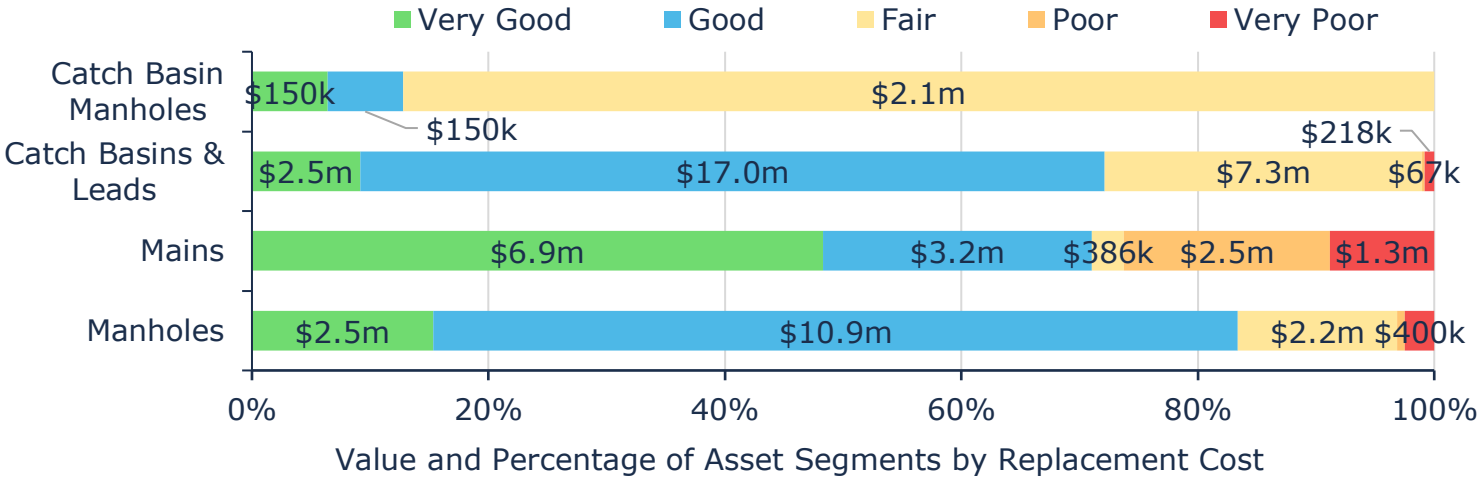


Figure 40 Asset Condition: Stormwater Network by Segment

7.25 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 41 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.

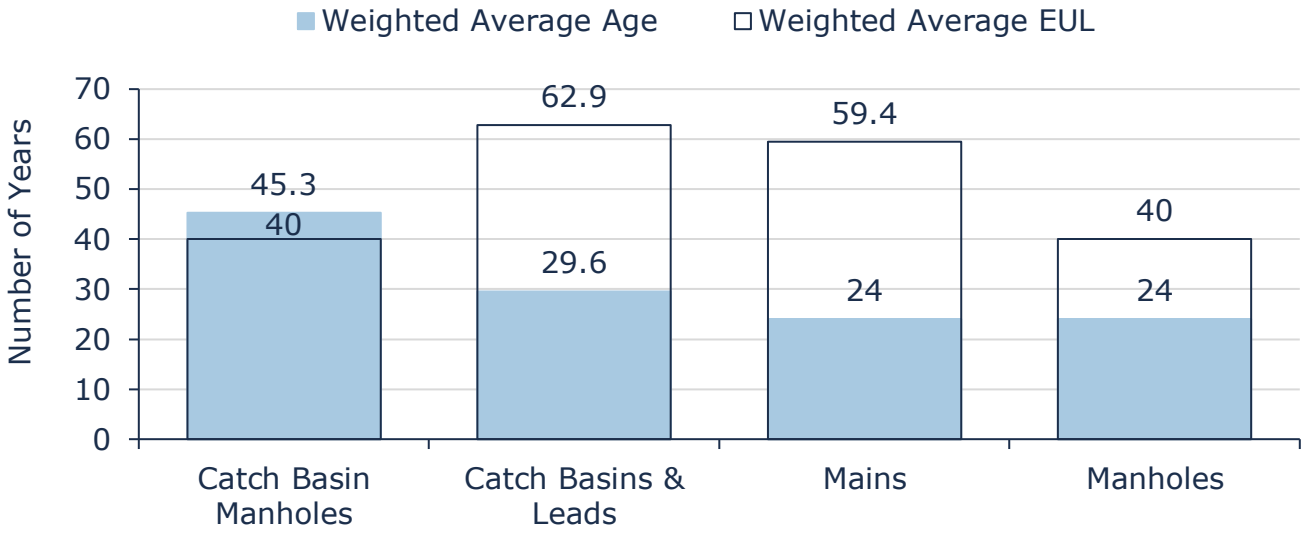


Figure 41 Estimated Useful Life vs. Asset Age: Stormwater Network

Age analysis reveals that on average, stormwater assets are in the mid-stages of their expected lifecycle; however, catch basin manholes have exceeded their design lifespan with an average age of 45.3 years against an average lifespan of 40 years. Further investigatory methods, such as 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.

7.26 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	Each year 25% of the stormwater main network is assessed for condition. Therefore on a 4-year cycle the entire network is assessed. Assessments utilize a 5-point scale of very good to very poor.
	Catch Basins and a portion of manholes are assessed each year. In most cases, these assesments are conducted by staff.
	Routine maintenance activities include inspections, flushing, and minor repairs. Maintenance activities are triggered based on inspection findings. The estimated operational cost of maintenance activities is approximately $70,000.
Rehabilitation	Rehabilitation activities are triggered by structural assessments and asset condition findings. Rehabilitation activities include frame cover replacement and top structure (i.e. drain gate, catch basin lid) repairs.
	At the time of this report's publication there is no dedicated contingency budget for unexpected maintenance or replacement needs. When such needs arise, the municipality generally relies on reserves and general surplus funds. In the case of planned infrastructure projects there is a contingency budget, the amount of which considers the project costs and complexity.
Replacement	Assets with an expected service life nearing its end or those incurring frequent and costly repairs are prioritized for replacement.

Table 54 Lifecycle Management Strategy: Stormwater Network

7.27 Risk Analysis

The risk matrix below is generated using available asset data, including condition, replacement costs, and pipe size where applicable. The risk ratings for assets without useful attribute data were calculated using only condition, 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
$39,057,460 (66%)	$10,939,992 (18%)	$2,472,740 (4%)	$6,893,575 (12%)	$247,500 (<1%)

Figure 42 Risk Matrix: Stormwater Network

7.28 Levels of Service

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

The technical LOS is reported in section 5.3.2.

7.28.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Scope	Description, which may include map, of the user groups or areas of the Municipality that are protected from flooding, including the extent of protection provided by the municipal storm water network	Most of the municipal storm network precedes modern design guidelines and lacks data, these systems' capacities cannot be confirmed. Recent developments such as site plans and subdivisions meet the authorities' guidelines requirements for flood protection and storm main sizing. A map of the stormwater network is provided in Appendix L.

Table 55 O. Reg. 588/17 Community Levels of Service: Stormwater Network

Appendix E: Buildings

The Municipality's buildings portfolio includes a fire hall and garage, various administrative and public works facilities, as well as multiple recreational assets. The total current replacement of buildings is estimated at more than $80 million.

7.29 Inventory & Valuation

Table 56 summarizes the quantity and current replacement cost of all building's assets available in the Municipality's asset register. Only the recreation and culture buildings 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
Administration	10	Assets	$17,949,243	CPI
Fire	2	Assets	$5,822,050	User-Defined
Public Works	3	Assets	$5,306,400	User-Defined
Recreation & Culture	93	Assets	$57,458,307	User-Defined
TOTAL			**$86,536,000**	

Table 56 Detailed Asset Inventory: Buildings

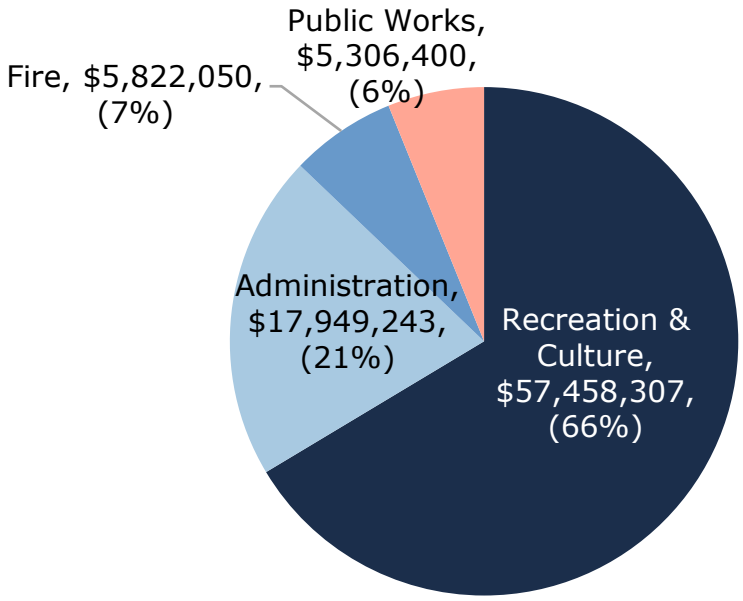


Figure 43 Portfolio Valuation: Buildings

7.30 Asset Condition

Figure 44 summarizes the replacement cost-weighted condition of the Municipality's buildings portfolio. Based mostly on field inspection data, 58% of buildings assets are in fair or better condition. The remaining assets, with a current replacement cost of more than $35.9 million are in poor or worse condition. These assets may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As most buildings are not componentized, condition data is presented only at the site level, rather than at the individual element or component level within each building.

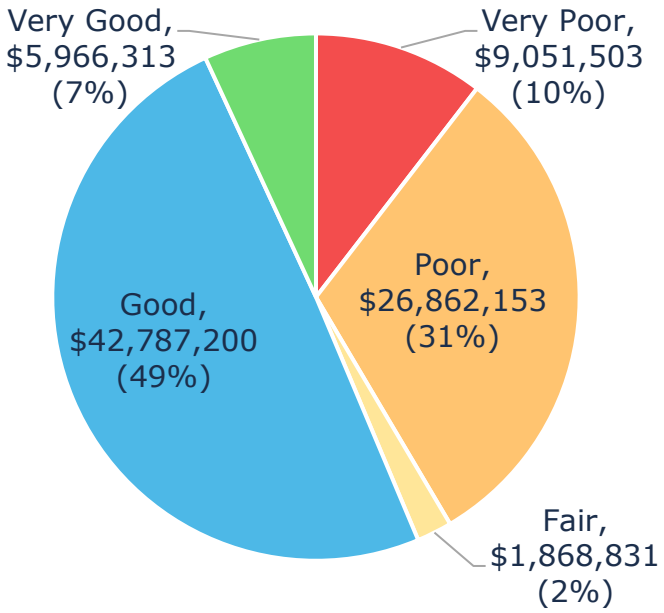


Figure 44 Asset Condition: Buildings Overall

Figure 45 summarizes the field inspection condition data of buildings by each department. A substantial portion of Administration and Recreation and Culture assets are in poor to worse condition. However, in the absence of componentization for Administration buildings, this data has limited value. Componentization of assets and integration of condition assessments will provide a more accurate and reliable estimation of the condition of various facilities.

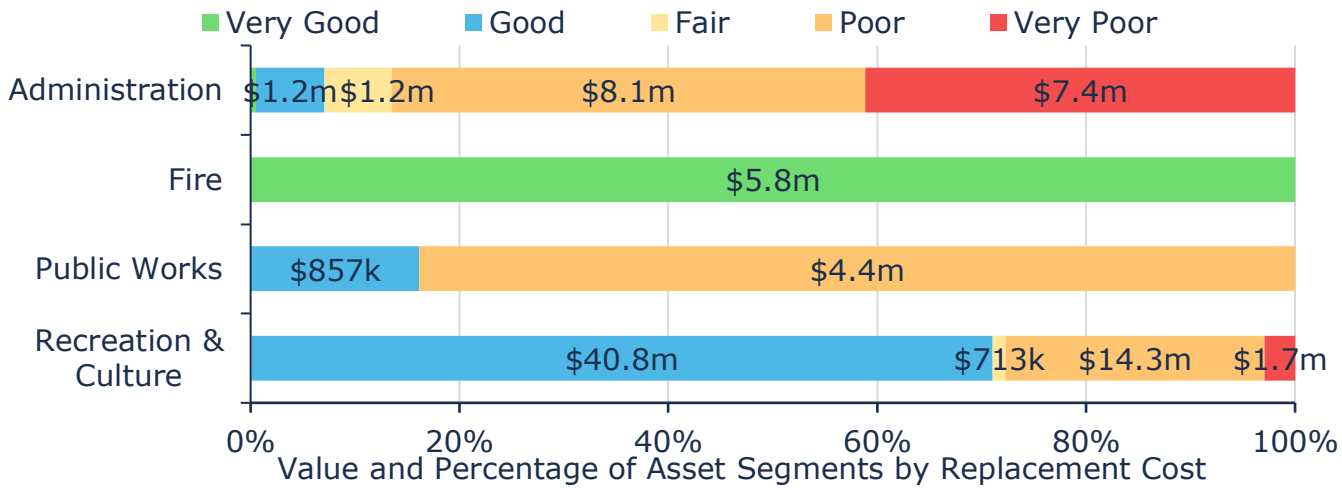


Figure 45 Asset Condition: Buildings by Segment

7.31 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 46 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.

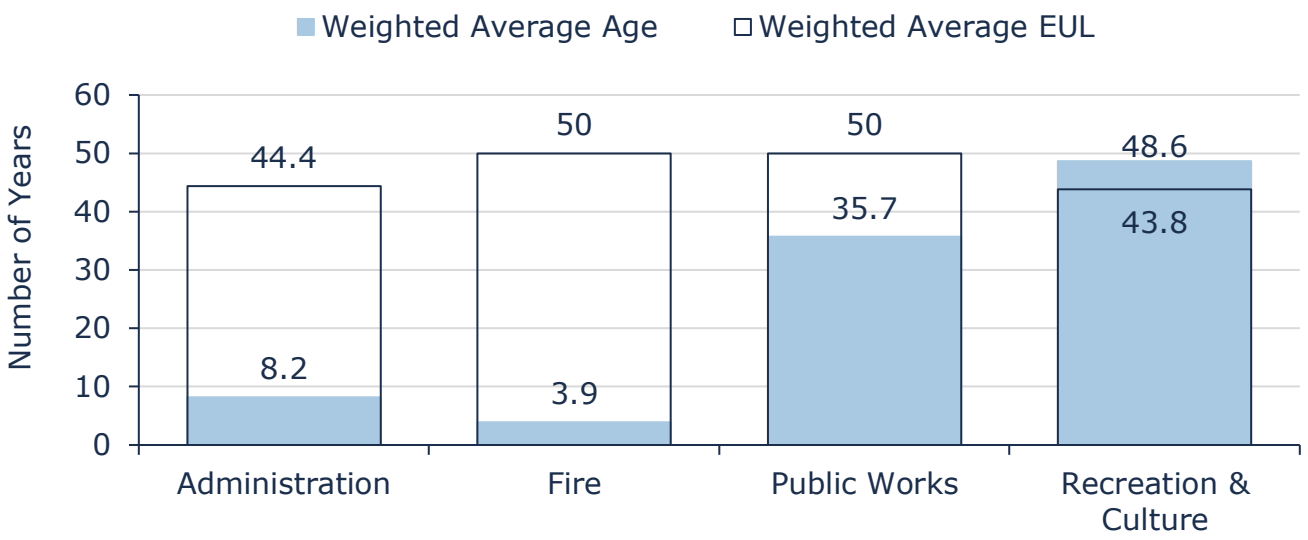


Figure 46 Estimated Useful Life vs. Asset Age: Buildings

Age analysis reveals that, on average, administration and fire buildings assets are in the earlier stages of their serviceable life. However, based on acquisition years, most recreation and culture assets have exceeded their established useful life with an average weighted age of 48.6 years against an average lifespan of 43.8 years.

7.32 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 57 outlines the Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Inspections & Maintenance	On a weekly basis, buildings are walked through and visually inspected for safety, cleanliness, and operational concerns. Where issues are identified and they are deemed to require more advanced technical expertise, external contractors are brought in as appropriate.
	External contractors and other technical experts provide evaluation of more complex details such as structural issues, system performance and recommendations for maintenance and capital projects.
	Visual Inspections are conducted based on a scale of 1 (very good) to 5 (very poor) and are supported by checklist documentation that reviews visual appearance, functionality, and immediate safety concerns. For select components including compressors, pumps, and condensers housed in the refrigeration plant, daily assessments conducted ideally every 2 hours are

Activity Type	Description of Current Strategy
	completed using a checklist[30] approach. Tracking this information provides early identification of potential issues, allowing for timely maintenance before major failures occur. This proactive approach helps extend lifespan of critical assets and reduces the risk of failure and emergent repairs and replacements.
	Third-party Building Condition Assessments (BCA) have been performed for select buildings including the J.R. Brisson Complex in 2025 and 750 Principal Street in 2024. Otherwise, general inspections are conducted by municipal staff. It is the municipality's intention to expand the scope of buildings with BCAs.
	Routine maintenance activities include monthly health and safety checklist inspections, oil- level checks, filter replacements and monthly fire extinguisher checklist walkthroughs, and issues otherwise reported. Often, these reviews identify maintenance items especially for HVAC and mechanical systems. Otherwise, maintenance activities are triggered by manufacturer recommended service intervals and seasonal requirements. The annual maintenance budget is approximately $220,000.
Rehabilitation/ Replacement	Historically most replacement and rehabilitation activities have been completed in response to issues identified through visible deterioration, safety concerns or user complaints.
	A variety of rehabilitation and replacement projects are completed on building assets based on their needs. Criteria for rehabilitation and replacement is expiration of service life, functionality and/or reliability issued, excessive repair costs, and/or when imminent failure is anticipated. Typical projects include roof replacements, HVAC system upgrades, window and door replacements, interior and exterior painting, flooring restoration, and masonry repointing. Additionally, projects may relate to accessibility (e.g. washroom retrofits, ramps etc.) and energy efficiency upgrades (e.g., insulation) Other considerations include whether the building component is public facing. Prioritization is given to building components that pose safety risks and are critical to the building's operations (i.e. HVAC, structural, electrical), are highly used by the public, and/or do not meet the building code.
	For refrigeration plant components, replacement are based on an established overhaul and replacement scheduled which guides when components should be upgraded or replaced to maintain efficiency and safety.
	At the time of this report's publication, there were no formal rehabilitation or restoration programs in place and instead work is performed on an as-needed basis and as funding is available and council approval is granted.

[30] In this case, the checklist is provided by Ontario Recreation Facility Association (ORFA) which is recognized as an industry best-practice.

Activity Type	Description of Current Strategy
	Replacement decisions are typically aligned with capital planning cycles and are subject to council approval and available funding.
	The annual capital budget is allocated based on multiple considerations which include asset condition, operational needs, available resources, inspection findings, and operational priorities. These are reflected in the rational-based funding request to Municipal council and ultimately approved by council.

Table 57 Lifecycle Management Strategy: Buildings

7.33 Risk Analysis

The risk matrix below is generated using available asset data, including condition and 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
$1,331,275 (2%)	$6,119,236 (7%)	$2,419,170 (3%)	$41,921,464 (48%)	$34,744,855 (40%)

Figure 47 Risk Matrix: Buildings

7.34 Levels of Service

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

The technical LOS is reported in section 5.3.2.

7.34.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Cost Efficiency	Providing buildings in an efficient manner	The municipality uses a series of check points to ensure building assets are operating effectively and efficiently. These checkpoints include weekly building walk through with checklist documentation. For more specialized building equipment like the refrigeration plant, assessments are completed every 2 hours using the ORFA checklist. The Municipality has completed external assessments on select buildings with consideration for expansion in future years.
Reliability	Providing Reliable Buildings	Routine maintenance activities are conducted to improve building reliability. This is furthered by capital projects designed to replace aging building components such as windows and roofs and/or to make assets more energy efficient.

Table 58 Community Levels of Service: Buildings

Appendix F: Land Improvements

The Municipality's land improvements portfolio includes outdoor structures and parking lots, various sports fields and courts, play structures and a landfill. The total current replacement of land improvements is estimated at approximately $4.1 million.

7.35 Inventory & Valuation

Table 59 summarizes the quantity and current replacement cost of all land improvements assets available in the Municipality's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Fields & Courts	10	Assets	$1,042,916	CPI
Landfill	1	Assets	$875,200	CPI
Outdoor Structures & Parking	22	Assets	$1,636,884	User-Defined
Play Structures	12	Assets	$590,515	CPI
TOTAL			**$4,145,515**	

Table 59 Detailed Asset Inventory: Land Improvements

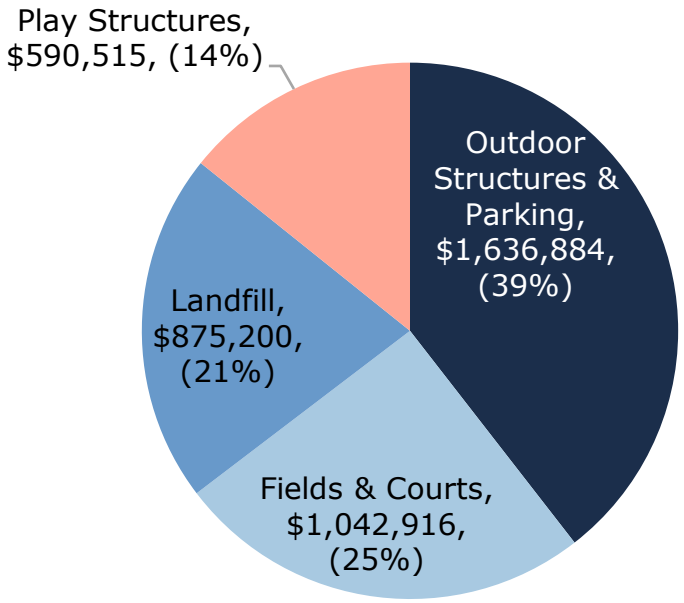


Figure 48 Portfolio Valuation: Land Improvements

7.36 Asset Condition

Figure 49 summarizes the replacement cost-weighted condition of the Municipality's land improvements portfolio. Based on field inspection data only, 40% of assets are in fair or better condition, the remaining 60% 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.

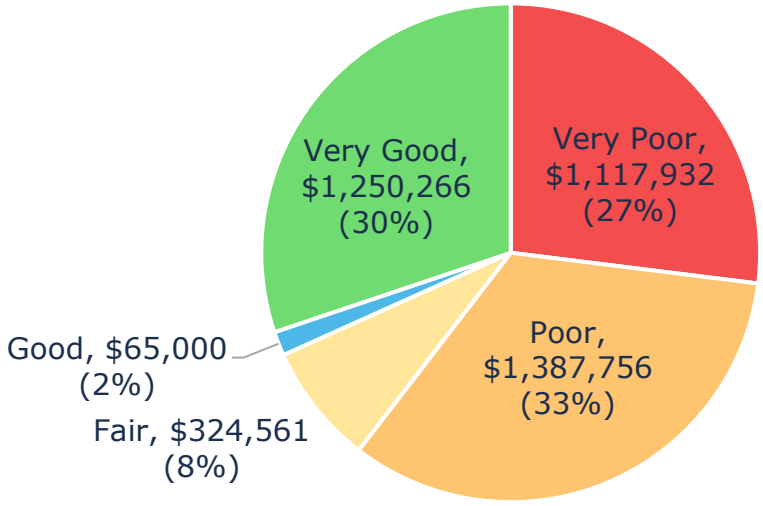


Figure 49 Asset Condition: Land Improvements Overall

Figure 50 summarizes the field inspection condition data of land improvements by asset type. Assets in poor or worse condition are concentrated primarily in play structures, field and courts, and the landfill.

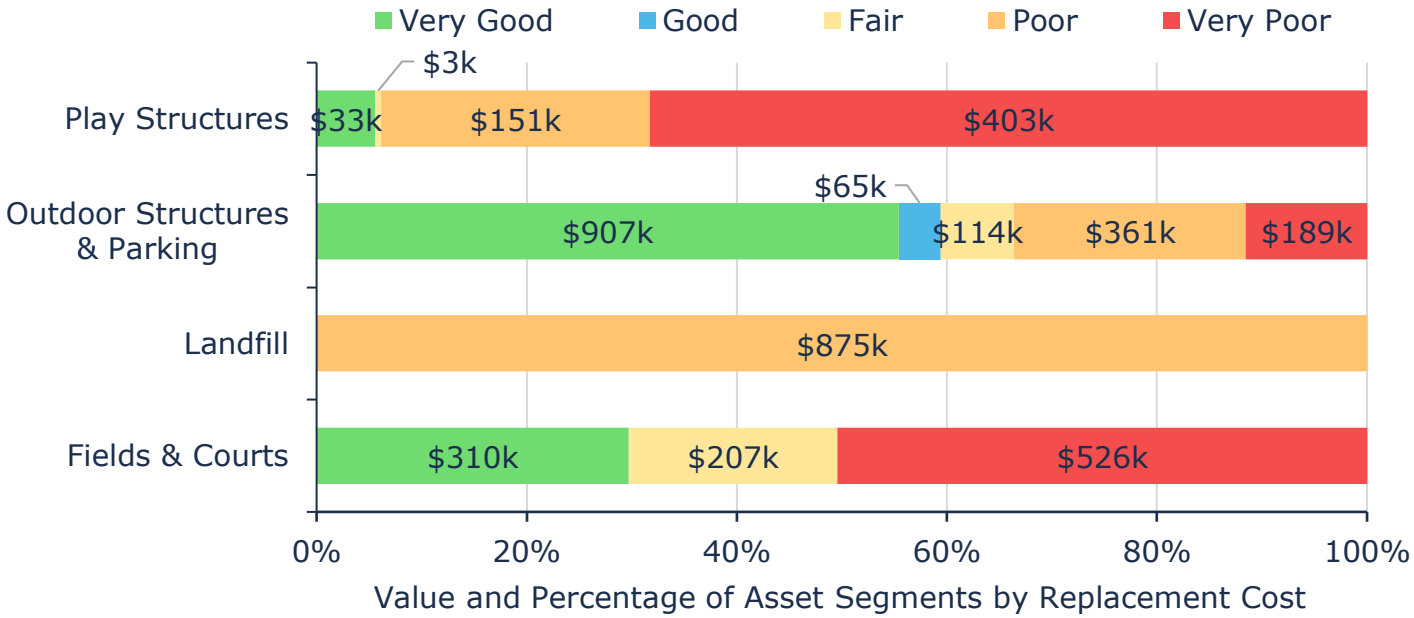


Figure 50 Asset Condition: Land Improvements by Segment

7.37 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.

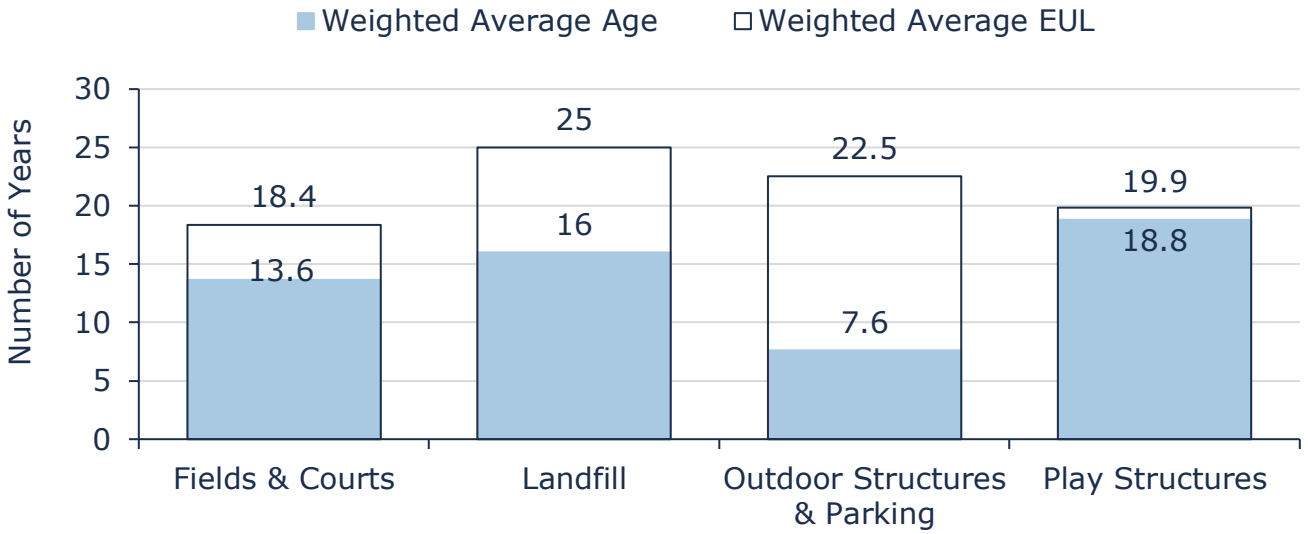


Figure 51 Estimated Useful Life vs. Asset Age: Land Improvements

Age analysis reveals that, on average, most play structure assets are in the latter stages of their expected life, with an average weighted age of 18.8 years against an EUL of 19.9 years. Field and courts assets are also in the latter stages of their expected design life.

7.38 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 60 outlines the Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Inspection	Most assets are assessed weekly by Municipal Staff through a standardized safety checklist. Annually, a comprehensive safety inspection is completed by an external contractor with associated reporting to identify areas of concern. The last full assessment was performed in 2024.
Maintenance	Maintenance actions are typically triggered by irregularities identified during weekly visual inspections, condition assessments, or checklist reviews. Common triggers include visible damage, wear, or safety concerns—such as broken playground equipment, uneven terrain, or poor drainage. In addition, maintenance may be initiated in response to citizen complaints or reports from other municipal staff. Seasonal changes and weather events also prompt action, particularly for tasks like clearing debris, addressing erosion, or repairing surface damage.
	Routine maintenance activities include weekly inspections, garbage collection, playground safety checks, graffiti removal, and minor repairs to benches, fences, and signage. Vegetation management such as trimming, weeding, and tree monitoring are also performed regularly to maintain visibility and accessibility. For baseball diamonds, routine tasks include grading the infield, filling holes, checking irrigation systems, monitoring soil compaction, and ensuring proper absorption for drainage. In high-use areas or event spaces, additional attention is given to surface leveling and lighting functionality. Maintenance efforts increase during the spring and summer seasons to accommodate heavier public use. The estimated annual operating cost of maintenance activities is approximately $110,000.
Rehabilitation / Replacement	Rehabilitation activities for aging land improvement assets typically include resurfacing terrain, replacing damaged or outdated playground components, restoring fencing, repainting structures, and upgrading lighting or signage. For sports fields, rehabilitation may involve regrading, reseeding, improving drainage, or replacing worn turf. In some cases, concrete pads, pathways, and seating areas are patched or partially replaced to extend their usability. These activities are prioritized based on condition assessments and safety risks, with the goal of extending asset life and deferring full replacement where possible.
	Rehabilitation programs are typically initiated on an as-needed basis, driven by annual condition assessments, safety concerns, and available funding. There is no formal schedule, but assets showing signs of deterioration are prioritized for rehabilitation. Larger rehabilitation efforts may be planned every few years, often bundled with capital upgrades or as part of grant-funded improvement projects.
	Currently, there is no formal contingency budget dedicated specifically to unexpected maintenance or replacement needs. When unplanned repairs arise, the Recreation Department relies on reallocating funds from other operational lines or deferring lower-priority projects or expenditures.

Activity Type	Description of Current Strategy
	Condition data gathered through weekly checklists, and the annual contractor assessment directly informs budget planning by identifying urgent repairs, safety upgrades, and long-term capital needs. This helps prioritize investment in high-use areas, address liability risks, and allocate funds based on the condition and usage of park assets.
	Replacement is considered when an asset reaches the end of its expected service life, can no longer be safely or cost-effectively maintained, or fails to meet current safety, accessibility, or functional standards. Condition assessments that rate an asset as "very poor," combined with increased maintenance frequency, public complaints, or risk of liability, typically prompt replacement planning. In some cases, replacement is also considered when rehabilitation is no longer a viable or efficient option due to the extent of deterioration or outdated design.

Table 60 Lifecycle Management Strategy: Land Improvements

7.39 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** $666,903 (16%)	5 - 7 **Low** $694,599 (17%)	8 - 9 **Moderate** $299,942 (7%)	10 - 14 **High** $230,005 (6%)	15 - 25 **Very High** $2,254,066 (54%)

Figure 52 Risk Matrix: Land Improvements

7.40 Levels of Service

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

The technical LOS are reported in section 5.3.2.

7.40.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Cost Efficiency	Providing land improvement assets in an efficient manner	Notable actions to manage land improvement assets in an efficient manner include: • Completion of rehabilitation activities such as partial concrete pad and pathway replacement • Replacement of playground components as necessary to defer replacement and reduce total lifecycle cost while still providing safe assets for public use • Completing rehabilitation projects alongside other capital projects to garner project efficiencies in costs and effort.
Reliability	Providing reliable land improvement assets	Notable actions to improve vehicle reliability include: • Weekly standardized safety checks • Resident complaints triggering inspection and resultant action • Regular interaction with assets which may identify reliability or performance issues- actions to resolve Rehabilitation investments to extend asset life and performance

Table 61 Community Levels of Service: Land Improvements

Appendix G: Vehicles

The Municipality's vehicles portfolio includes 41 assets that support a variety of general and essential services, including public works, administration, environmental, recreational, and fire services. The total current replacement of vehicles is estimated at approximately $8.9 million.

7.41 Inventory & Valuation

Table 62 summarizes the quantity and current replacement cost of all vehicles assets available in the Municipality's asset register. Public works and fire services account for the largest share of the vehicles portfolio.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Administration	2	Assets	$75,000	User-Defined
Environmental	2	Assets	$565,000	User-Defined
Fire	7	Assets	$4,674,188	User-Defined
Public Works	27	Assets	$3,311,116	User-Defined
Recreation & Culture	3	Assets	$229,000	User-Defined
TOTAL			**$8,854,304**	

Table 62 Detailed Asset Inventory: Vehicles

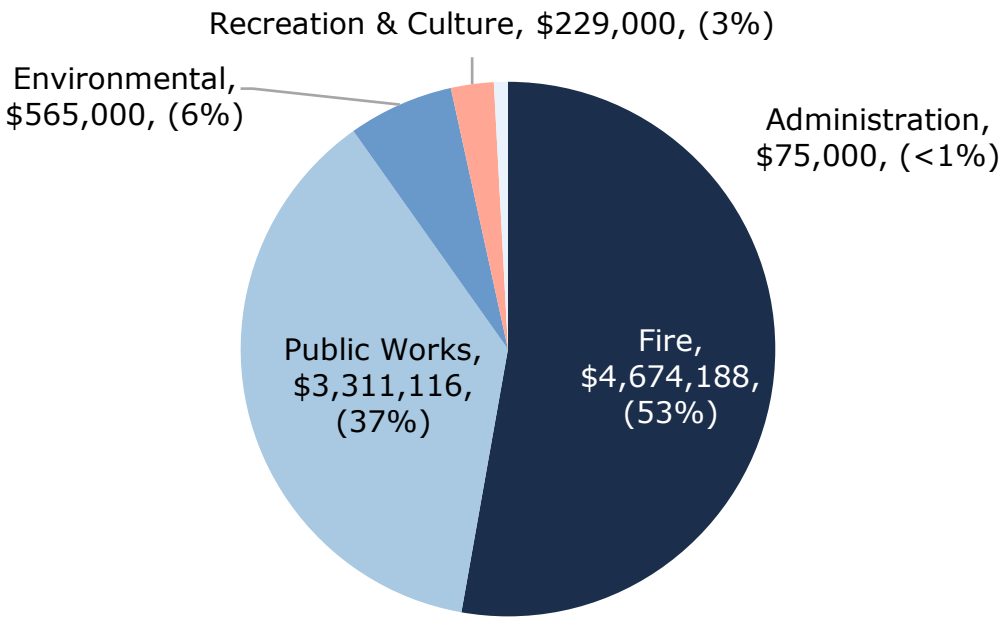


Figure 53 Portfolio Valuation: Vehicles

7.42 Asset Condition

Figure 54 summarizes the replacement cost-weighted condition of the Municipality's vehicles portfolio. Based only on assessed condition 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.

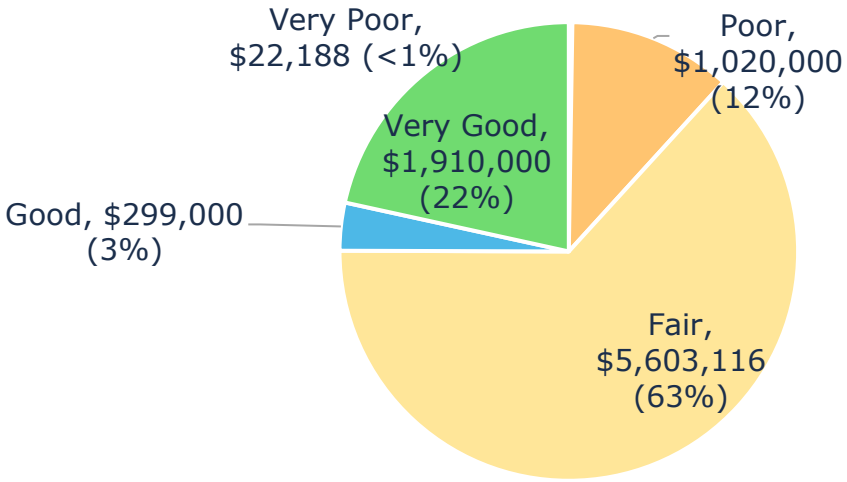


Figure 54 Asset Condition: Vehicles Overall

Figure 55 summarizes the condition of vehicles by each department. The vast majority of vehicles that support critical services such as fire are in fair or better condition.

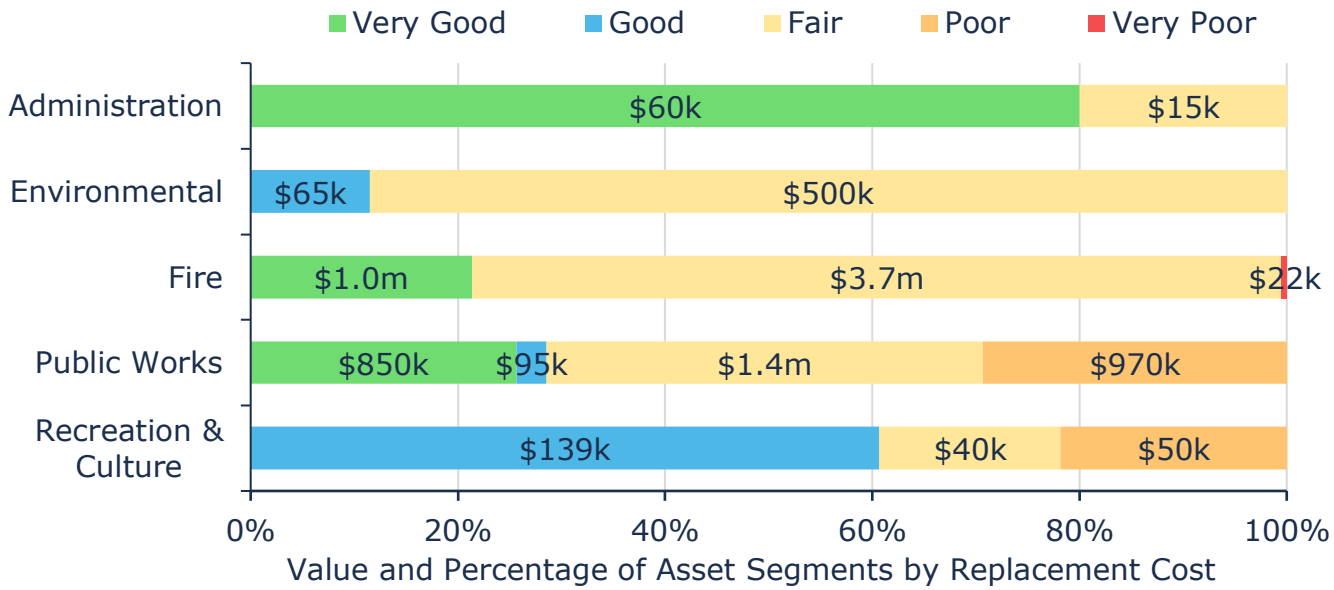


Figure 55 Asset Condition: Vehicles by Segment

7.43 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 56 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.

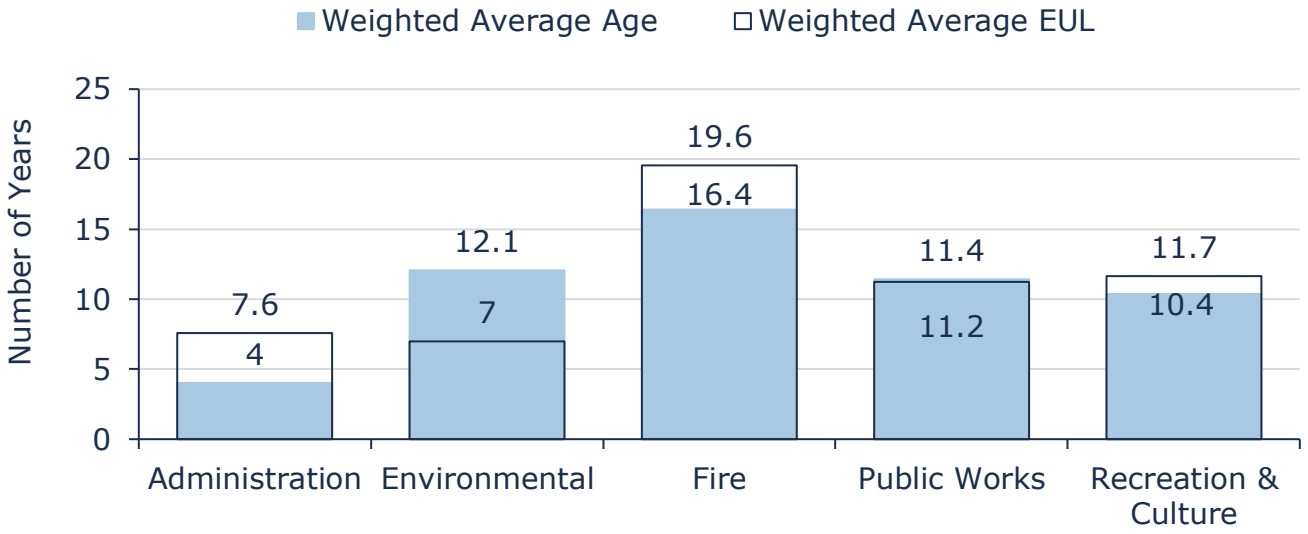


Figure 56 Estimated Useful Life vs. Asset Age: Vehicles

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

7.44 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
Inspection	All vehicles are assessed yearly by an on-staff certified mechanic. Assessments review mechanical functionality and saftey; the most recent assessment was conducted in May 2025. Condition is scored on a scale of good, fair, and poor. It is the Municipality's intention to expand the scope of condition assessments in the next several years.
	A sight checklist to review kilometers, oil levels,break condition, saftey lights, and items for repair is completed by the driver at least on a weekly basis. For the Olympia, inspection is conducted twice daily during active operation, while the Zamboni is checked every two months when in use.
Maintenance	Routine maintenance activities include minor mechanical repairs, tire pressure monitoring and rotation, and fluid top-ups. Oil changes and basic service are performed as needed, with more in-depth diagnostics handled by contractors when required. Most often, maintenance activities are triggered by checklist findings during inspections or based on mileage levels or seasonal use. The estimated annual operational maintenance cost is approximately $180,000.
Rehabilitations	Currently there are no formal rehabilitation programs in place for aging vehicle assets. Instead, vehicles are maintained and repaired as needed to stretch their use for as long as safely possible. Components are replaced on a case-by-case basis when cost-effective, and routine servicing is used to extend operational life. Vehicles are only flagged for replacement when they experience ongoing mechanical issues or when repair costs exceed the vehicle's remaining value. The approach is focused on maximizing asset lifespan and deferring replacement until necessary.
Replacement	The annual budget for vehicle maintenance and replacement is allocated based on condition assessments, operational priorities, and historical maintenance trends. Assets deemed essential for service continuity are given higher funding priority to ensure safe and reliable operations.
	Assets that are critical to core service delivery and safety are prioritized for replacement.
	Condition data collected through regular checklists and annual assessments is a key factor in budgeting and operational planning. This information supports capital planning and helps prioritize investments based on urgency and risk. For example, if a vehicle shows repeated issues in its checklist (e.g., recurring oil level problems or brake wear), staff may allocate funds for proactive servicing or begin setting aside capital funds for replacement in future budgets. The condition ratings also inform the scheduling of non-critical repairs to ensure service continuity without incurring unnecessary downtime or emergency expenses. By aligning vehicle condition data with budget forecasts, the department can manage its fleet more sustainably and cost-effectively.

Table 63 Lifecycle Management Strategy: Vehicles

7.45 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	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
$1,135,000 (13%)	$1,214,000 (14%)	$353,116 (4%)	$1,027,188 (12%)	$5,125,000 (58%)

Figure 57 Risk Matrix: Vehicles

7.46 Levels of Service

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

The technical LOS is reported in section 5.3.2.

7.46.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Cost Efficiency	Providing vehicles in an efficient manner	The Municipality's assets are managed as efficiently as possible, as demonstrated by the following: • Component replacement to extend asset lifespan • Investment in assets considers their relative criticality to the organization's operations with consideration for asset condition and maintenance trends

Service Attribute	Qualitative Description	Current LOS (2024)
Reliability	Providing Reliable vehicles	Several regular actions are performed to improve the reliability of vehicle assets. These include annual assessments by an on-site staff certified mechanic, and weekly visual reviews and checklist documentation.

Table 64 Community Levels of Service: Vehicles

Appendix H: Machinery & Equipment

The Municipality's machinery and equipment portfolio includes 1771 assets that support a variety of general and essential services, including administration, public works, recreation, and fire. The total current replacement of machinery and equipment is estimated at approximately $1.7 million.

7.47 Inventory & Valuation

Figure 58 summarizes the quantity and current replacement cost of all machinery and equipment assets available in the Municipality's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Administration	7	Assets	$130,674	CPI
Fire	273	Assets	$726,955	User-Defined
Public Works	28	Assets	$101,994	User-Defined
Recreation & Culture	1,463	Assets	$760,002	User-Defined
TOTAL			**$1,719,625**	

Table 65 Detailed Asset Inventory: Machinery & Equipment

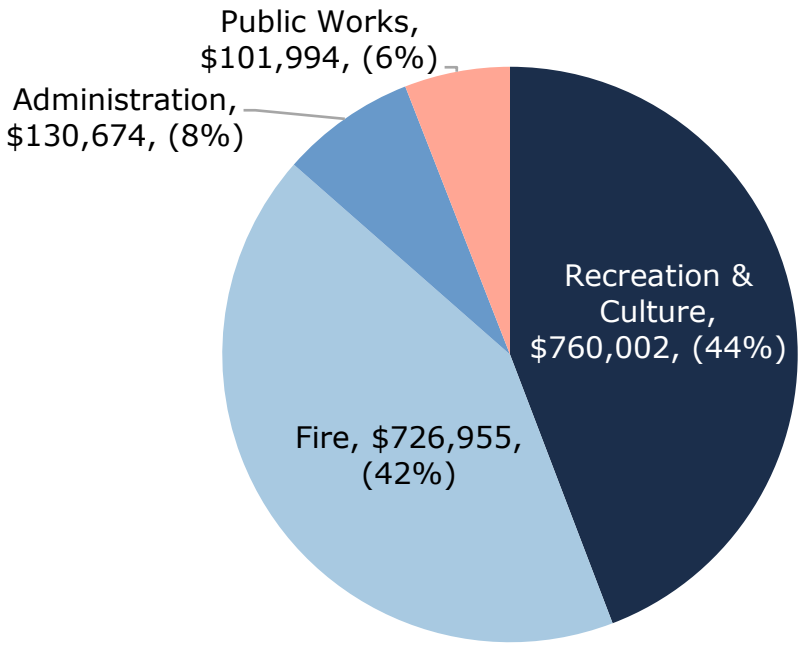


Figure 58 Portfolio Valuation: Machinery & Equipment

7.48 Asset Condition

Figure 59 summarizes the replacement cost-weighted condition of the Municipality's machinery and equipment portfolio. Based only on assessment data, 91% of assets are in fair or better condition; the remaining 9% 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.

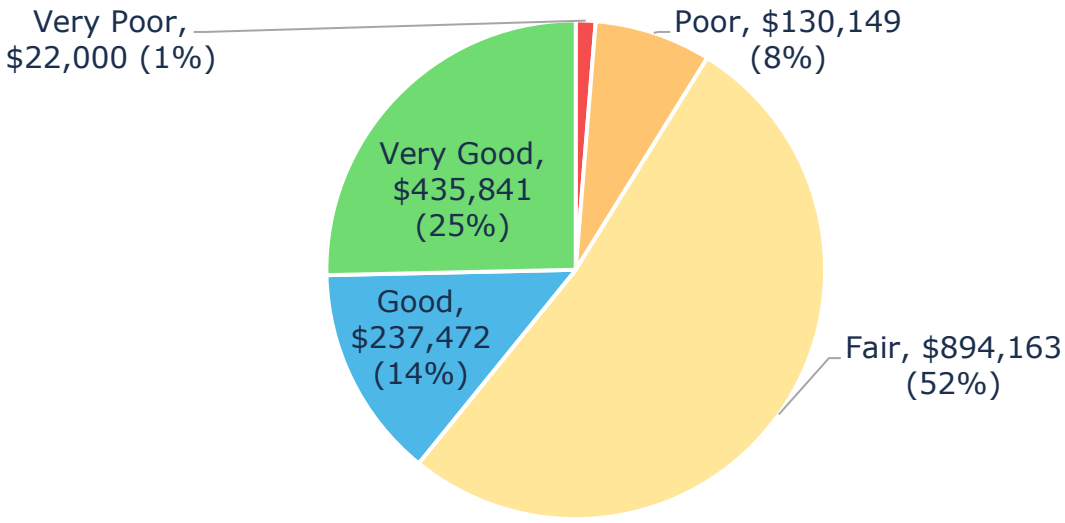


Figure 59 Asset Condition: Machinery & Equipment Overall

Figure 60 summarizes the assessed condition of machinery and equipment by each department. The majority of assets that support fire services are in fair or better condition.

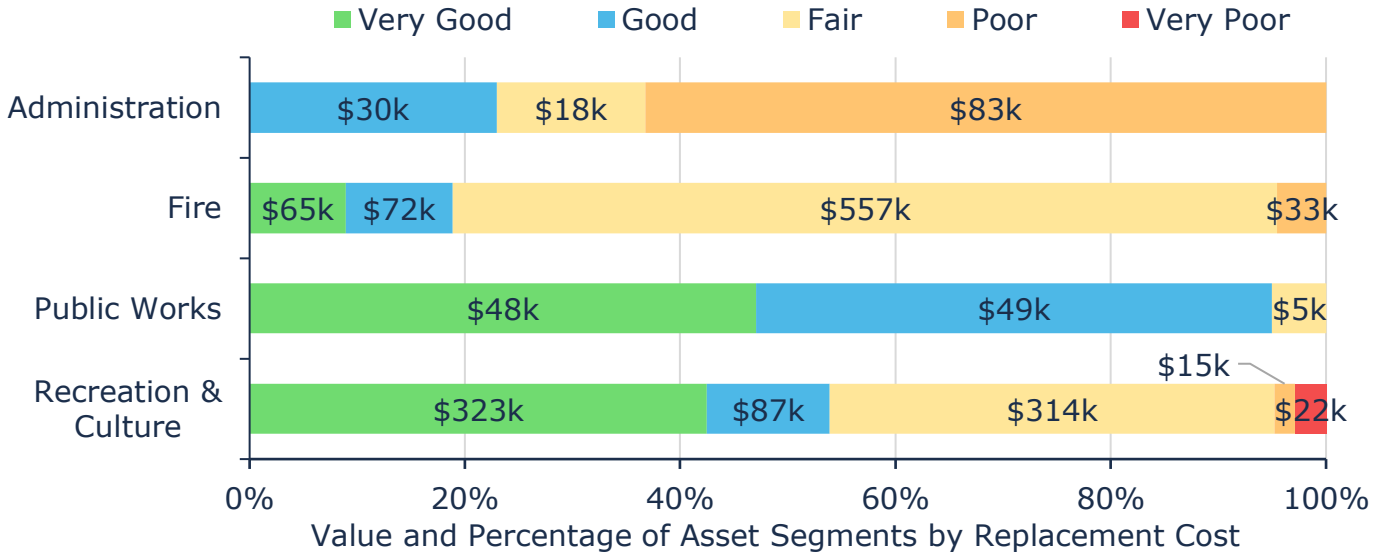


Figure 60 Asset Condition: Machinery & Equipment by Segment

7.49 Age Profile

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

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

Figure 61 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

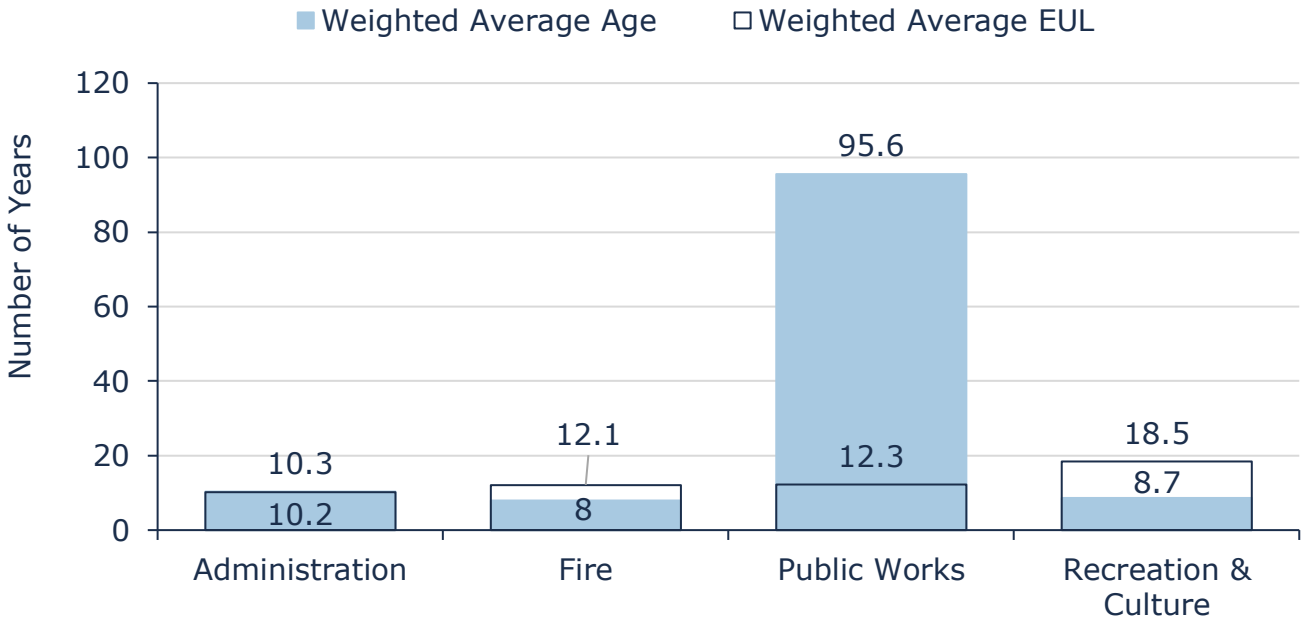


Figure 61 Estimated Useful Life vs. Asset Age: Machinery & Equipment

Age analysis reveals that, on average, most machinery and equipment assets are in the latter stages of their expected life.

7.50 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
Inspection & Maintenance	All machinery and equipment is assessed annually by internal staff. Condition is assessed for parks and recreation assets based on a scale of good, fair, or poor. For all other assets, age-based condition is used.
	Preventative maintenance tasks, such as cleaning components, tightening connections, and monitoring for leaks or wear, are carried out routinely to prevent breakdowns and support safe, compliant operation. Preventative maintenance tasks are performed weekly or monthly based on operational needs and manufacturer specifications.
	Maintenance is triggered by inspections identifying safety and structural issues. The estimated annual operational cost of maintenance activities is approximately $150,000.
Replacement	Replacement is considered when an asset's condition has deteriorated significantly, and maintenance is no longer cost-effective. Assets with an expected service life nearing its end or those incurring frequent and costly repairs are prioritized for replacement.
	Asset condition data plays a crucial role in budget allocation, including in project prioritization.

Table 66 Lifecycle Management Strategy: Machinery & Equipment

7.51 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** $671,394 (39%)	5 - 7 **Low** $422,633 (25%)	8 - 9 **Moderate** $502,400 (29%)	10 - 14 **High** $123,198 (7%)	15 - 25 **Very High** - (0%)

Figure 62 Risk Matrix: Machinery & Equipment

7.52 Levels of Service

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

The technical LOS is reported in section 5.3.2.

7.52.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2024)
Cost Efficiency	Providing machinery and equipment assets in an efficient manner	The Municipality's assets are managed as efficiently as possible, such considerations include the lifecycle cost comparison of replacement vs rehabilitation-based investments.
Reliability	Providing reliable machinery and equipment assets	Several regular actions are performed to improve the reliability of machinery and equipment assets. These include annual assessments by staff, routine preventative maintenance activities, and additional maintenance performed based on inspection findings.

Table 67 Community Levels of Service: Machinery & Equipment

Appendix I: Infrastructure Report Card

Asset Category	Replacement Cost	Average Condition	Financial Capacity	
Road Network	**$26.67 m**	**Fair**	Annual Requirement (PLOS)[31]:	$740,000
			Funding Available:	$172,000
			Annual Deficit:	**$568,000**
Water Network	**$114.2 m**	**Fair**	Annual Requirement (PLOS):	$2,412,000
			Funding Available:	$638,000
			Annual Deficit:	**$1,774,000**
Wastewater Network	**$77.6 m**	**Good**	Annual Requirement (PLOS):	$1,139,000
			Funding Available:	$497,000
			Annual Deficit:	**$643,000**
Stormwater Network	**$59.6 m**	**Good**	Annual Requirement (PLOS):	$1,043,000
			Funding Available:	$213,000
			Annual Deficit:	**$830,000**
Buildings	**$86.53 m**	**Fair**	Annual Requirement (PLOS):	$1,729,000
			Funding Available:	$147,000
			Annual Deficit:	**$1,582,965**
Land Improvements	**$4.1 m**	**Very Poor**	Annual Requirement (PLOS):	$187,000
			Funding Available:	$20,000
			Annual Deficit:	**$167,000**
Vehicles	**$8.9 m**	**Fair**	Annual Requirement (PLOS):	$670,000
			Funding Available:	$66,000
			Annual Deficit:	**$604,000**
Machinery & Equipment	**$1.7 m**	**Good**	Annual Requirement (PLOS):	$155,000
			Funding Available:	$15,000
			Annual Deficit:	**$140,000**

[31] This is the annual investment required to maintain asset condition. A phase in period has been selected; therefore, this is the value reached by the end of the phase-in period, without inflationary adjustments included.

Appendix J: Proposed LOS Options Risk and Condition Graphs

The following graphs illustrate how the average risks ratings and average condition scores are forecasted to change over time by scenario for each asset category.

Road Network

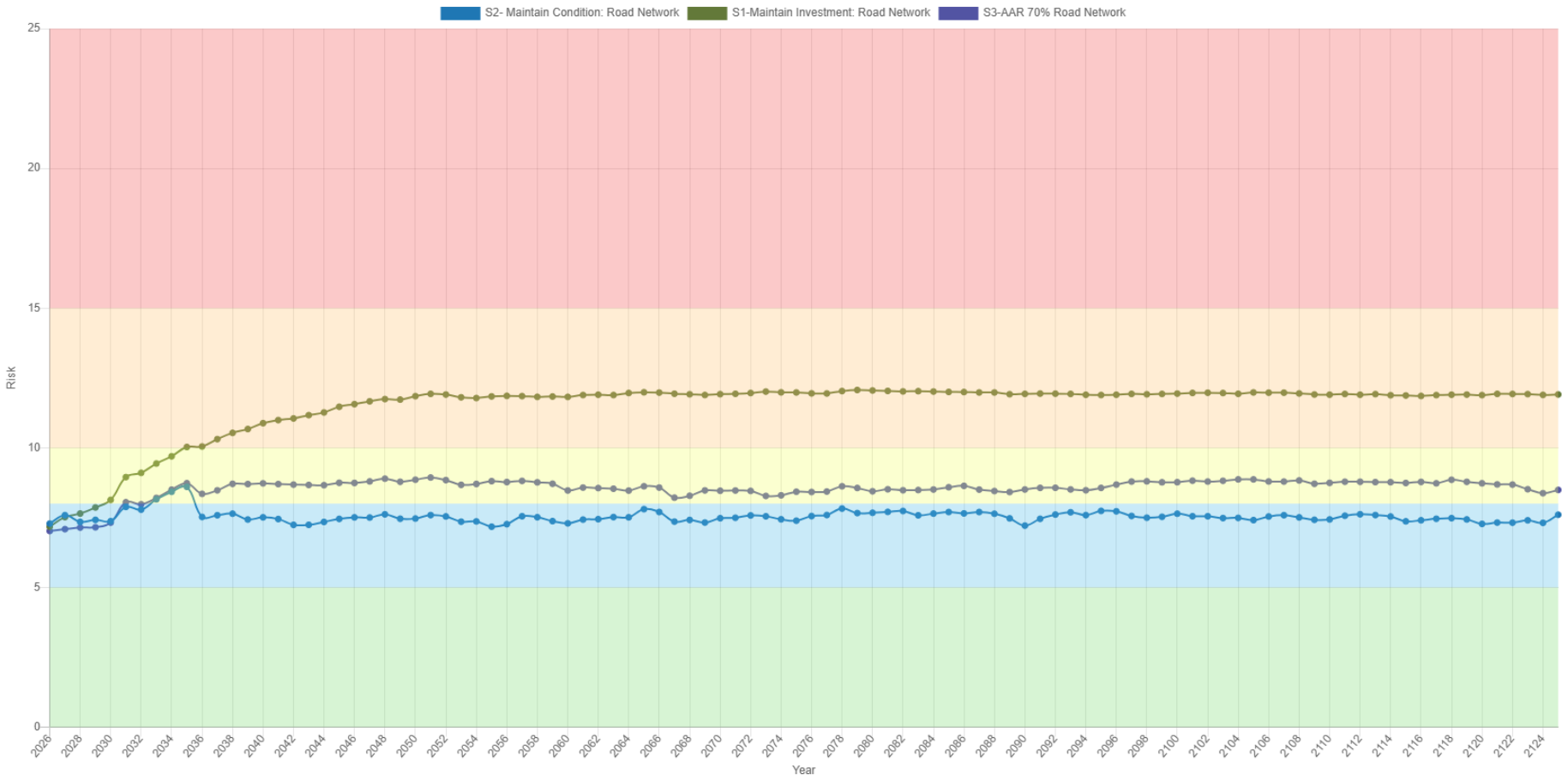


Figure 63: Road Network Risk Projections by Scenario

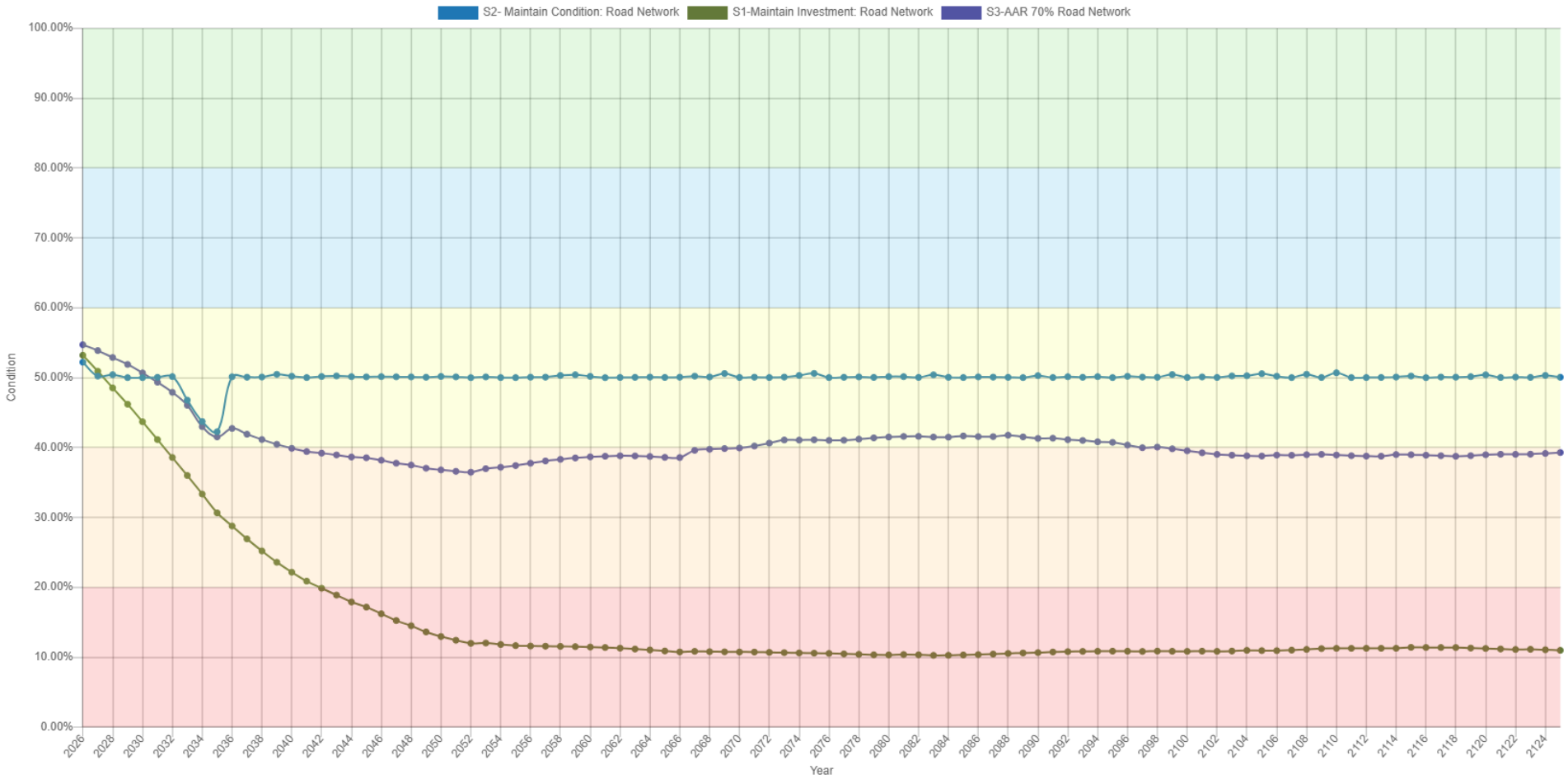


Figure 64: Road Network Projected Condition Changes by Scenario

Water Network

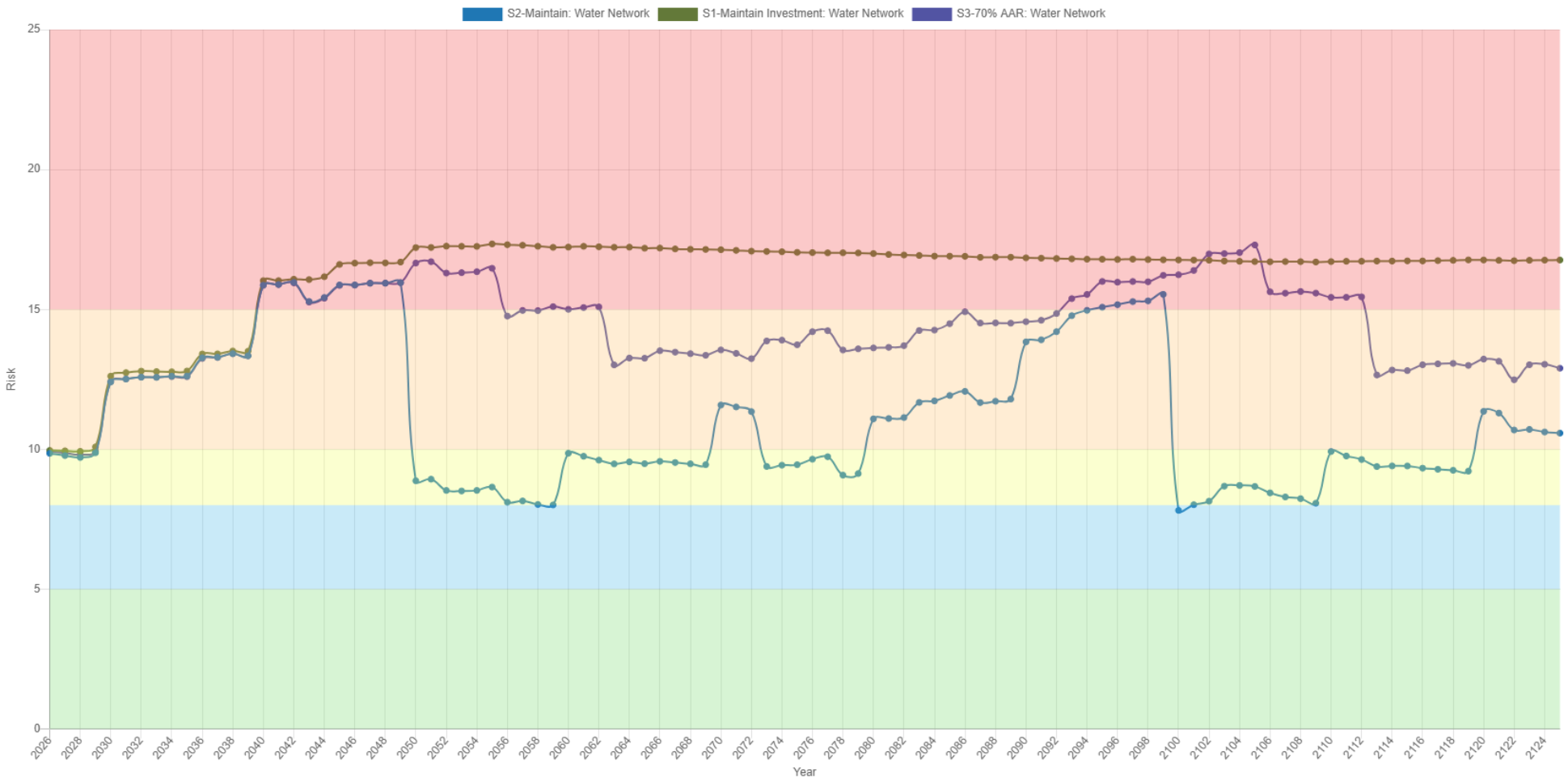


Figure 65 Water Network Risk Projections by Scenario

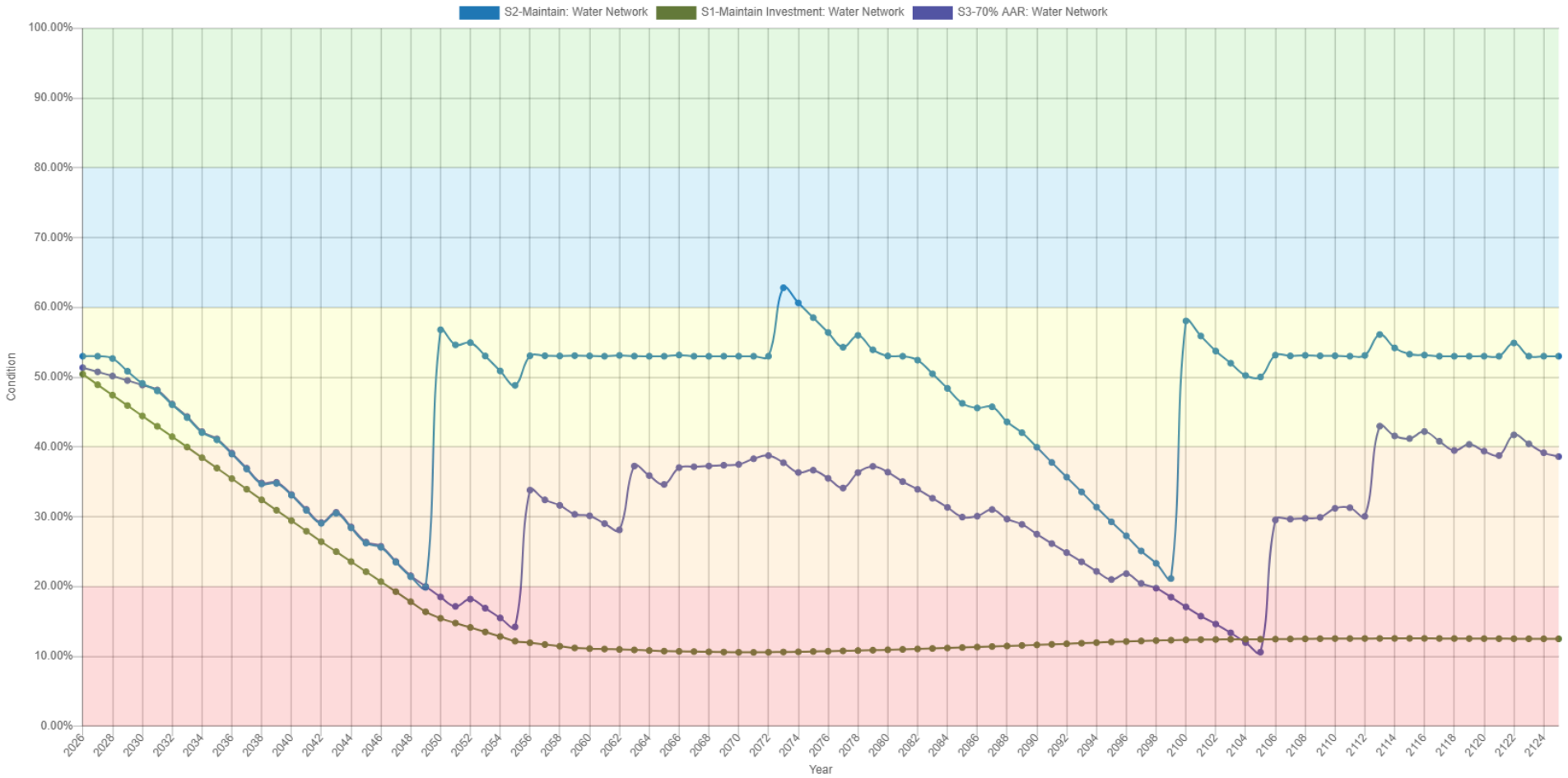


Figure 66: Water Network Projected Condition Changes by Scenario

Wastewater Network

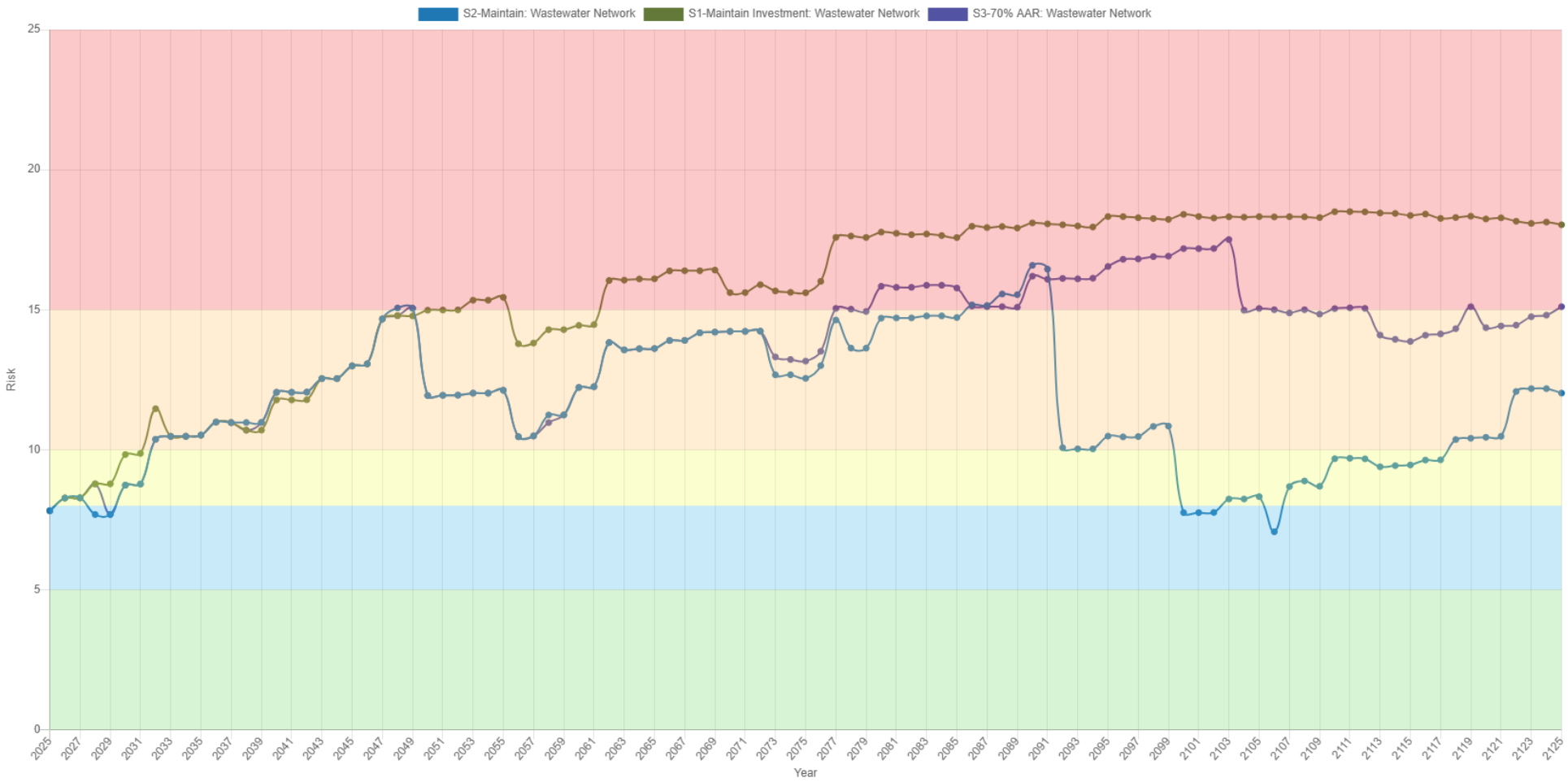


Figure 67 Wastewater Network Risk Projections by Scenario

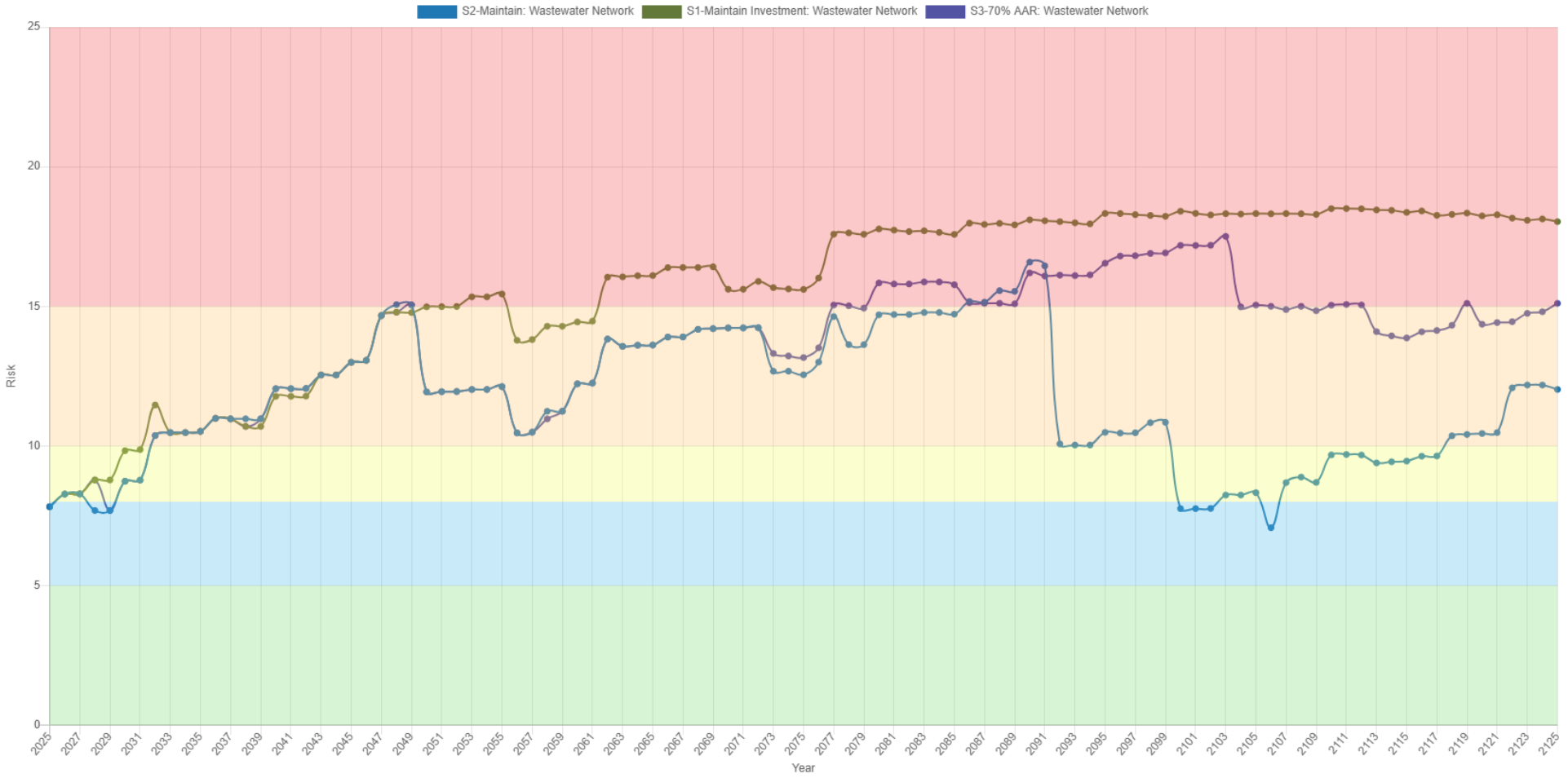


Figure 68: Wastewater Network Projected Condition Changes by Scenario

Stormwater Network

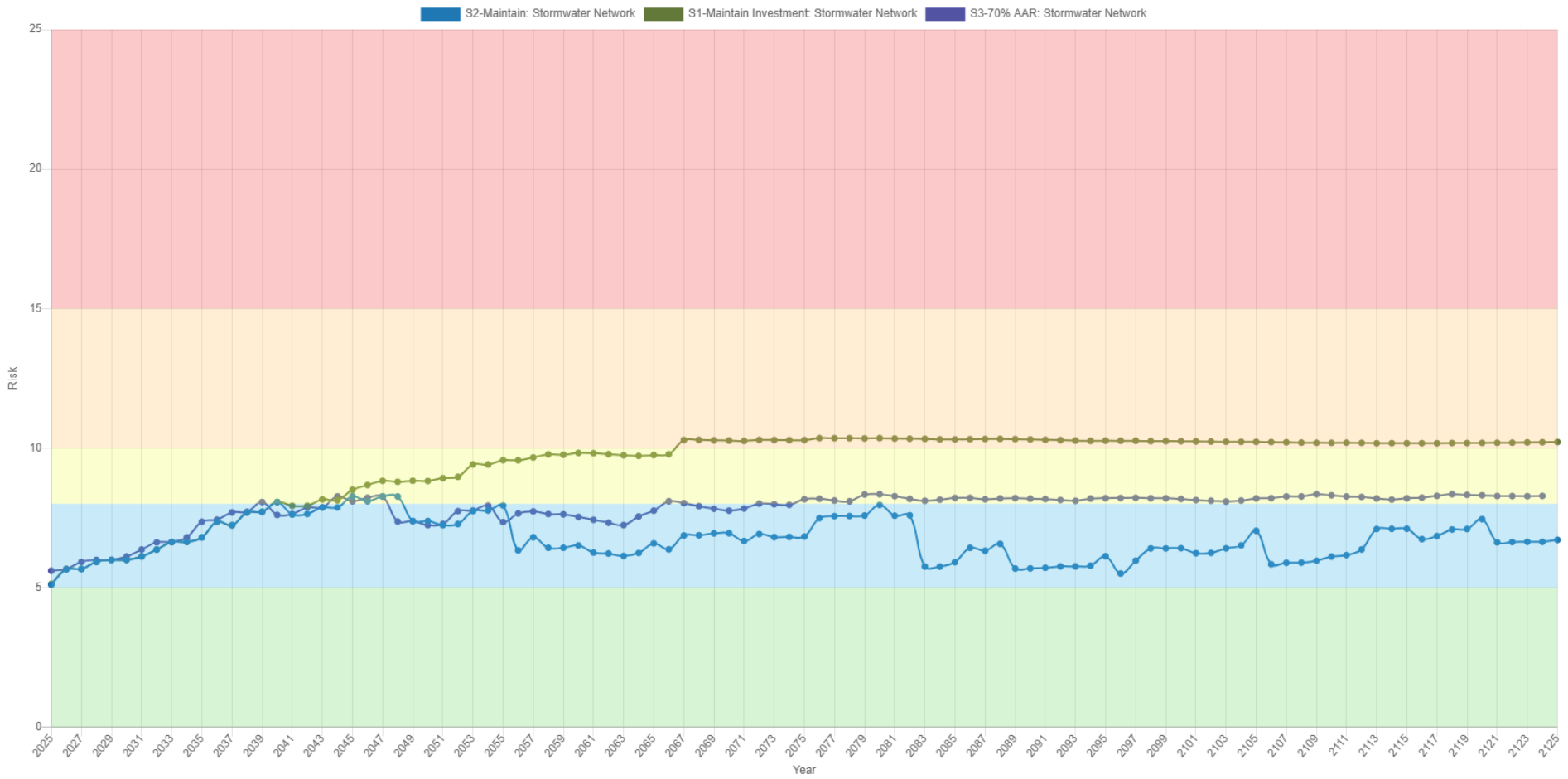


Figure 69 Stormwater Network Risk Projections by Scenario

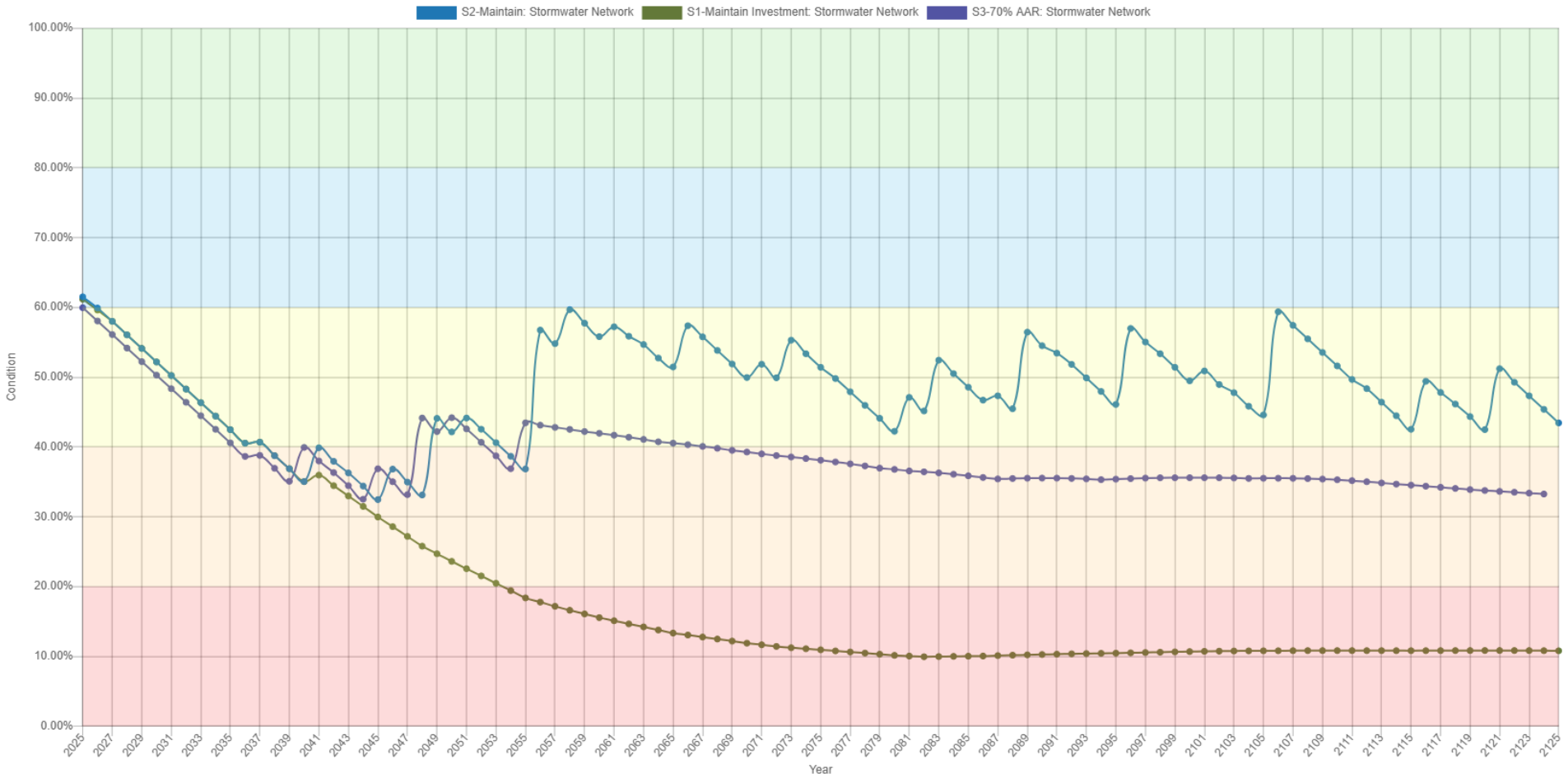


Figure 70: Stormwater Network Projected Condition Changes by Scenario

Buildings

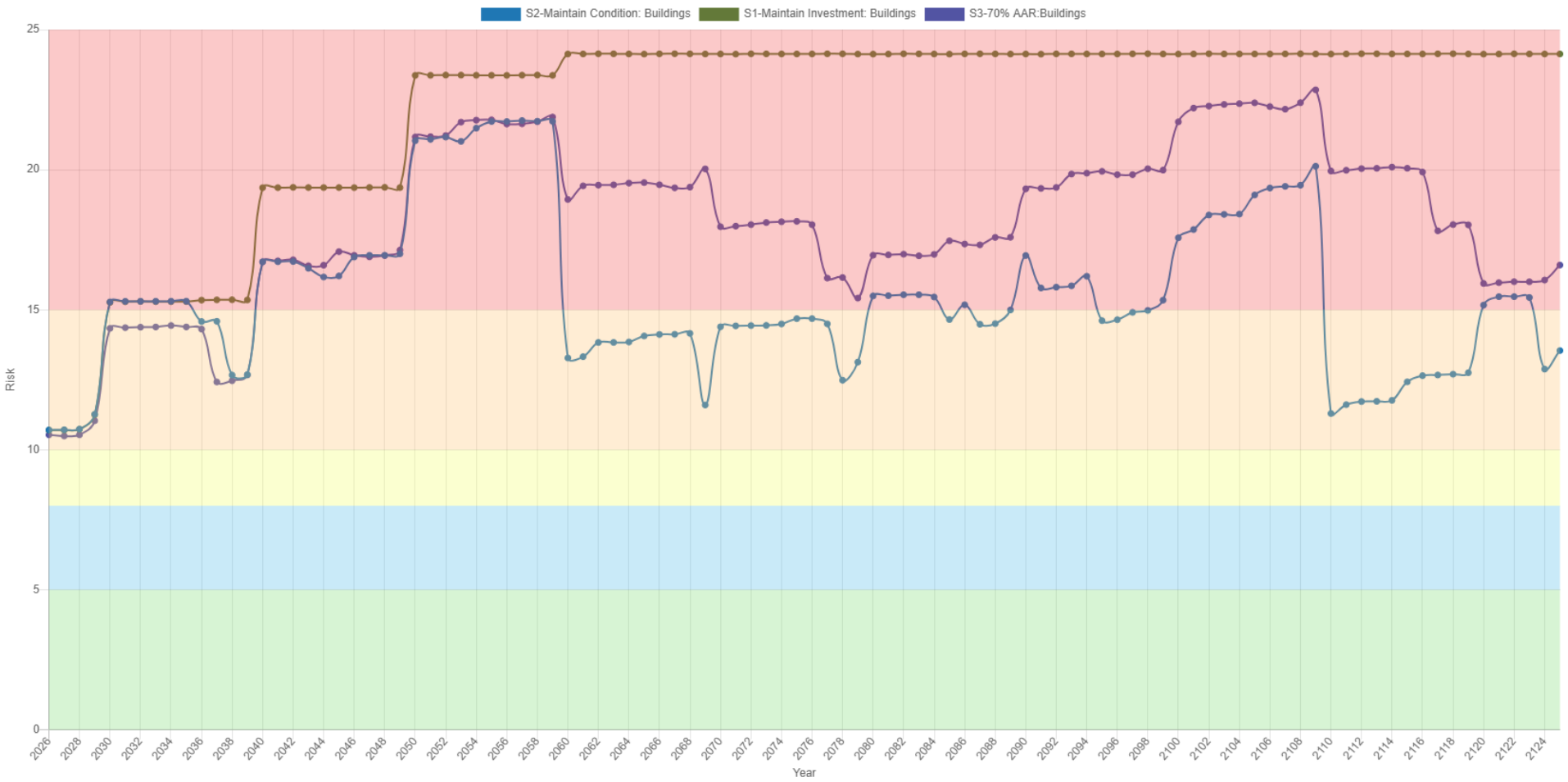


Figure 71 Buildings Risk Projections by Scenario

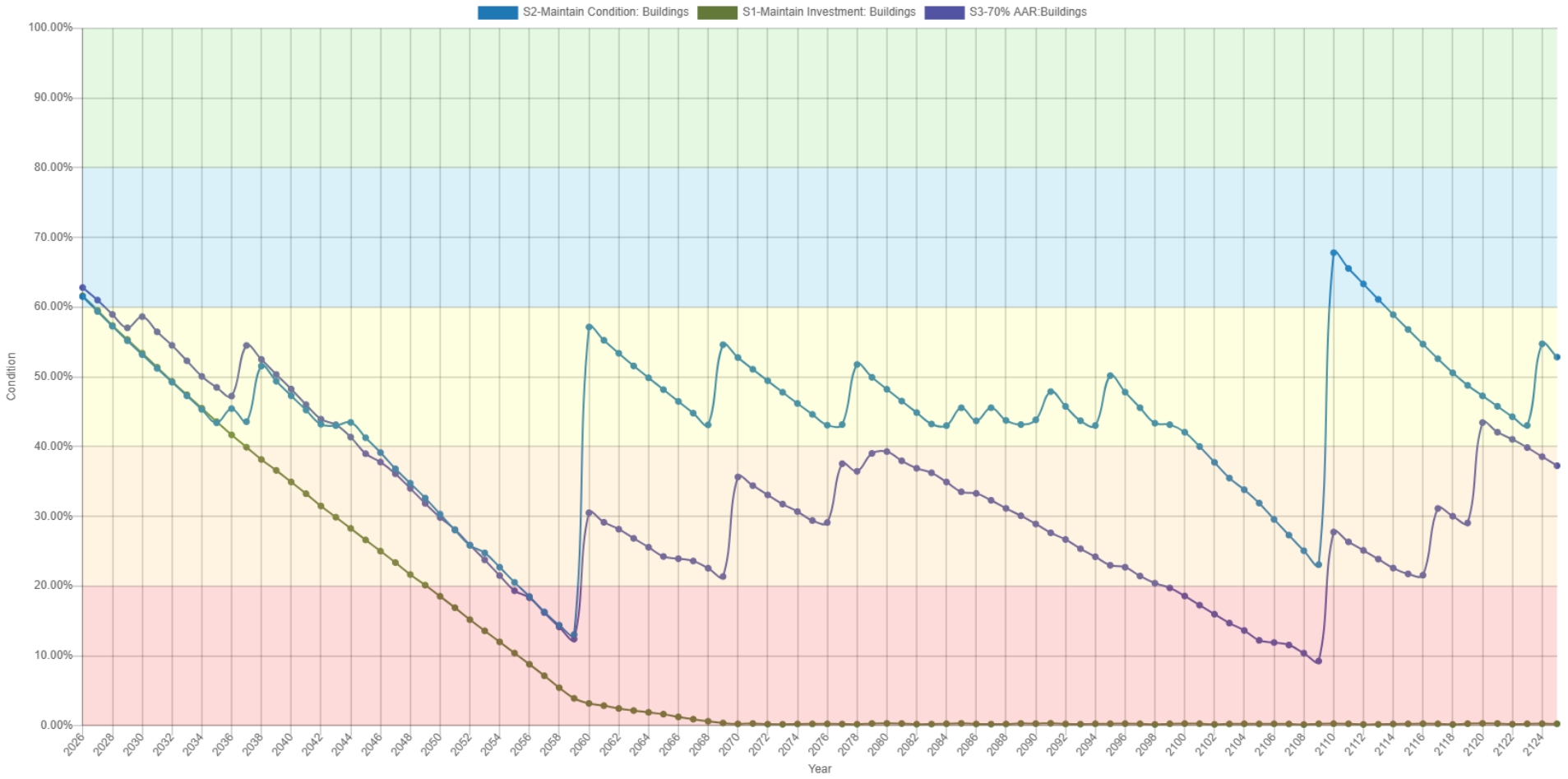


Figure 72: Buildings Projected Condition Changes by Scenario

Land Improvements

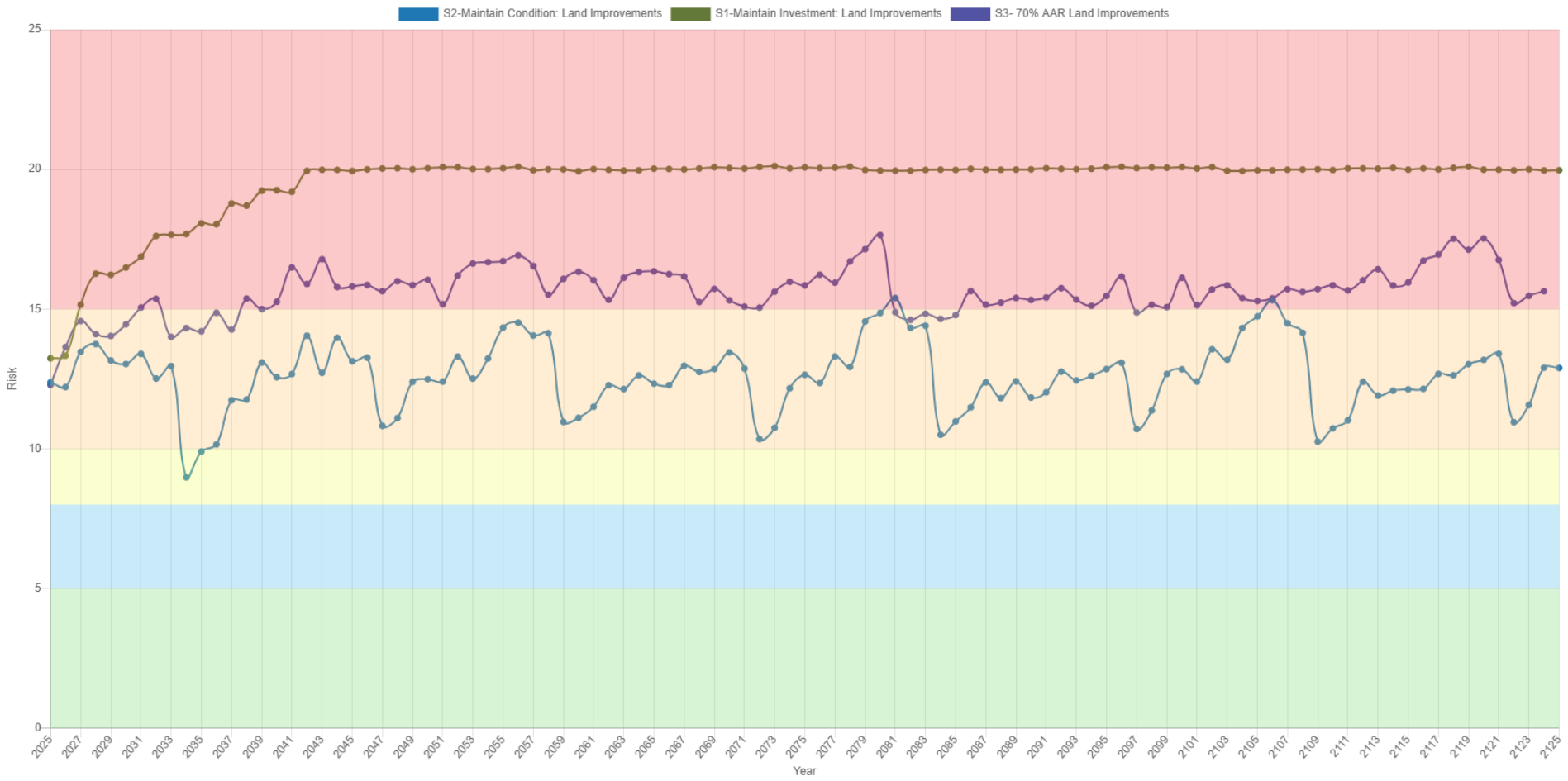


Figure 73 Land Improvements Risk Projections by Scenario

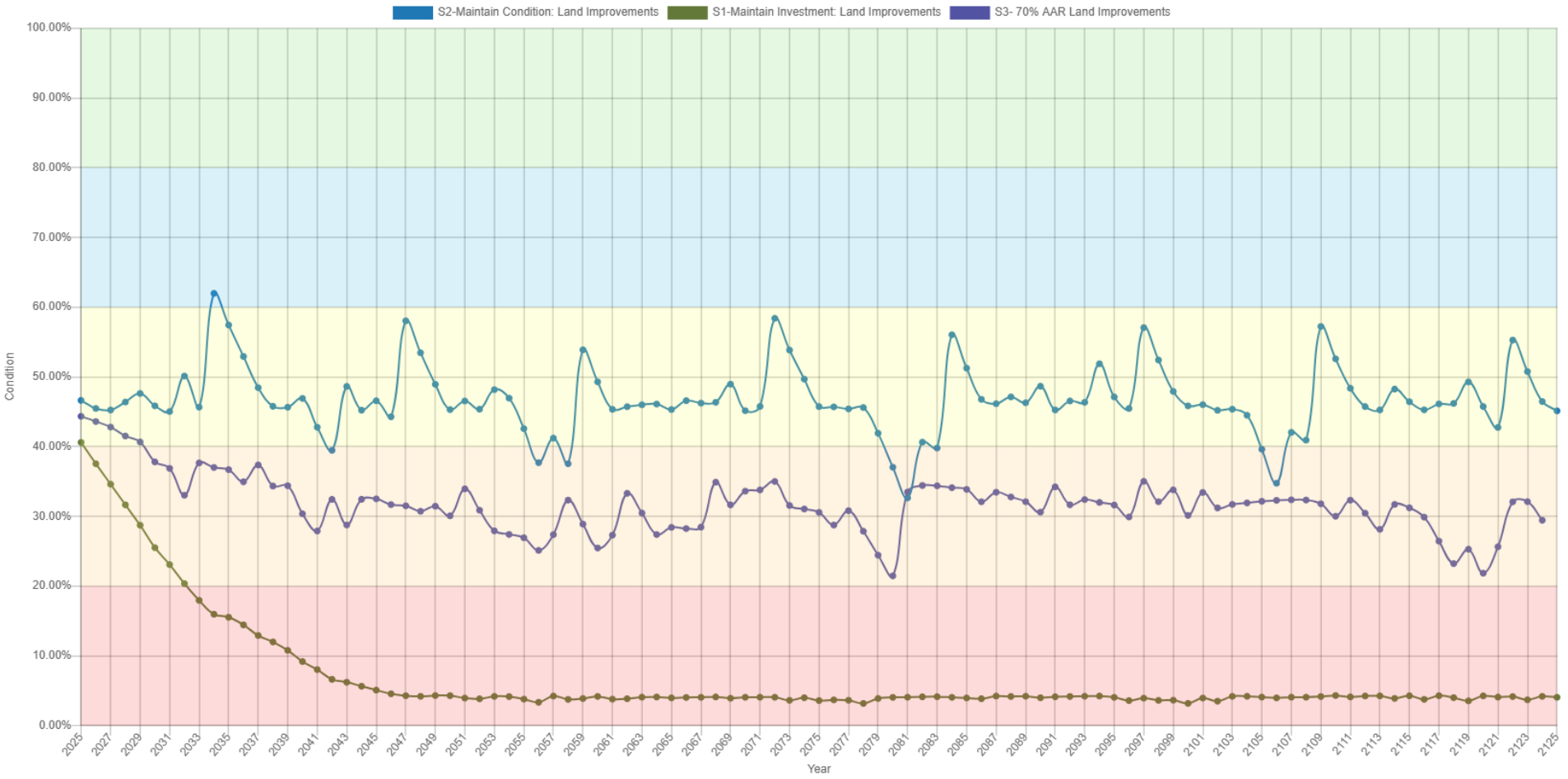


Figure 74: Land Improvements Projected Condition Changes by Scenario

Vehicles

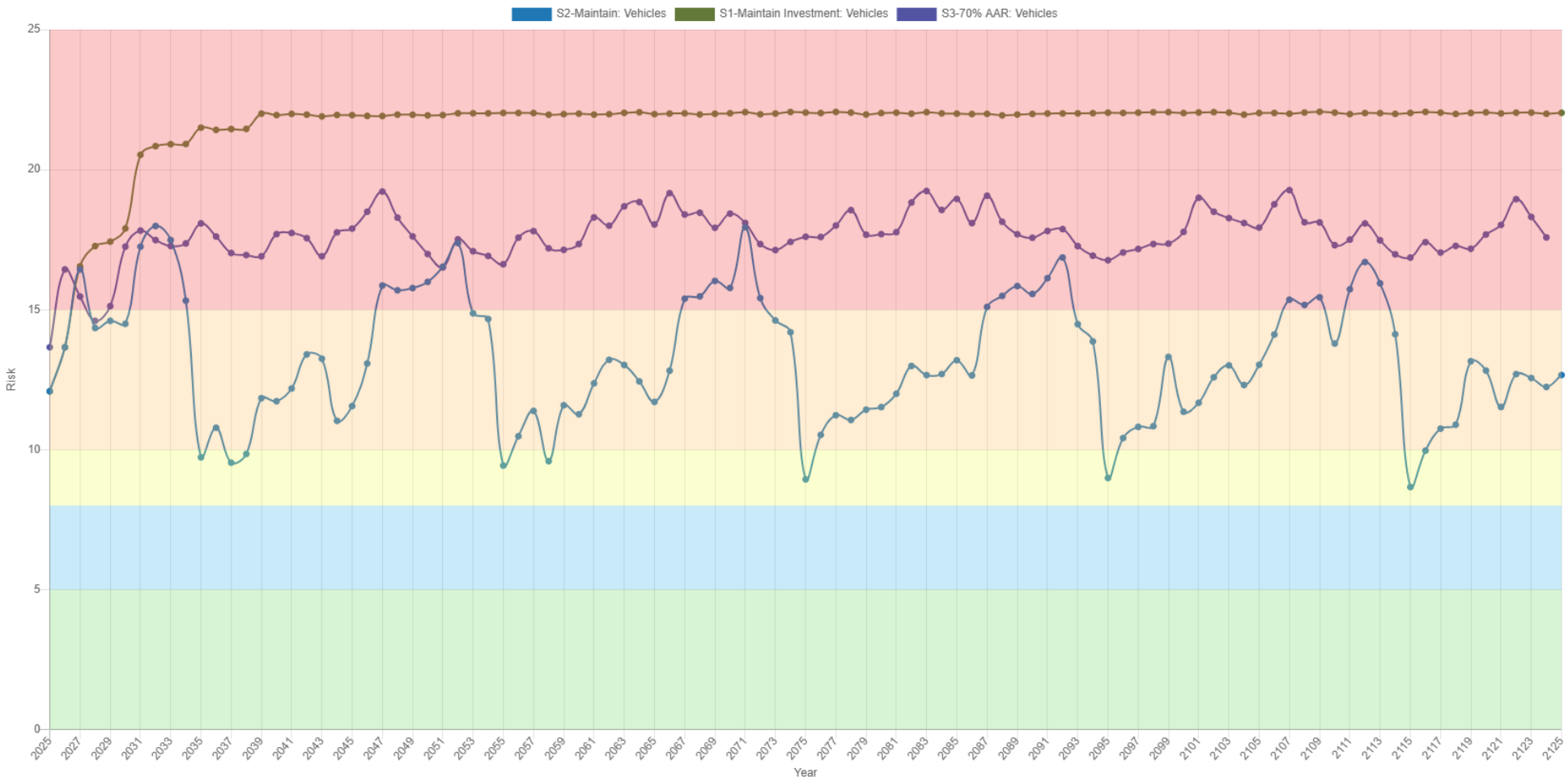


Figure 75 Vehicles Risk Projections by Scenario

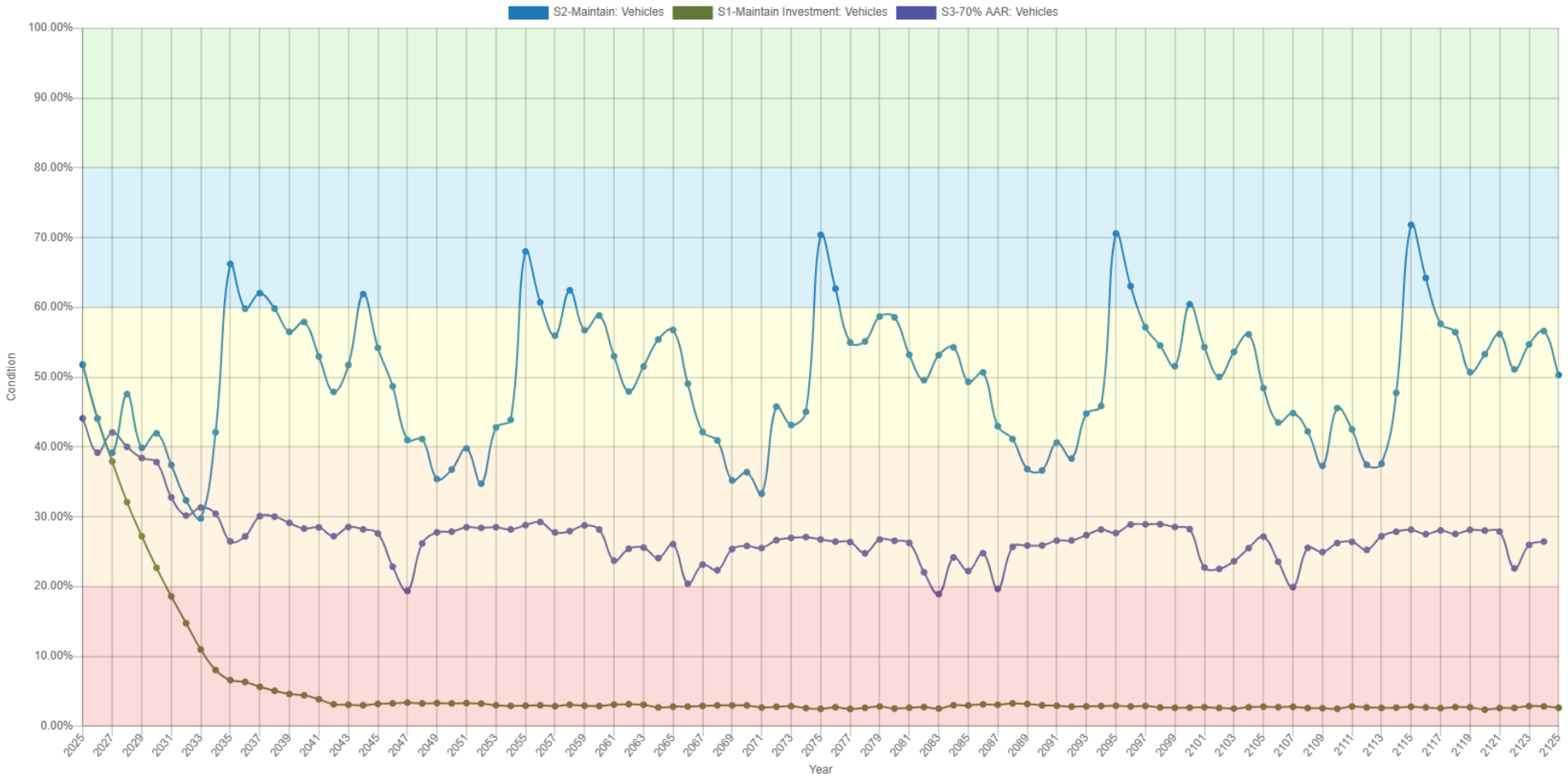


Figure 76: Vehicles Projected Condition Changes by Scenario

Machinery and Equipment

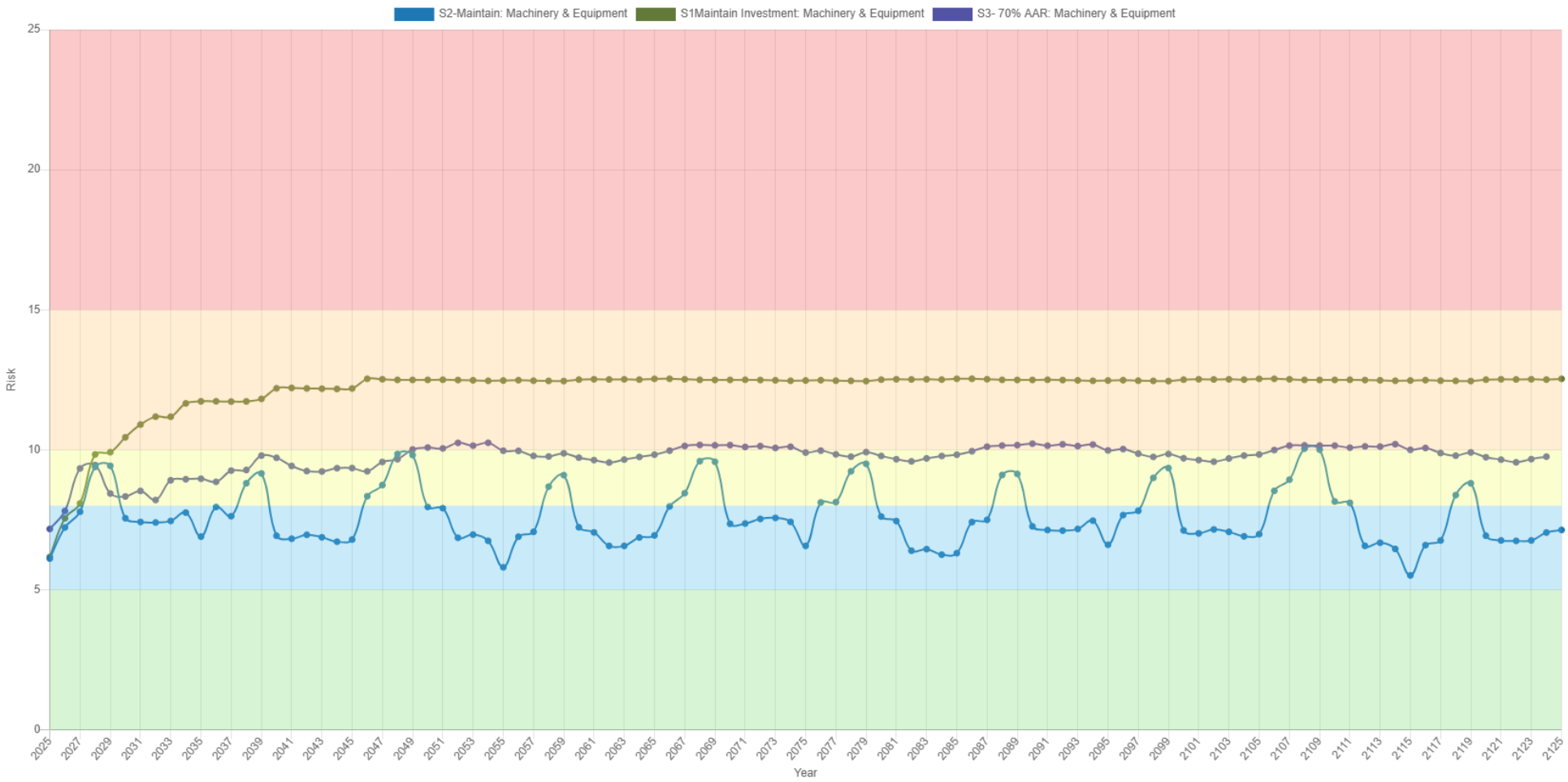


Figure 77 Machinery Equipment Risk Projections by Scenario

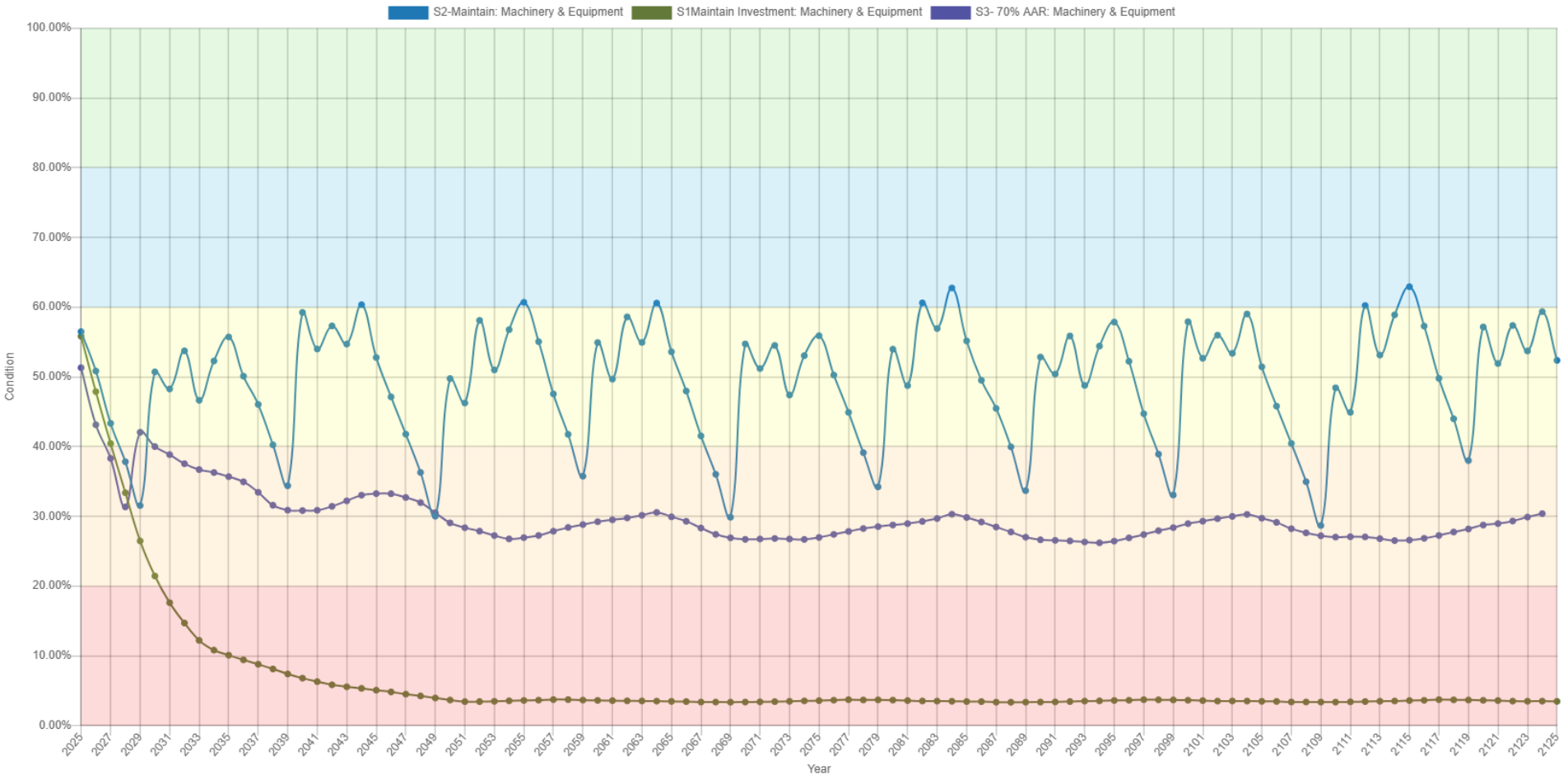


Figure 78: Machinery and Equipment Projected Condition Changes by Scenario

Appendix K: 10-Year Capital Requirements

The financial requirements of the selected scenario reflect the total annual capital investment required. In some years, actual capital investments will be greater than or less than the annual capital investment required. The tables below indicate the annual capital allocation required based on the selected proposed LOS, and the forecast capital replacements based on each asset category. Please Note: Required annual capital allocation amounts do not assume debt is reallocated.

Road Network										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	$196K	$221K	$247K	$274K	$ 301K	$329K	$358K	$388K	$419K	$450K
Total Forecasted Investment		$143K	$867K	$709K	$890K	$939K	$1,010K	$68K	$171K	$609K

Water Network										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	$701K	$765K	$833K	$902K	$975K	$1,050K	$1,128K	$1,208K	$1,292K	$1,379K
Total Forecasted Investment	$3,643K	$2,473K	$2,116K	$405K	$504K	$1,265K	$228K	$388K	$30K	$1,317K

Wastewater Network										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	$518K	$539K	$561K	$584K	$606K	$629K	$652K	$675K	$699K	$723K
Total Forecasted Investment		$15K	$4,285 K					$7K		

Stormwater Network										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	$238K	$272K	$307K	$343K	$381K	$419K	$ 459K	$499K	$541K	$ 585K
Total Forecasted Investment	$400K	$198 K	$22K						$7K	

Buildings										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	$ 171K	$ 237K	$ 305K	$375K	$447K	$521K	$597K	$676K	$757K	$841K
Total Forecasted Investment[32]	$-	$-	$-	$-	$-	$-	$-	$-	$-	$-

[32] There are no forecasted capital investments for building assets between 2026 and 2035; however, in 2036 there is a capital expenditure of $3.494 million and others thereafter.

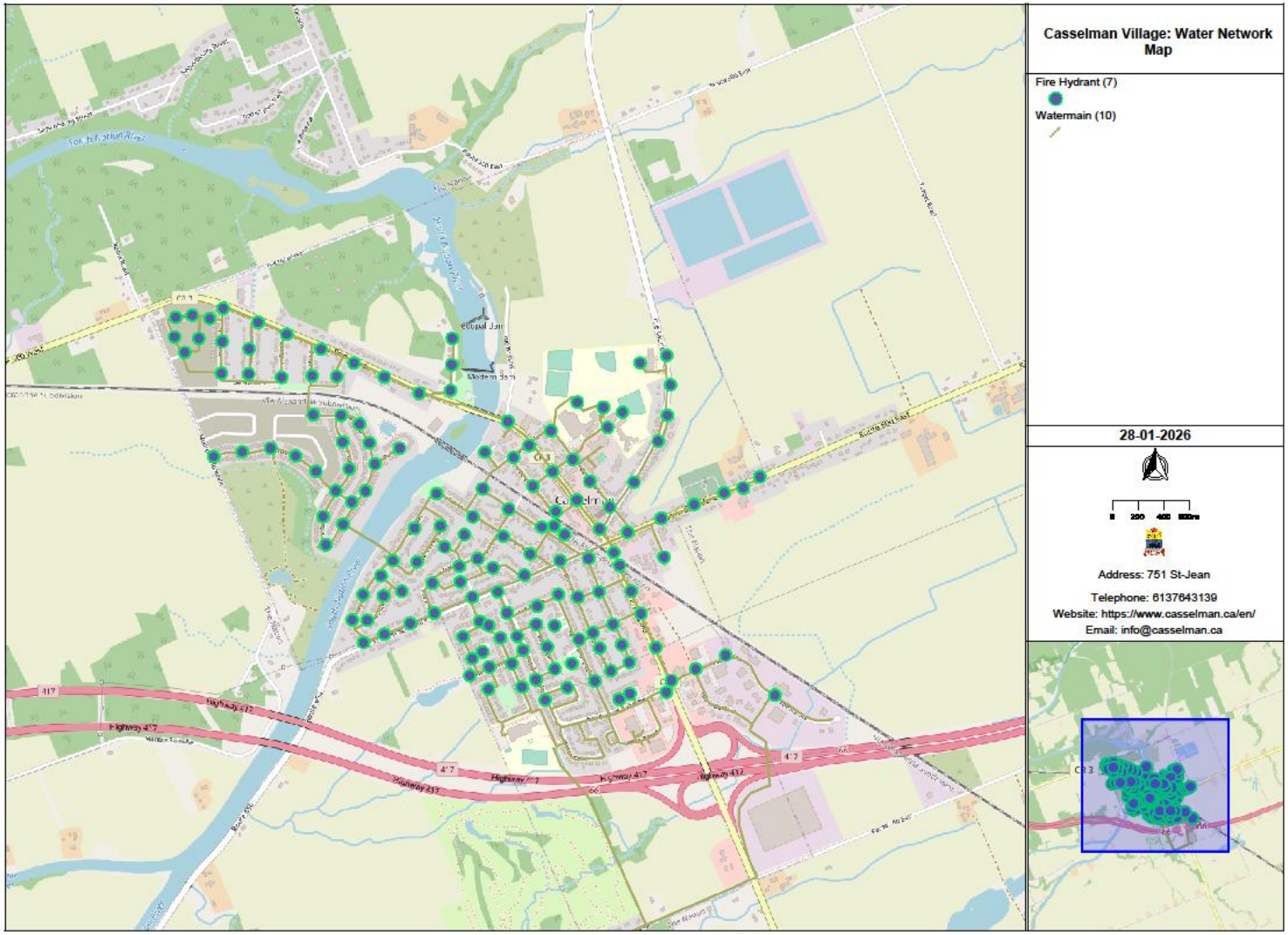
Land Improvements										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	$43K	$50K	$56K	$62K	$69K	$75K	$82K	$90K	$97K	$104K
Total Forecasted Investment	$277K	$156K	$223K	$81K	$180K	$165K	$413K	$875,000	$0	$0

Vehicles										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	$86K	$106K	$126K	$148K	$170K	$192K	$216K	$240K	$265K	$ 290K
Total Forecasted Investment	$22K	$245K	$1,427K		$866K	$280K	$234K	$450K	$1,775K	$2,800K

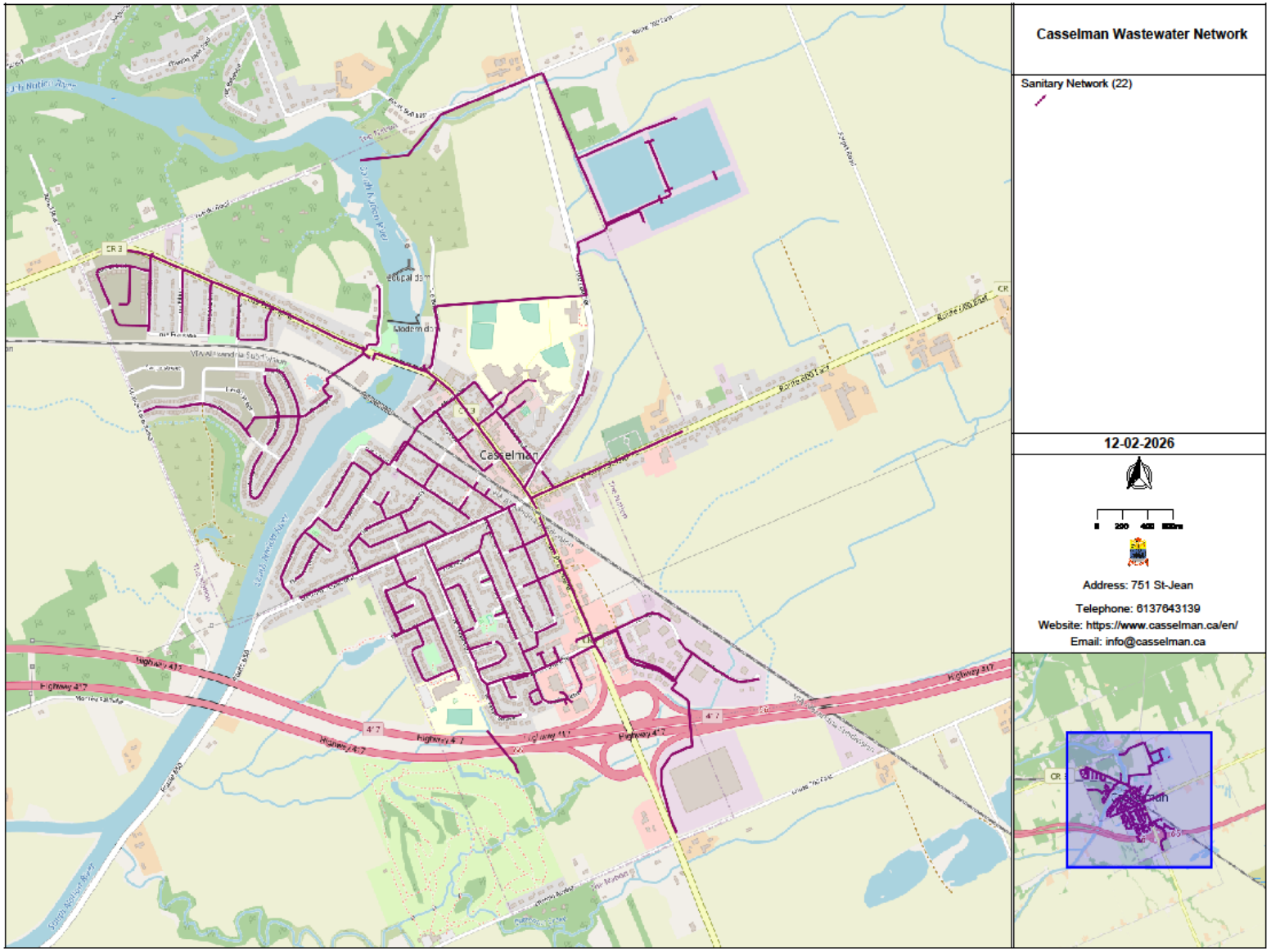
Machinery & Equipment										
	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation	$39K	$44K	$48K	$53K	$58K	$63K	$68K	$74K	$79K	$85K
Total Forecasted Investment	$82K	$14K	$73K	$35K	$493K	$114K	$265K	$21K	$268K	$193K

Appendix L: Level of Service Maps & Photos

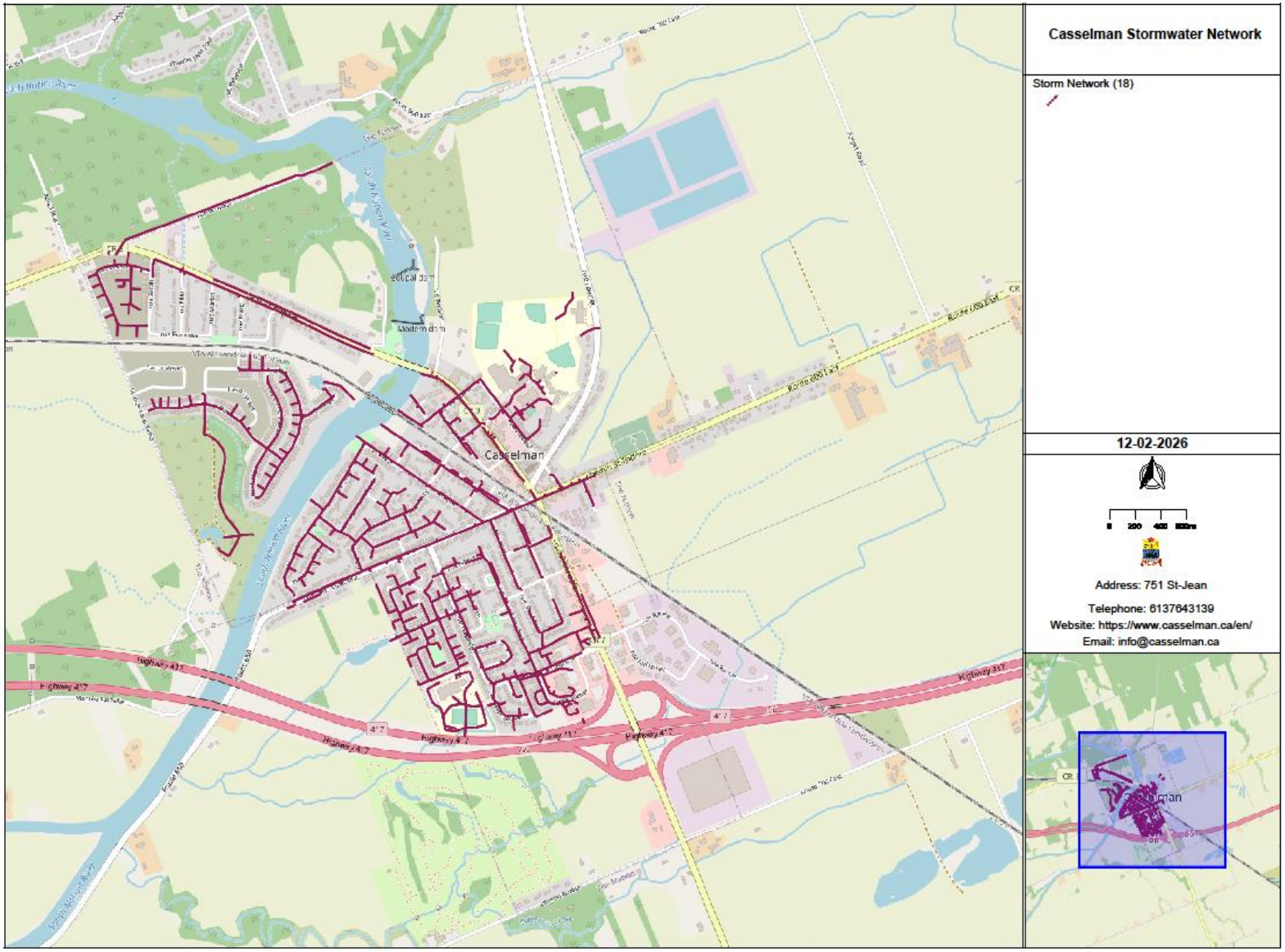
Water Network Map



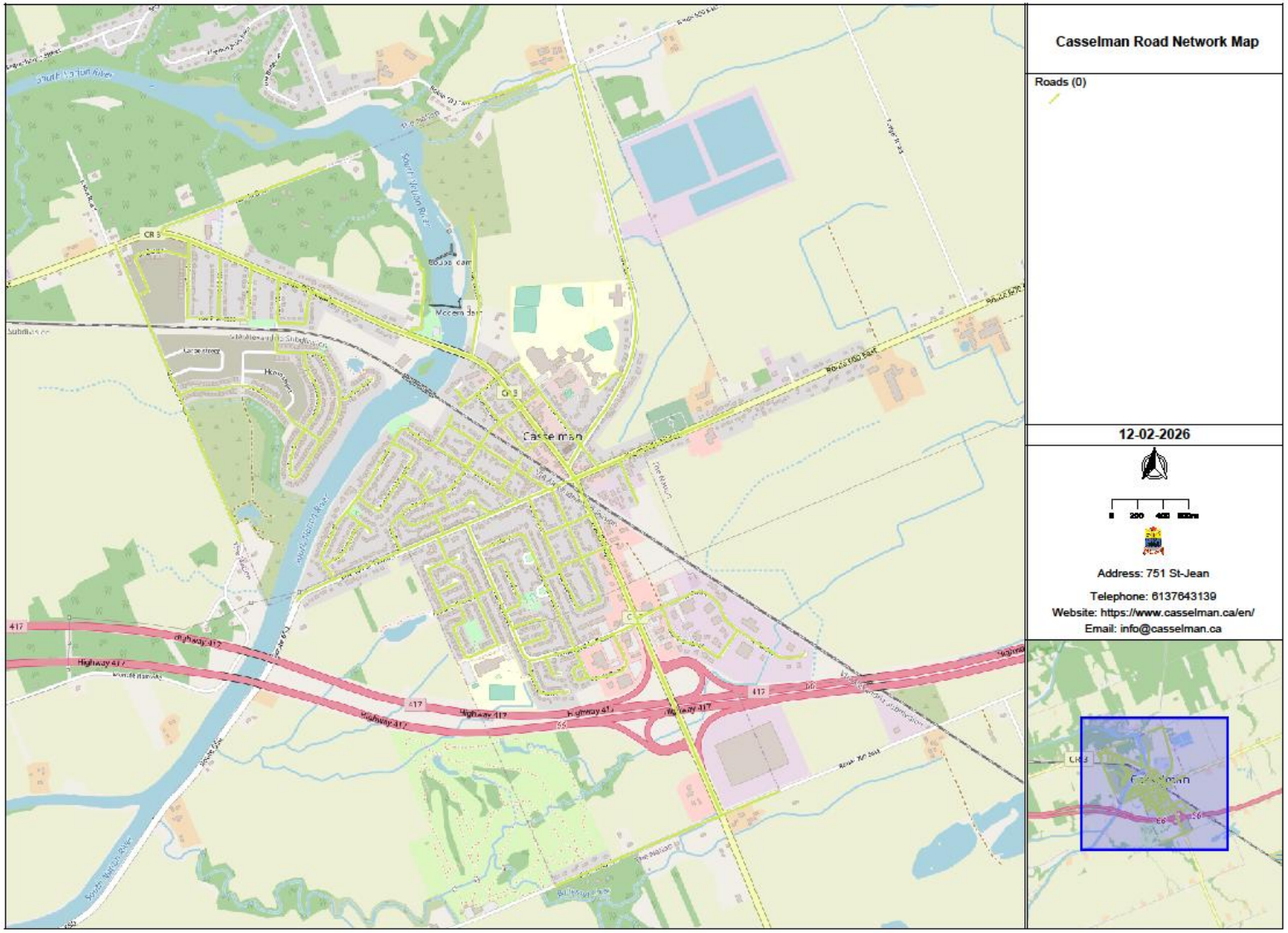
Wastewater Network Map



Stormwater Network



Road Network Map



Appendix M: Risk Rating Criteria

Probability of Failure

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Probability of Failure Score
All	Condition	100%	80-100	1- Rare
			60-79	2- Unlikely
			40-59	3 – Possible
			20-39	4 – Likely
			0-19	5 – Almost Certain

Consequence of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Buildings	Economic (100%)	Replacement Cost (100%)	$20,000 or less	1-Insignificant
			$20,001- $100,000	2- Minor
			$100,001- $500,000	3- Moderate
			$500,001- 2,500,000	4- Major
			$2,500,001- 15,000,000	5- Severe
Machinery & Equipment	Economic (100%)	Replacement Cost (100%)	$5,000 or less	1-Insignificant
			$5,001- $25,000	2- Minor
			$25,001- $100,000	3- Moderate
			$100,001- $150,000	4- Major
			$150,001-$400,000	5- Severe
Land Improvements	Economic (100%)	Replacement Cost (100%)	$10,000 or less	1-Insignificant
			$10,001- $25,000	2- Minor
			$25,001- $100,000	3- Moderate
			$100,001- $300,000	4- Major

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
			$300,001-$5,000,000	5- Severe
Roads	Economic (100%)	Replacement Cost (100%)	$25,000 or less	1-Insignificant
			$25,001- $75,000	2- Minor
			$75,001- $150,000	3- Moderate
			$150,001- $500,000	4- Major
			$500,001-$1,000,000	5- Severe
Water Mains Wastewater Mains Stormwater Mains	Economic (80%)	Replacement Cost (100%)	$50,000 or less	1-Insignificant
			$50,001-$200,000	2- Minor
			$200,001-$400,000	3- Moderate
			$400,001-$800,000	4- Major
			$800,001-$3,000,000	5- Severe
	Operational (20%)	Pipe Size (mm)	50 or less	1-Insignificant
			51-150	2- Minor
			151-400	3- Moderate
			401-800	4- Major
			801-1600	5- Severe
Vehicles	Economic (100%)	Replacement Cost (100%)	$20,000 or less	1-Insignificant
			$20,001-$75,000	2- Minor
			$75,001-$150,000	3- Moderate
			$150,001-$400,000	4- Major
			$400,001-$2,000,000	5- Severe
All Others	Economic (100%)	Replacement Cost (100%)	$20,000 or less	1-Insignificant
			$20,001- $100,000	2- Minor
			$100,001- $500,000	3- Moderate
			$500,001- 2,500,000	4- Major

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
			$2,500,001- 15,000,000	5- Severe