Asset Management Plan 2025

Township of Southgate

January 2026

psdcitywide

This report was prepared by:

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

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1 Executive Summary

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

1.1 Scope

This Asset Management Plan (AMP) identifies the Township's proposed Level of Service (LOS) over a ten-year period and estimates the associated costs and risks of delivery. This AMP also identifies the Township's projected sustainable funding and funding shortfalls to meet the proposed Level of Service. Through the implementation of sound asset management strategies, the Township of Southgate can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

This report includes the following asset categories:

Core Assets

- Road Network
- Bridges & Culverts
- Water Network
- Sanitary Sewer Network
- Stormwater Network

Non-Core Assets

- Buildings
- Land Improvements
- Vehicles
- Machinery & Equipment

1.2   Compliance

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

1.3   Findings

To determine suitable proposed LOS options a resident survey was conducted. The survey explored residents' experience with municipal infrastructure, their infrastructure priorities, their desired service changes and their willingness to pay for changes in service levels. Key findings indicated:

- Respondents placed high importance on emergency services, safe and well-maintained roads and bridges, and affordable living.
- Respondents had the highest rates of dissatisfaction in asset performance, reliability and condition for their road network.
- Nearly half (48%) of survey respondents support increasing service levels for roads and bridges, while parks and recreation (39%), and emergency services (27%) also showed high levels of desired service level improvements. Most other services, including waste management, and stormwater were largely preferred to be maintained.
- Respondents were asked to rate their willingness to pay for service improvements. Over 80% of respondents indicated they are willing or somewhat willing to pay for service improvements for their roads and bridges, while 70% and 66% respectively of respondents indicated they are willing to pay for service improvements in stormwater management and emergency services.

Resident survey findings were considered alongside key details about the Township's infrastructure assets, namely:

- The overall replacement cost of the asset categories included in this AMP totals $294.63 million. To replace all assets at the end of their useful life and complete rehabilitations for the road network, the average annual capital requirement is $8.62 million. Currently capital investment from sustainable sources is $4.2 million.
- Over three-quarters (83%) of the Township's infrastructure portfolio is in fair or better condition, with the remaining 17% in poor or worse condition (this is further detailed in Section 3: Portfolio Overview).

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

Table 1: Proposed LOS Options

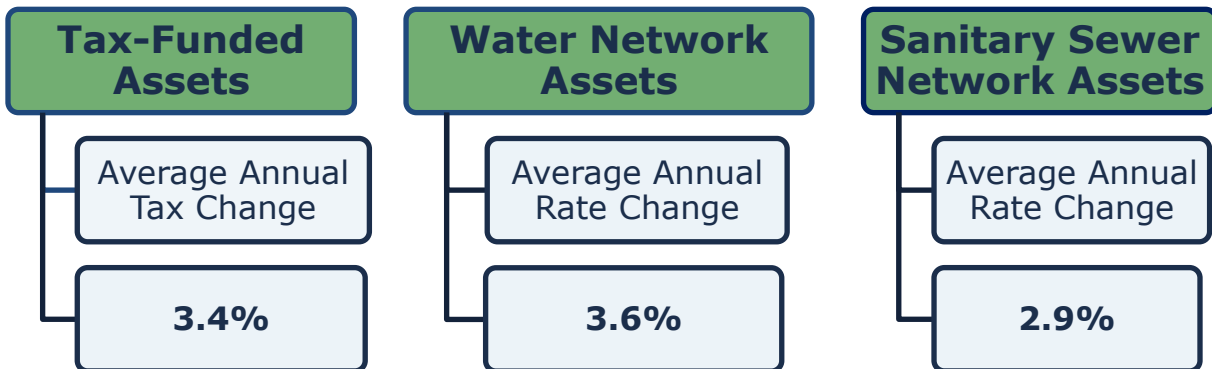| Scenario #	Description
Option1: Roads, Bridges, Land Improvements Investment Focus	Maintain current investment for everything except for roads, bridges, and land improvements: a. Roads- investment at 70% of average annual requirement (AAR)

Scenario #	Description
	b. Bridges- investment at 70% of AAR
	c. Land Improvements- investment at 70% of need
Option 2: 2% annual Increase	Current capital investment in all asset categories with a 2% annual increase until the AAR is reached.
Option 3: 70% AAR all categories	Annual Capital Investment of 70% of AAR across asset categories.

Considering the risks, achievability, and affordability of each of these options, the Township selected scenario 2 (2% Annual Increase) for their tax funded assets and scenario 3 (70% AAR funded) for their rate funded assets as the proposed LOS.

A financial strategy to meet the required investment is detailed in Section 6. The key findings indicate capital investment must increase, especially for rate-funded assets. Considering the increase required, it is recommended to phase in the change over 5 years for both tax and rate funded assets. Debt reallocation is a strategy explored and considerations of existing reserve levels are noted. This is especially important for tax-funded assets which are projected to decline in condition in the near to mid-term based on the selected Proposed LOS. Such declines in conditions are expected to result in more assets in use beyond their estimated useful life, creating an increased potential for failure and a potentially increasing need to use reserves to fund emergency replacements.

1.4   Recommendations

A financial strategy was developed to address the annual capital funding gap based on meeting the proposed LOS. The following graphics show the annual tax/rate change required to achieve the proposed Level of Service and fund the associated infrastructure cost. These recommendations are based on a 5-year plan:

Tax-Funded Assets	Water Network Assets	Sanitary Sewer Network Assets
Average Annual Tax Change	Average Annual Rate Change	Average Annual Rate Change
3.4%	3.6%	2.9%

Figure 1 Proposed Tax/Rate Changes

In addition to the above financial strategy recommendations, other key recommendations to guide continuous refinement of the Township's asset management program are:

Asset Inventory

- On an annual basis, review and update the replacement cost of assets so that they reflect the most up-to-date replacement costs and associated future capital projections are premised on the best available information. Replacement cost methods and sources may include:
  - o OSIM replacement costs values (updated bi-annually)
  - o Updated Roads Needs Study Replacement and Capital Cost Information
  - o Recent asset acquisition costs which may be used as a cost proxy for other comparable assets
  - o Recent capital project costs adjusted to a unit replacement cost. This method is especially applicable to linear assets like roads, mains, hydrants, and streetlighting.
  - o Inflationary adjustments based on acquisition cost. Non-Residential Building Consumer Price Indices are often the most accurate index to use when applying an inflation-based estimate.
- Review asset inventory information to ensure it is accurate, comprehensive, and contains key data points of utility and relevance to asset management decisions. Some specific recommendations by asset category are:
  - o Bridges & Culverts: Identification of associated Road IDs, Inclusion of verbiage related to condition scores
  - o Water, Sanitary Sewer and Stormwater Network: Identification of pipe material, and asset location (i.e. "from manhole", "to manhole")
  - o Machinery & Equipment & Vehicles: inclusion of make and model information, and VIN as applicable

Condition Assessment Strategies

- As the assessed condition of assets information is collected (e.g. updated Road Needs and Bridge and Culvert studies), ensure updates are reflected in Citywide, the asset management tool.
- Consider expanding externally conducted condition assessments to other assts including buildings (through Building Condition Assessments), Water and Sanitary Sewer Main assessments (captured through CCTV methods). If resources are limited, complete the assessments in phases over time, and/or begin with the most critical asset types and sections. Ensure updates are reflected in Citywide.
- Implement a condition assessment program for non-core assets which includes a standardized condition assessment scale with associated reference information (i.e. descriptions, photographs etc.). Establish a standardized assessment frequency and assign internal responsibilities to assess, document, and update the asset registry.

Risk Management Strategies

- Implement risk-based decision-making as part of asset management planning and budgeting processes. This should include the regular review of high-risk assets to determine appropriate risk mitigation strategies. It should also include regular review and update of the models themselves, especially as new or better information emerges.

- Where additional data and information become available due to data enhancements, consider updating risk models to incorporate the new asset data.

Levels of Service

- Continue to measure current levels of service in this AMP and compare to the projected LOS based on the selected Proposed LOS. Over time, review level of service metrics to begin to identify trends (e.g. decreasing or increasing conditions) and to work to understand the underlying causes of such trends. Where the proposed LOS is not being met, explore the causes and, as appropriate, identify potential adjustments to support meeting the proposed LOS.

2 Introduction & Context

2.1 Community Profile

Southgate Township is in the southeastern corner of Grey County in southwestern Ontario. The Township was established on January 1, 2000, through the amalgamation of the Village of Dundalk, and the Townships of Proton and Egremont. Southgate Township includes several communities, with Dundalk and Holstein being the largest. The area is defined by the headwaters of the South Saugeen, Beatty Saugeen, and Grand Rivers.
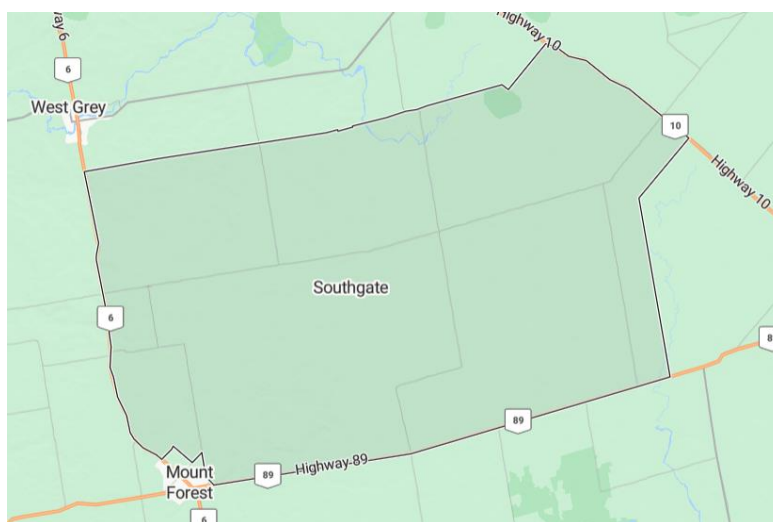

Figure 1: Location of the Township of Southgate

As illustrated in Table 2, Southgate experienced a significant population increase of 18.5% from 2016 to 2021, surpassing both Grey County (7.5%) and the Ontario average growth rate (5.8%). Despite this growth, Southgate maintains a lower population density compared to both the regional and provincial averages, highlighting its potential for further expansion and development while preserving its rural charm.

Census Characteristic	Township of Southgate	Grey County	Ontario
Population 2021	8,716	100,905	14,223,942
Population Change 2016-2021	+18.5%	+7.5%	5.8%
Total Private Dwellings	3,257	50,183	5,929,250
Population Density	13.6/ km²	22.4/ km²	15.9/km²
Land Area	643.08 km²	4,497.93 km²	892,411.76 km²

Table 2 2021 Census data[1]: Township of Southgate, Grey County, and the Province of Ontario

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[1] Census data extracted from Statistics Canada, Census of Population 2021, available at www.statcan.gc.ca.

There is a small-scale industrial sector in the County, which is most concentrated around Dundalk. The Township also promotes economic development through the 220-acre Eco Park, which hosts sustainability focused industries like Lystek, a liquid fertilizer producer, and Gro-Bark, a soil producer.

Tourism in Southgate is expanding through local events and attractions such as the Holstein Maple fest, Dundalk's Fall Fair, and the Hopeville Kite Festival. The area's history, rooted in early European settlement, is complemented by the presence of a thriving Mennonite community. The Grey County CP Rail Trail runs through Dundalk and offers opportunities for outdoor activities like snowmobiling and ATV riding. Southgate also features the Varney International Speedway, an iconic racing venue in Ontario. These attractions highlight the Township's cultural heritage and rural appeal, drawing both locals and visitors to the area.

2.2 Asset Management Overview

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

The acquisition of capital assets typically 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 maintain, rehabilitate and replace existing municipal infrastructure assets.
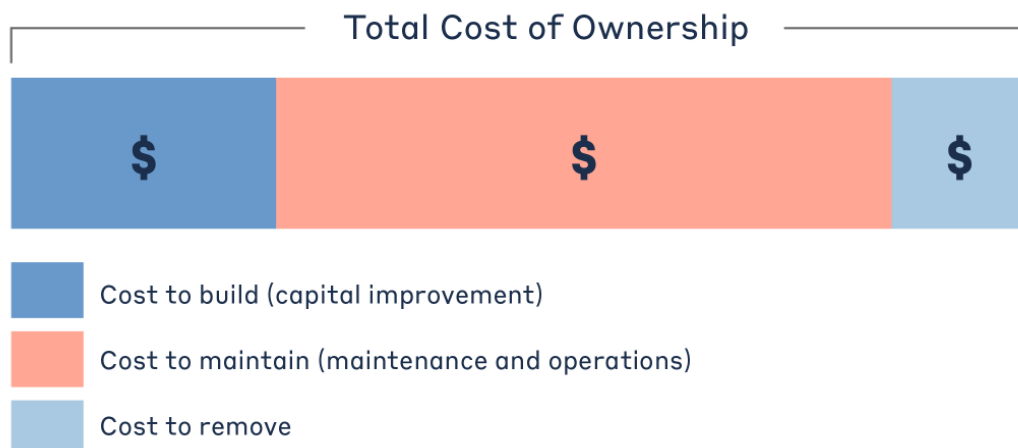
Figure 2 Total Cost of Asset Ownership

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

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

1.1 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. Table 3 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	$$$	♦ 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
and may be affecting asset performance		
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 Township's approach to lifecycle management is described within the State of the Infrastructure Report. 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.
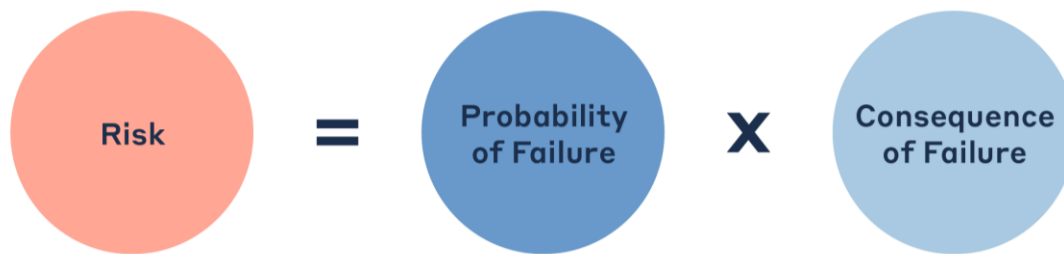
Formula to Assess Risk of Assets

Figure 3 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.

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

Table 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.

Levels of Service

A level of service (LOS) is a measure of the services that the Township 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 Township measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service. At this stage, only those LOS that are required under O. Reg are included.

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

Technical Levels of Service

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

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

Current and Proposed Levels of Service

A current LOS reflects the 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 Southgate Township meets them, while noting any additional considerations made.

Asset Management Policy

The Township of Southgate publicly issued its Asset Management Policy on June 5th, 2019. The Policy is posted on the [Township's webpage](). The Policy is organized into seven (7) primary sections that detail the background, policy purpose, scope and responsibility, and guiding principles. Some especially noteworthy items from the policy include:

Key Objectives:

- o Services are provided in a fiscally responsible manner that supports the community.
- o An aim to apply consistent standards and guidelines for the management of the Township's assets and to consider current and future community needs and economic principles in decisions.

Key Principles:

- o Priorities: the Township shall clearly identify infrastructure *priorities* to drive decisions
- o Transparency: Decisions shall be made in an open and transparent manner, and efforts shall be made to engage public input and share implications of infrastructure and investment decisions

o Existing Plans and Policies: Relevant plans and policies including the Roads Management Study, Bridge Inspection Reports, and Growth Management Plans, shall be reviewed, considered, and accounted for in the development of the Asset Management Plan

Key Responsibilities:

o Staff: Responsible for the implementation and update of the Asset Management Policy and Asset Management Plans and to ensure compliance with Regulation. Section 4 outlines specific staff roles and responsibilities.
o Council: Responsible for overseeing the management of assets including approving Asset Management Planning documents and associated updates.

2.3 Scope & Methodology

2.3.1   Data Effective Date

It is important to note that this plan is based on data as of **December 2024**. This baseline data represents a snapshot in time using the best available processes, data, and information at the Township. Future projections are based on the asset information as of the data effective date (December 2024) forecasted into the future. Forecasts are predicated on key asset information such as the estimated useful life (EUL), condition, and the expected rate of decline of each asset type over time. Strategic asset management planning is an ongoing and dynamic process that requires continuous data updates and dedicated data management resources. Such data updates may change projected data outputs (e.g. projected condition).

2.3.2   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 Township incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.3.3 Estimated Service Life & Service Life Remaining

The estimated useful life (EUL) of an asset is the period over which the Township 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 Township can determine the service life remaining (SLR) for each asset. Using condition data and the asset's SLR, the Township can more accurately forecast when it requires replacement. The SLR is calculated as follows:
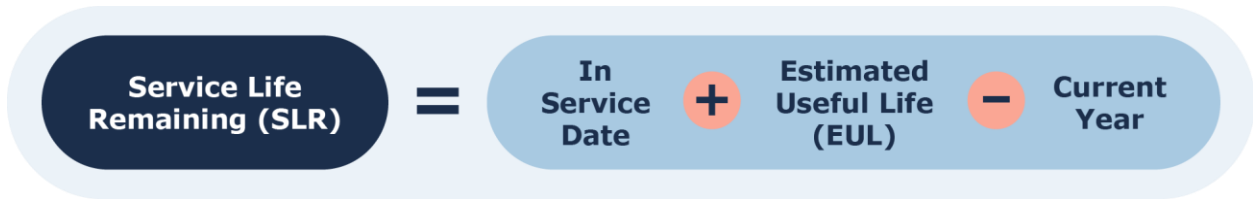
Figure 4 Service Life Remaining Calculation

2.3.4 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 Township can determine the extent of any existing funding gap. The reinvestment rate is calculated as follows:

Figure 5 Target Reinvestment Rate Calculation
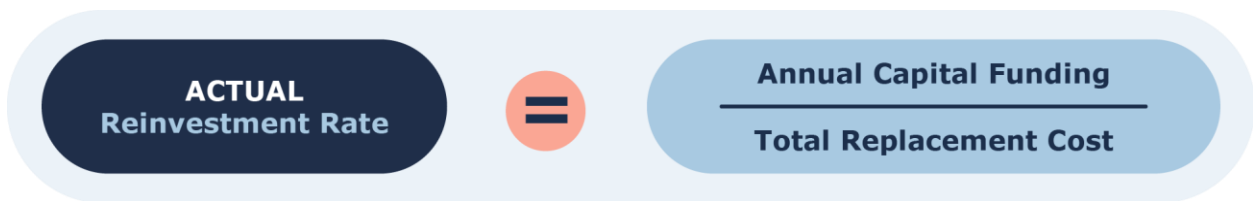
Figure 6 Actual Reinvestment Rate Calculation

2.3.5 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 Township 's asset portfolio. The table below outlines the condition rating system used in this AMP to determine asset condition. This rating system is aligned with the Canadian Core Public Infrastructure Survey which is used to develop the Canadian Infrastructure Report Card. When assessed condition data is not available, service life remaining is used to approximate asset condition.

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

Table 5 Standard Condition Rating Scale

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

2.4   Ontario Regulation 588/17

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

Figure 7 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines. This AMP meets the Phase III, 2025 requirements.

Phase 1
2022

CORE
Assets

Included in your AMP

- Levels of Service
- Performance of each asset category
- Particulars per asset category
- Lifecycle activities to maintain current Level of Service per asset category

Phase II
2024

ALL
Assets

Included in your AMP

- Levels of Service
- Performance of each asset category
- Particulars per asset category
- Lifecycle activities to maintain current Level of Service per asset category

Phase III
2025

ALL
Categories

With additional requirements

- Proposed Levels of Service
- Explanation of proposed Levels of Service
- Proposed performance of asset categories
- Lifecycle management and financial strategy

Figure 7 O. Reg. 588/17 Requirements and Reporting Deadlines

2.4.1 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.

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

Table 6: O. Reg.588/17 2025 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
Why Proposed LOS are Appropriate	6 (1) 2 (i., ii,iii,iv)	5.2	Complete
Proposed LOS Risk Management	6 (1), (B)	5.2.2	Complete
Proposed LOS over 10 years for each asset category	6 (1) 1	5.3.2; Appendix E	Complete
Proposed LOS over 10 years for each asset category	6 (1) 1	5.3.2	Complete
Proposed LOS Financial Strategy	6 (1) 4 (i.,D,ii.,iii.,iv.)	6	Complete

2.4.2 General and Extraordinary Assumptions

The analysis completed throughout this AMP is based on the best available information and data at the time of the document's publication. It is recognized that the noted assumptions and associated information inputs may change over time, and this may affect the Municipality's ability to meet the Proposed LOS or the accuracy of the Proposed LOS reporting.

- Asset condition information is reported based on the relevant studies where available. These are detailed in section 3.6.2, Table 7. Where assessed conditions are not available, conditions are estimated based on the age of the asset relative to its EUL.
- Asset deterioration is based on the asset degradation curve in combination with the respective EUL and where available the reported assessed condition. It is recognized that assets deterioration will not exactly match the forecasted deterioration rate, but the projections represent the best estimation of future conditions.
- Population and economic activity projections are based on the Grey County Growth Management Study. Anticipated costs due to growth that may not be funded by development charges are based on the 2022 Development Charge Report.
- All financial information is based on asset requirement costs as of December 2024 and 2024 budget financial information (i.e. revenues, expenditures, debentures) The impacts of inflation on future expenses and/or revenues are not reflected. Calculated tax and rate changes required to meet the proposed LOS are net of inflationary adjustments.

3 Portfolio Overview

This section of the report summarizes the inventory, condition, age profiles, and other key performance indicators for the Township 's infrastructure portfolio. These details are presented for all core and non-core asset categories. The information presented reflects asset inventory as of December 2024. For the purposes of brevity, portfolio inventory information is presented only. Asset Category inventory and asset management program details are available in the State of the Infrastructure Report.

3.5 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.

Road Network
- Asphalt Roads
- Signs
- Sidewalks
- Streetlights
- Surface Treated Roads

Bridges & Culverts
- Bridges
- Structural Culverts

Water Network
- Water Mains
- Hydrants
- Towers & Wells
- Equipment

Sanitary Sewer Network
- Manholes
- Sanitary Mains
- Treatment Equipment
- Waste Water Treatment Plant (WWTP)

Stormwater Network
- Storm Mains
- Catch Basins
- Culverts

Buildings
- Administration
- Cemetery
- Fire
- Library
- Parks and Recreation
- Public Works
- Waste

Land Improvements
- Cemetery
- Fire
- Parking Lots
- Parks and Recreation
- Waste

Vehicles
- Building Department
- Fire
- Public Works
- Waste

Machinery & Equipment
- Fire
- Furniture and Equipment
- Parks and Recreation
- Public Works
- Waste

Figure 8 Asset Hierarchy and Data Classification

3.6   Portfolio Overview

3.6.1   Total Replacement Cost of Asset Portfolio

The total replacement cost of the asset portfolio as of December 2024 is $294,637,527. This estimate was calculated based on user-defined costing, and inflation of historical costs to the data effective date. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today. Figure 9 illustrates the replacement cost of each asset category; at 40% of the total portfolio, bridges & culverts form the largest share of the Township 's asset portfolio, followed by roads and buildings at 28% and 10% respectively. The remaining asset categories represent more modest shares of the total portfolio value.
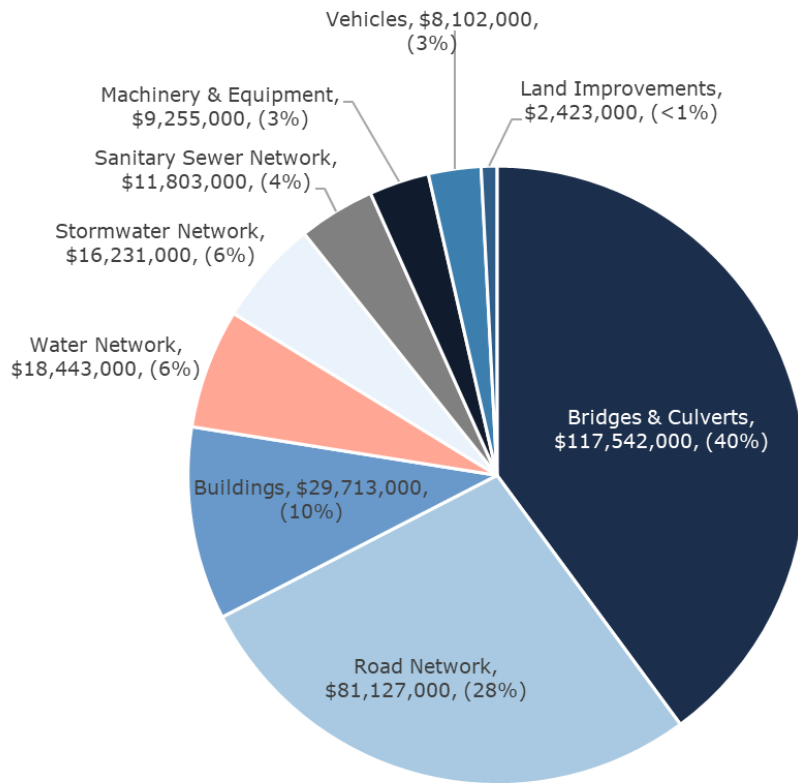

Figure 9 Current Replacement Cost by Asset Category

3.6.2 Condition of Asset Portfolio

Figure 10 and Figure 11 summarize asset conditions at the portfolio and category levels, respectively. Overall, 83% of the Township 's infrastructure portfolio is in fair or better condition, with the remaining assets in poor or worse condition. Typically, assets in poor or worse conditions may require replacement or major rehabilitation in the immediate or short-term.
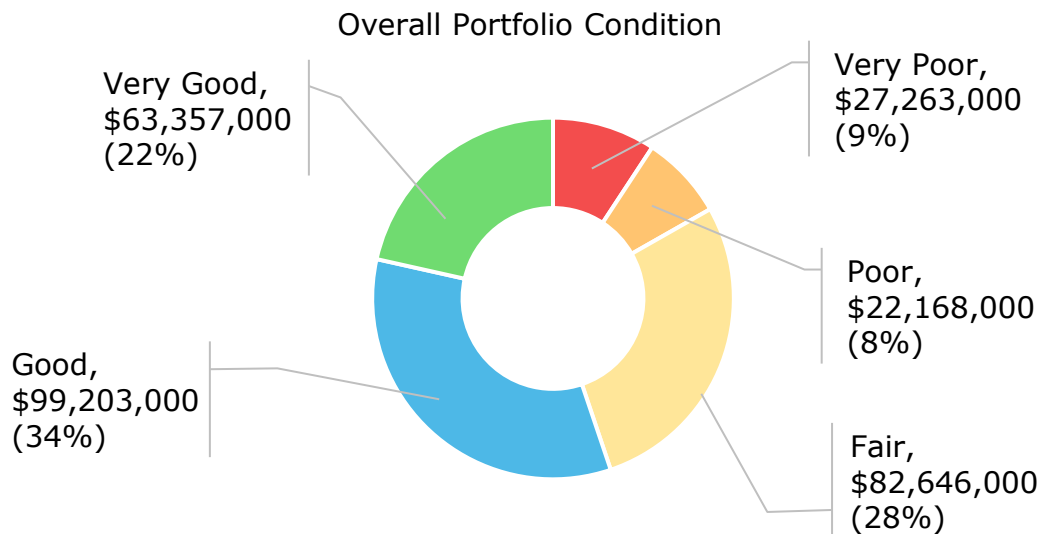

Overall Portfolio Condition

Very Good, $63,357,000 (22%)

Very Poor, $27,263,000 (9%)

Poor, $22,168,000 (8%)

Good, $99,203,000 (34%)

Fair, $82,646,000 (28%)

Figure 10 Asset Condition: Portfolio Overview

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

Assessed condition data was available for most assets except for sanitary sewer network, land improvements, vehicles, and machinery and equipment asset categories. Instead, these asset categories use age-based conditions which are based on an asset's age relative to its estimated useful life. Age-based condition estimates can skew data and lead to potential under or overstatement of asset needs.

As further illustrated in Figure 11 at the category level, most core infrastructure assets are in fair or better condition, based on in-field condition assessment data projected to 2024 year end. Apart from the Sanitary Sewer Network, most core assets are in good or better condition. The Sanitary Sewer Network, Vehicles, Land Improvements, and Machinery and Equipment assets have the largest proportion of assets in poor or very poor condition. However, it is important to note that these asset categories utilize age-based condition which is generally less accurate than assessed condition. Please refer to Table 7 for details on how asset condition data was derived for each asset segment.
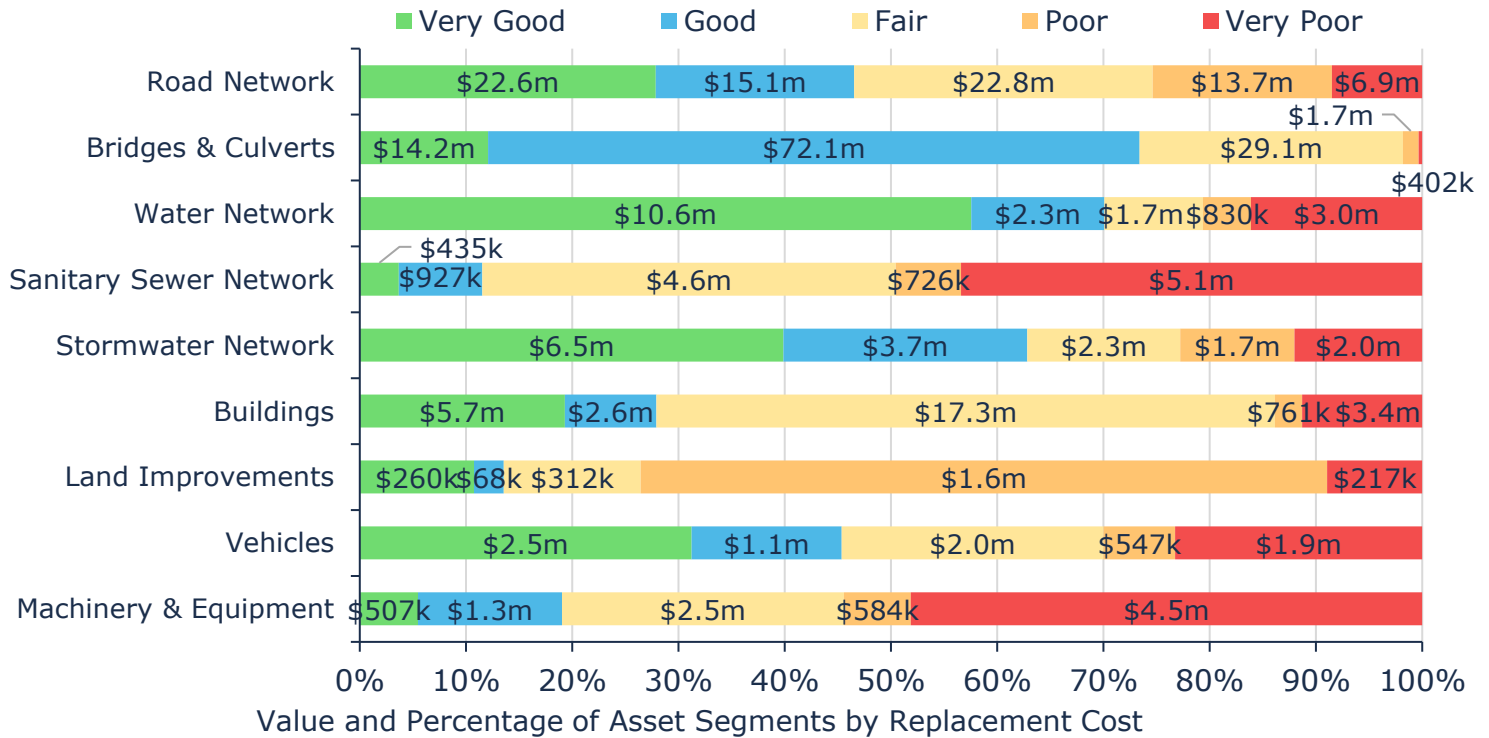
Figure 11 Asset Condition by Asset Category

Source of Condition Data

When weighted by replacement cost, this AMP relies on assessed condition for 78% of assets. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it more accurately reflects the condition and performance functionality of assets. 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 Roads Surface Treated Roads	100%	Triton Engineering
	Sidewalks, Signs, Streetlights	0%	N/A
Bridges & Culverts	Bridges Culverts	100%	R.J. Burnside & Associates Limited
Stormwater Network	Culverts	100%	R.J Burnside & Associates
	Catch Basins, Storm Mains	0%	N/A

22

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Buildings	Administration, Fire, Library, Public Works	100%	2022 Domm Worksheet
	Cemetery	19%	
	Parks and Recreation	75%	
	Waste	29%	
Land Improvements	All	0%	N/A
Vehicles	All	0%	N/A
Machinery & Equipment	All	0%	N/A
Water Network	Towers & Wells	37%	N/A
	Water Mains	14%	Township Staff
	Equipment & Hydrants	0%	N/A
Sanitary Sewer Network	All	0%	N/A

Table 7 Source of Condition Data

3.6.3 Service Life Remaining

Figure 12 below outlines the service life remaining by asset category. When reviewing this information by asset category, the road network and bridges and culverts have the largest proportion of assets with over 10 years of service life remaining. However, it is important to note that in both cases there are strategically scheduled rehabilitation activities that are expected to preserve the asset condition. Therefore, capital investment activities will still be required within the period, but relatively few replacement activities are anticipated.

Conversely, sanitary sewer network and machinery equipment assets, have a larger proportion of assets with service life expired or 5 years of less of service life remaining.
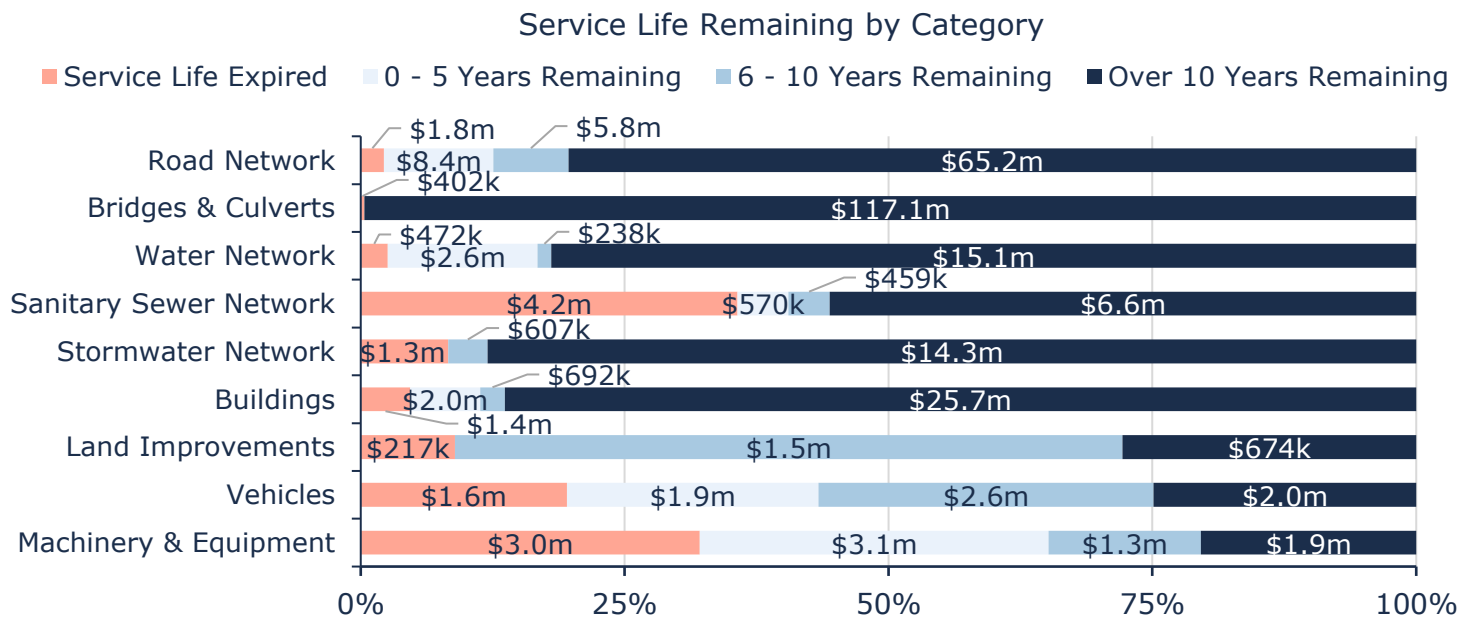

Figure 12 Service Life Remaining by Asset Category

3.6.4 Risk Matrix

Using the risk equation and preliminary risk models outlined in Appendix D, Figure 13 shows how the Township's assets are stratified within a risk matrix.
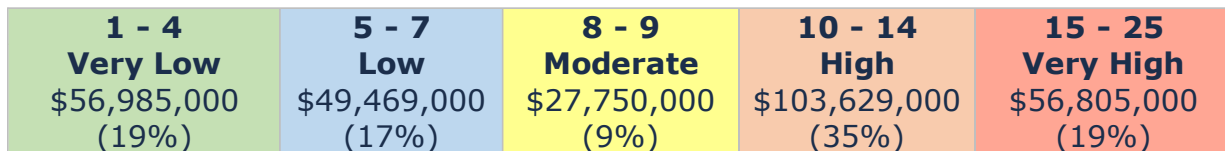
1 - 4 **Very Low** $56,985,000 (19%)	5 - 7 **Low** $49,469,000 (17%)	8 - 9 **Moderate** $27,750,000 (9%)	10 - 14 **High** $103,629,000 (35%)	15 - 25 **Very High** $56,805,000 (19%)

Figure 13 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 19% of the Township's assets, with a current replacement cost of approximately $56.8 million, carry a risk rating of 15 or higher (red) out of 25. Assets in this group generally are identified as high risk for the following key reasons: they have poor asset conditions and therefore a high probability of failure, and/or they have high replacement costs and therefore a high consequence of failure. In some cases, this is combined with the asset delivering an essential service and/or impacting a high number of people if they fail (i.e. roads with high traffic).

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

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

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

Qualitative Risk

In addition to quantified risk as summarized above, the Township has noted key trends, challenges, and risks to service delivery that they are currently facing. The most prominent risks identified are:

Asset Data Confidence

Asset data confidence has improved significantly through this project and in many cases, there is much higher confidence in the asset information used. However, there remains significant data gaps in asset age and various asset attributes. In addition, many categories are lacking standardized condition rating criteria. These limitations reduce the reliability of long-term lifecycle planning and hinder proactive reinvestment efforts. Through this project and the Township's continued commitment to collection and update of asset information this risk has substantially been reduced, and it is expected that it will continue to decline in severity.

Aging Infrastructure and Infrastructure Reinvestment

Historically, lifecycle management strategies are considered more reactive than proactive. It is a challenge to find the right balance between maintenance, capital rehabilitation, and reconstruction. For many assets, although internal assessments are conducted, maintenance is limited by financial availability. For others, in the absence of mid-lifecycle rehabilitative events, the assets are simply maintained with the goal of full replacement once they reach end-of-life. This approach increases the risk of higher lifecycle costs, emergency repairs, and service disruptions. Developing well-defined rehabilitation and renewal strategies, supported by sustainable annual funding, will be essential to reducing reliance on reactive management and minimizing the deferral of critical capital works.

Organizational Capacity

Limited staff capacity and reliance on external funding create challenges for proactive asset management. While staff have strong knowledge of asset conditions, competing operational priorities limit the time and resources available for strategic lifecycle planning. Major renewal projects in multiple asset categories depend heavily on grants or other external sources, which can delay implementation when funding is not secured. Establishing predictable, sustainable funding streams and ensuring adequate staffing resources will be critical to improving long-term planning, reducing deferred works, and maintaining service levels.

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 Township 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 Reference Information

Southgate's future growth and development are guided by the Township's 2022 Official Plan, which conforms to Grey County's 2019 Official Plan.

Grey County's Official Plan, approved by the Province in 2019, provides a framework for guiding the growth of municipalities within the county. The plan, updated through the Recolour Grey initiative, sets out goals for development, community building, and the management of natural resources. It divides the county into different land use categories, such as agricultural, wetland, and urban, with specific policies for each. The plan is designed to be active for 20 years, with periodic revisions to ensure its relevance and effectiveness. The plan was shaped by extensive public engagement, gathering input from a diverse range of stakeholders to identify priorities and opportunities for growth over the next two decades.

The Township of Southgate's 2022 Official Plan is a comprehensive document that provides a framework for the municipality's future growth and development. This plan serves as a strategic guide for decision-making related to land use, infrastructure, and community building. The plan is designed to balance the needs of a growing population with the preservation of Southgate's unique rural character and environmental assets. It addresses a wide range of topics, including growth projections, settlement areas, housing, the countryside, and the environment, among others. This plan is a key tool for shaping the future of Southgate and ensuring its sustainable development for years to come.

2022 Development Charges Background Study meets the requirements of the Development Charges Act 1997 (s.10) and makes recommendations for development charges and policies for the Township of Southgate. This includes the identification of capital costs benefiting existing development arising from growth. As these costs are not recoverable through development charges they are identified as a growth cost and are reflected in the proposed LOS Financial analysis herein.

Southgate's 2022 Official Plan incorporates the growth projections outlined in Grey County's 2021 Growth Management Strategy. As illustrated in Table 8, Southgate is expected to experience continued population growth, with over 4,000 new permanent residents and 2,040 new households anticipated by 2046. This growth is projected to place Southgate as the second-highest percentage

share of new housing in Grey County, behind only the Township of the Blue Mountains. Additionally, the Strategy forecasts the creation of 1,000 new jobs in Southgate between 2021 and 2046. The strategy also recommends that the county monitor Southgate's development to ensure that the Township's growth is supported by adequate sanitary sewer services. Furthermore, a detailed review of growth is advised if the Township decides to upgrade its wastewater facility, ensuring that infrastructure can meet the needs of the expanding population.

Growth Forecasts from Grey County's Growth Management Strategy (2021)					
	Municipality	**2021**	**2046**	**Growth**	**Share**
Population	Township of the Blue Mountains	9,550	16,300	6,750	28.30%
	Township of Chatsworth	7,240	7,980	740	3.10%
	Township of Georgian Bluffs	11,210	12,780	1,570	6.60%
	Municipality of Grey Highlands	10,590	11,920	1,330	5.60%
	Township of Hanover	8,450	11,870	3,420	14.40%
	Municipality of Meaford	11,800	13,480	1,680	7.10%
	Township of Southgate	**8,610**	**12,780**	**4,170**	**17.50%**
	Municipality of West Grey	13,360	15,110	1,750	7.30%
	City of Owen Sound	22,510	24,910	2,400	10.10%
Household	Township of the Blue Mountains	4,400	7,990	3,590	29.80%
	Township of Chatsworth	2,770	3,070	300	2.50%
	Township of Georgian Bluffs	4,540	5,240	700	5.80%
	Municipality of Grey Highlands	4,190	4,810	620	5.10%
	Township of Hanover	3,650	5,350	1,700	14.10%
	Municipality of Meaford	5,150	6,270	1,120	9.30%
	Township of Southgate	**3,280**	**5,320**	**2,040**	**16.90%**
	Municipality of West Grey	5,410	6,250	840	7.00%
	City of Owen Sound	10,140	11,270	1,130	9.40%
Employment	Township of the Blue Mountains	5,220	6,810	1,590	18.30%
	Township of Chatsworth	1,560	1,860	300	3.50%
	Township of Georgian Bluffs	3,570	4,310	740	8.50%
	Municipality of Grey Highlands	4,320	5,030	710	8.20%
	Township of Hanover	5,120	6,590	1,470	16.90%
	Municipality of Meaford	3,700	4,350	650	7.50%
	Township of Southgate	**2,120**	**3,120**	**1,000**	**11.50%**

Growth Forecasts from Grey County's Growth Management Strategy (2021)				
Municipality of West Grey	3,550	4,230	680	7.80%
City of Owen Sound	14,390	15,930	1,540	17.70%

Table 8: Growth Projections extracted from the County of Grey's 2021 Growth Management Strategy

4.2 Impacts of Growth on Lifecycle Activities

Several Plans and studies were reviewed to identify the long-term growth projections for the Township of Southgate. The studies reviewed are as follows:

- 2022 Development Charges Background Study
- County of Grey's 2021 Growth Management Strategy
- Township of Southgate's 2022 Official Plan
- Grey County's official plan

The following are key details and associated impacts on lifecycle activities and financial projections based on the above noted reports:

- Since 2016 the Township of Southgate has experienced significant growth both relative to growth of other municipalities in the County of Grey and across the Province of Ontario.
- Future growth projections continue to be significant for Southgate Township (17.5% increase projected between 2021 and 2046). The intent as per the Official plan is to generally direct development to the designated settlement areas of the Township[3], especially to Dundalk. Residential development will focus on intensification, redevelopment and new residential development. Limited residential development may occur outside of the designated settlement areas so long as private water and sanitary sewer services are feasible. These areas shall remain protected countryside and there are no plans to have municipal water or sanitary sewer services.
- Employment opportunities shall be encouraged within the Township's Eco-park in Dundalk.
- Most capital costs arising from growth will be paid for by development charges. The additional tax revenues from the new growth are expected to cover the lifecycle costs of the net new capital assets.
- A small portion of capital costs arising from growth will benefit existing development and these costs cannot be paid for by development charges. These capital costs and their projected timing are reflected as a future capital cost and included in the financial analysis herein.

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[3] These are Dundalk, Holstein, Varney, Dromore, Swinton Park, Cedarville, Hopeville and Wilder Lake.

5   Proposed Levels of Service

5.1 Overview

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

Current Levels of Service (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 *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.

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 the proposed LOS for the Township, three suitable proposed LOS options were selected and analyzed. To identify suitable proposed LOS options to analyze and ultimately to select one as the Proposed LOS, the following review process was conducted:

1. **Strategic Document Review:** Understand important policies and plans and relevant Proposed LOS considerations
2. **Resident & Council Surveys:** Understand residents' experience with infrastructure, priorities for investment, and willingness to invest in infrastructure. Understand councils' perception of resident's experience with infrastructure, priorities for investment and supported investment levels and strategies.
3. **Staff Surveys:** Investigate staff's experience managing the Township's assets and their opinion of how current LOS should change over time and why.
4. **Proposed LOS Discovery Session:** A workshop with key Township staff to outline key findings from items 1-3 above, alongside the State of the Infrastructure Report, and considering this to identify three Proposed LOS options to be modelled.
5. **Proposed LOS Analysis:** The three Proposed LOS options were modelled; analysis of associated cost, risk, and costs were provided to key stakeholders.
6. **Proposed LOS Selection:** One of the three Proposed LOS options, one is selected.

1. Strategic Document Review

Relevant strategic documents were reviewed to identify infrastructure and asset management priorities and goals which may help guide suitable Proposed LOS options for analysis. These documents, and key details include:

A. Township's Community Strategic Plan (2023-2027)

The Township's Community Strategic Plan seeks to advance the goals of the municipality and is guided by the following principles:

1. Fiscal Responsibility
2. Transparency
3. Enhancing Resiliency

Core values of the plan are:

1. Community
2. Equity, Diversity, Inclusion, and Accessibility
3. Collaboration
4. Reliability and Integrity

Key Details and considerations from the Strategic Plan in the context of Proposed LOS are:

- The Township values public input and seeks to support public awareness and openness. Resident feedback in the context of evaluating proposed LOS options is important.
- The Township seeks to provide operational excellence and identified diligent maintenance and long-term sustainability of their assets as an important demonstration of it.
- Roads and Bridges are a prioritized asset category (Goal 12.F). Proposed LOS scenarios should consider this.

B. Township of Southgate: Official Plan

The Official Plan was formally adopted in May 2022. Its purpose is to shape the Township's physical, social, and economic environment by establishing a general vision and a series of core values that are to be reflected in planning decisions. This plan in particular focuses on where growth shall be focused, and the forms and characteristics of growth that the Township most supports. The Plan identifies growth focused to Settlement Areas, especially Dundalk where there is water and wastewater servicing. Development outside of these areas will require private service.
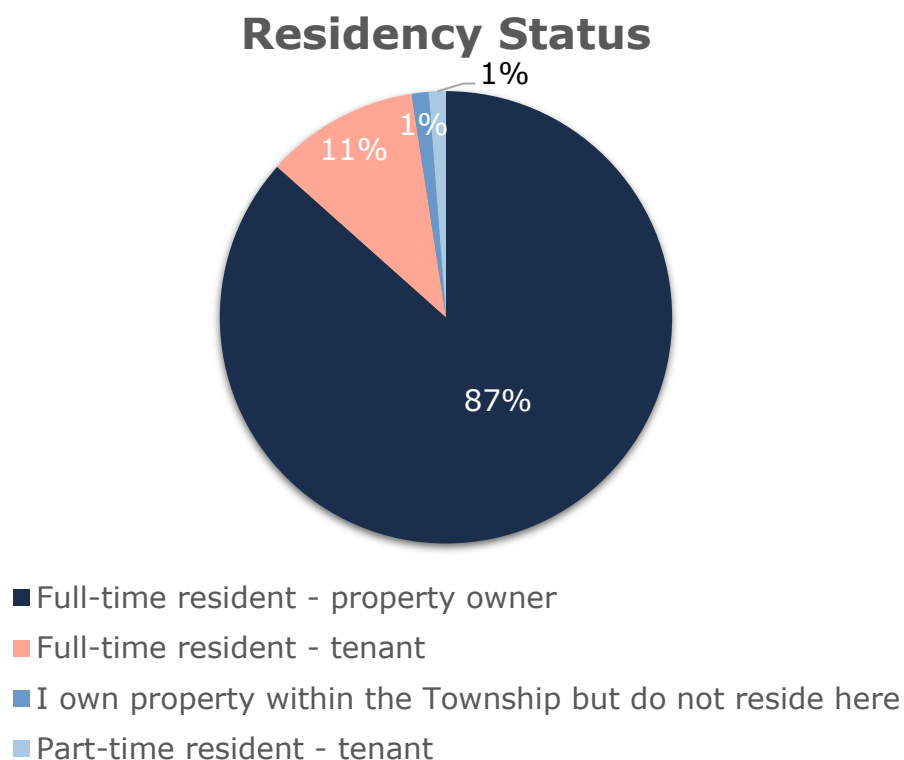
2. Resident & Council Surveys

The Township of Southgate issued a resident survey in the spring of 2025. Paper copies of surveys were available at the Municipal Office and the library. Surveys were also made available online through the Township's website and social media pages. The survey was posted on the Township's website and their social media pages. In total, 164 responses were submitted, representing a 5 % household response rate. The survey contained a total of 15 questions regarding satisfaction levels with various municipal infrastructure assets and provided an

opportunity for additional feedback. A copy of the survey is provided in Appendix A. Key findings of relevance to selecting proposed LOS options include the following:

Survey Response Demographics

- **Residency Status**: Most respondents (87%) are full-time property owners, followed by full-time tenants (11%), and non-resident property owners or part-time tenants (1% respectively). Please refer to Figure 14.
- **Planning Area**: Nearly half of respondents (47%) live in urban areas, 43% in rural areas, and 10% in semi-urban areas. Please refer to Figure 15.
- **Age Range**: Over half of respondents (53%) are between 45–64 years old, about one third (30%) are between 30–44 years of age, with the balance over 65 years (11%) or between 15–29 years of age (6%). Please refer to Figure 16.

Residency Status

- Full-time resident - property owner
- Full-time resident - tenant
- I own property within the Township but do not reside here
- Part-time resident - tenant

Figure 14 Residency Status of Southgate's Respondents

Distribution of Responses by Planning Area

■ Rural ■ Semi Urban ■ Urban
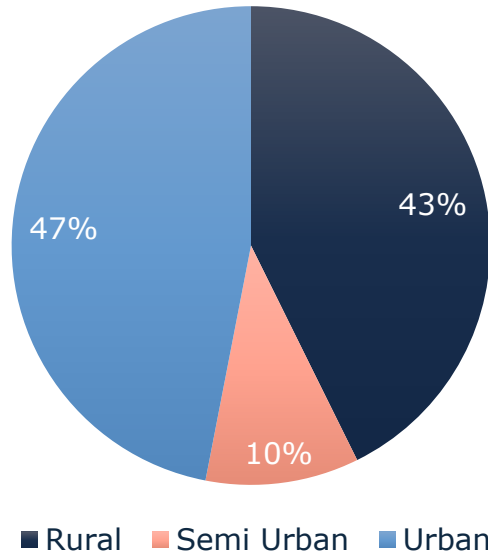
Figure 15 Distribution of Southgate's Responses by Planning Area

Respondent's Age Breakdown
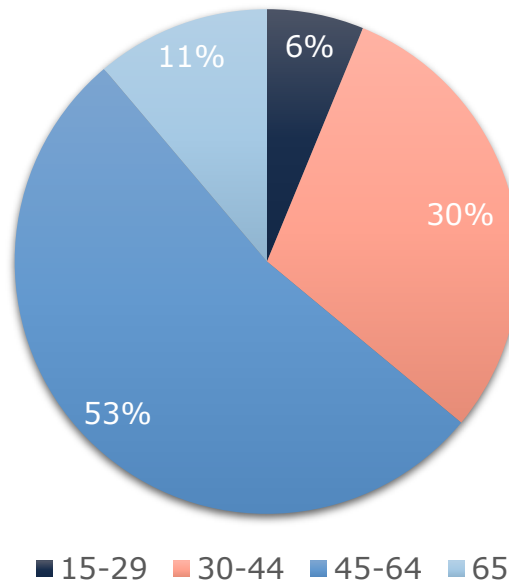

■ 15-29 ■ 30-44 ■ 45-64 ■ 65

Figure 16 Southgate's Respondent's Age Breakdown

When asked to identify the importance of various features in making Southgate Township a great place to live, the five (5) highest levels of importance were as follows:

1. Emergency services (92%)
2. Safe and well-maintained roads and bridges (91%)
3. Affordable living (73%)

4. Communication from the Township (70%)
5. Public safety and community spirit (70%).

Maintenance of public property (67%) and economic investment and local jobs (65%) also ranked highly. By contrast, lower levels of importance were given to heritage or historical opportunities (28%) and arts, culture, and heritage opportunities (25%). This is summarized in Figure 17 below.

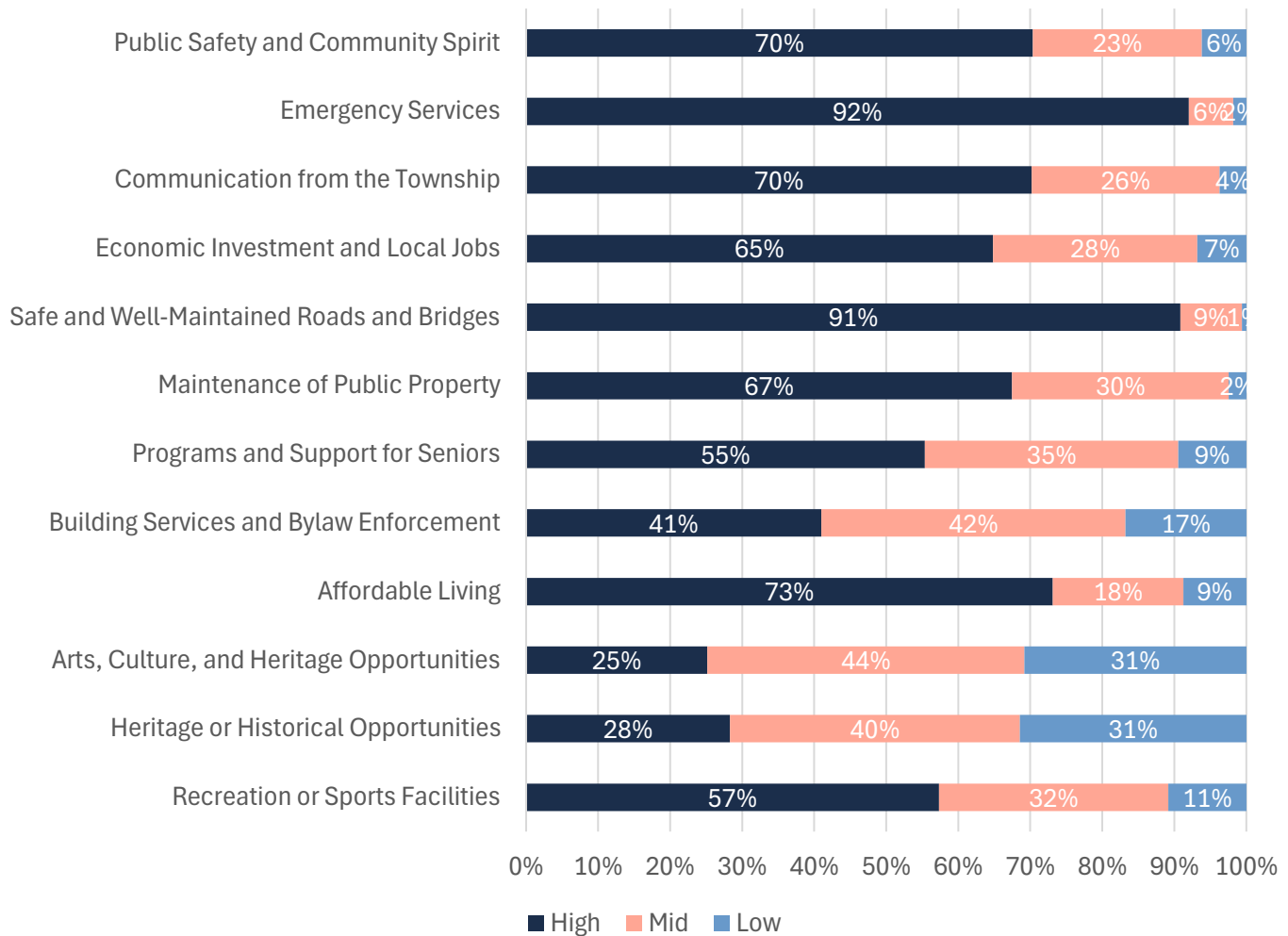## Important Features for Quality of Life in Southgate

Figure 17 Importance of Features in Making Southgate Township a Great Place to Live

When asked to identify the importance of municipal services, the five highest levels of importance were placed on:

1. Emergency services (86%)
2. Roads and bridges (84%)
3. Waste management services (72%)
4. Water services (66%)

5. Stormwater management (60%)

Moderate importance was given to land use and development planning (50%) and economic development initiatives (46%), while lower importance was assigned to natural attractions and conservation areas (39%), building services and bylaw enforcement (39%), and historical sites and services (20%). This is summarized in Figure 18 below.
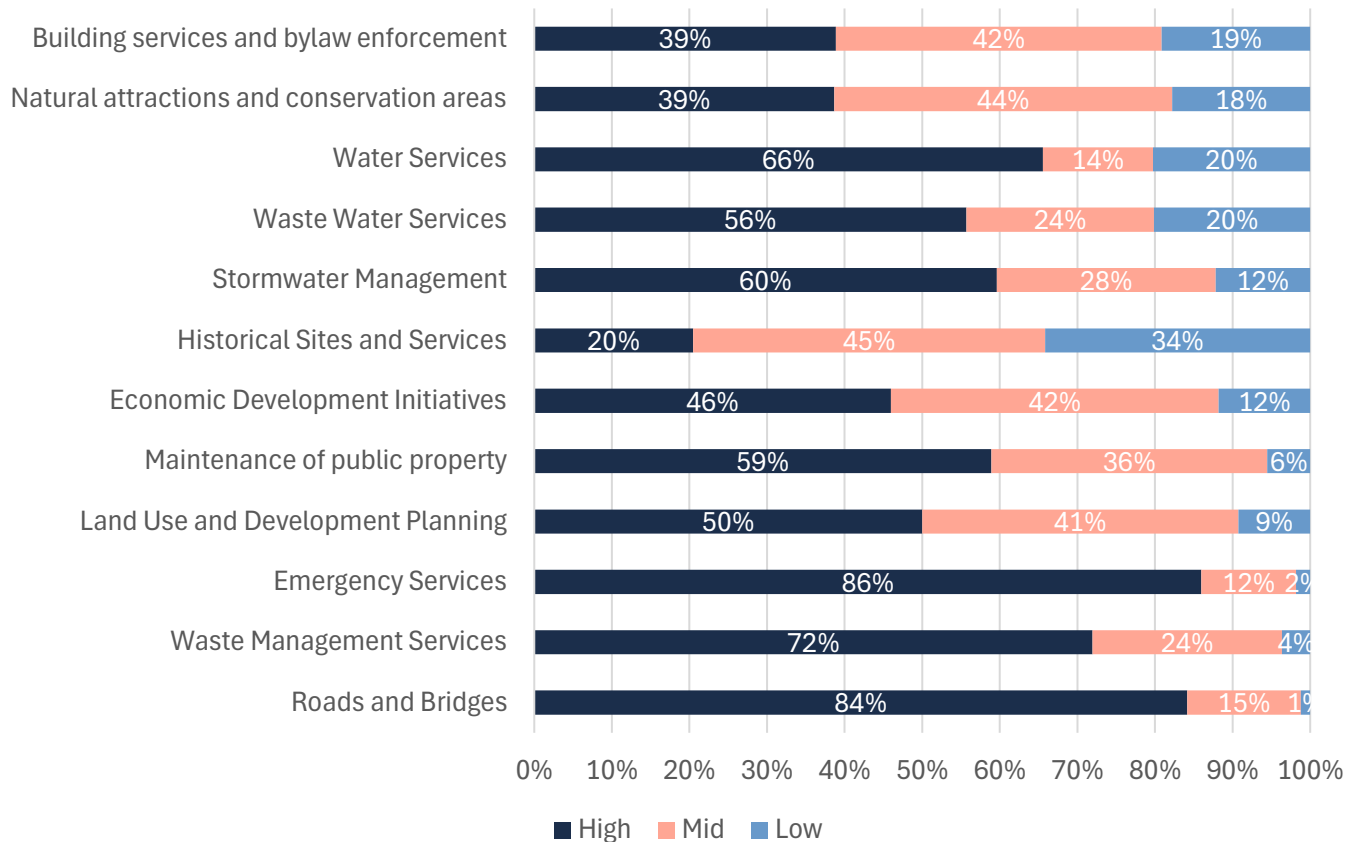
Importance of Municipal Services to Households

Figure 18 Importance of Municipal Services to Households

Respondents rated their review of infrastructure performance based on availability, reliability and condition, and safety. As indicated in Table 9, the highest rate of dissatisfaction based on an average of the three performance measures is within the road network.

Table 9: Asset Performance Evaluation

Dissatisfaction Rate by Performance Measure				
Asset Category	Availability	Reliability & Condition	Safety	Combined Average
Road Network	40%	38%	38%	38.6%

Dissatisfaction Rate by Performance Measure				
Asset Category	Availability	Reliability & Condition	Safety	Combined Average
Bridges & Culverts	9%	10%	10%	9.6%
Stormwater Network	13%	10%	12%	11.6%
Parks and Recreation	16%	12%	14%	14%
Water Services	14%	7%	10%	10.3%
Sanitary Sewer Services	8%	4%	6%	6%

Respondents were asked for each asset category what changes in service levels they desired. Nearly half (48%) supported increasing service levels for roads and bridges, while parks and recreation (39%), and emergency services (27%) also showed demand for improvement. Most other services, including waste management, and stormwater were largely preferred to be maintained. This is summarized in Figure 19 below.

Resident Preferences on Municipal Service Levels
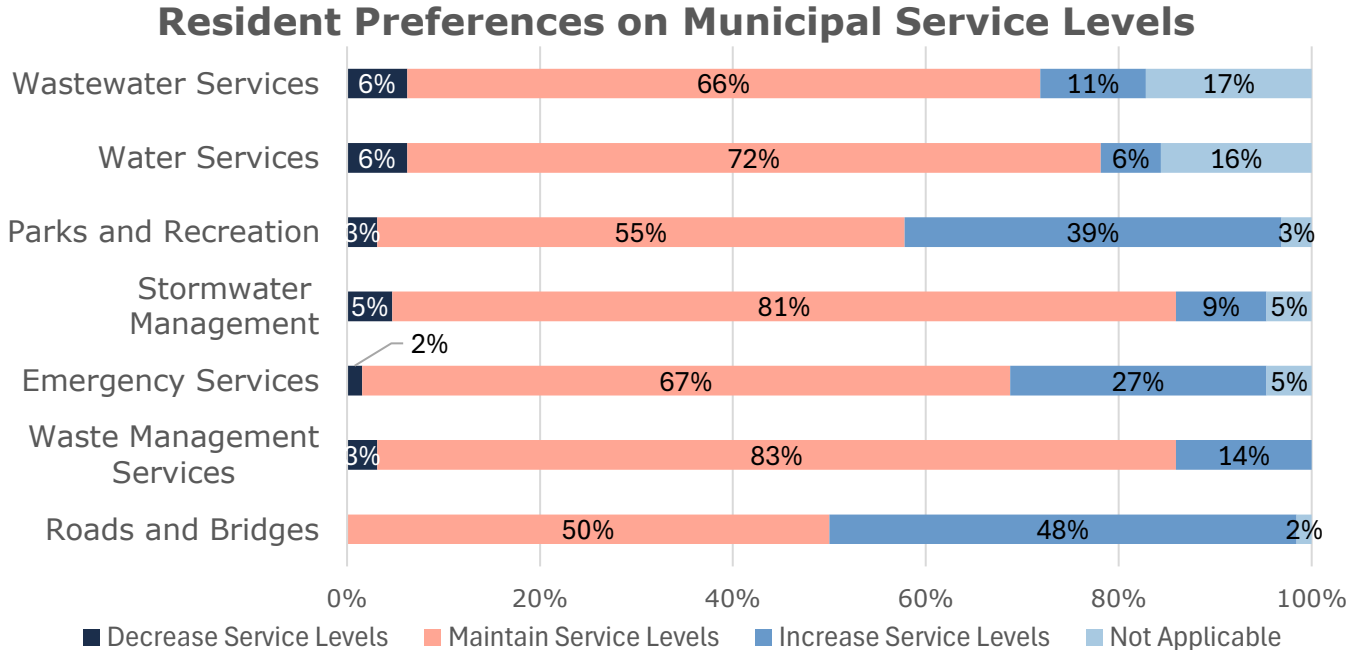
Figure 19 Survey Responses on Increasing, Maintaining, or Decreasing Service Levels

It is crucial to recognize that service level changes hold associated costs. The Township's current level of capital investment is significantly less than optimal capital investment. Optimal capital investment is based on the cost of replacing every asset when its estimated useful life is reached

and completing rehabilitation activities for roads and bridges and culverts. Therefore, maintaining existing service levels (e.g. average condition) will require increased investment levels. Further, increasing service levels would require even more substantial investment. With this dynamic in mind, respondents were asked to describe their willingness to pay for service improvements. The asset categories with the largest proportion of respondents that were willing or somewhat willing to pay for improvements are:

1. Roads and bridges (83%)
2. Stormwater management (70%)
3. Emergency services (66%).

Willingness to pay was lower for other services, including waste management (25%), land use and development planning (49%), and water and wastewater services (46% and 40% respectively). This is summarized in Figure 18 below.

Spending Preferences and Willingness to Pay for Service Improvements
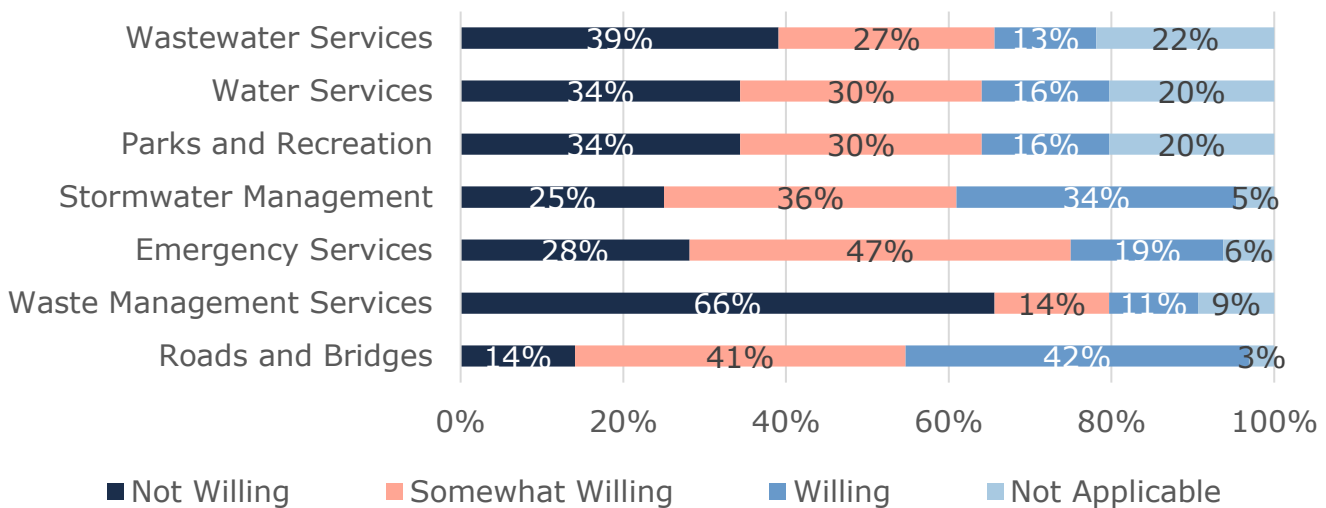
Figure 20 Resident Preferences on Spending and Paying for Improvements

Council Survey

The Township's council was given an opportunity to complete a survey as well. The council survey sought to understand councils' perceptions and preferences for the following:

* Quality of services delivered by the Township
* Quality of Township's communication to council and residents
* Rate of Complaints and Responsiveness of Staff
* Infrastructure Priorities and Financial Approach to addressing Infrastructure needs

Key findings: Communication & Service Quality

- All respondents are at least moderately satisfied with the services delivered by the Township, and most are satisfied or very satisfied.
- All respondents felt adequately informed about the Township's services
- Across most asset categories respondents noted that they rarely hear complaints from constituents except for the road network which all respondents indicated they hear either an expected number or too many complaints on. Bridges and culverts, Buildings, Fleet, and Machinery and equipment categories received a mix of rarely hearing complaints or an expected number of complaints. The water network had one incident of too many complaints. This is highlighted in Figure 21 below.
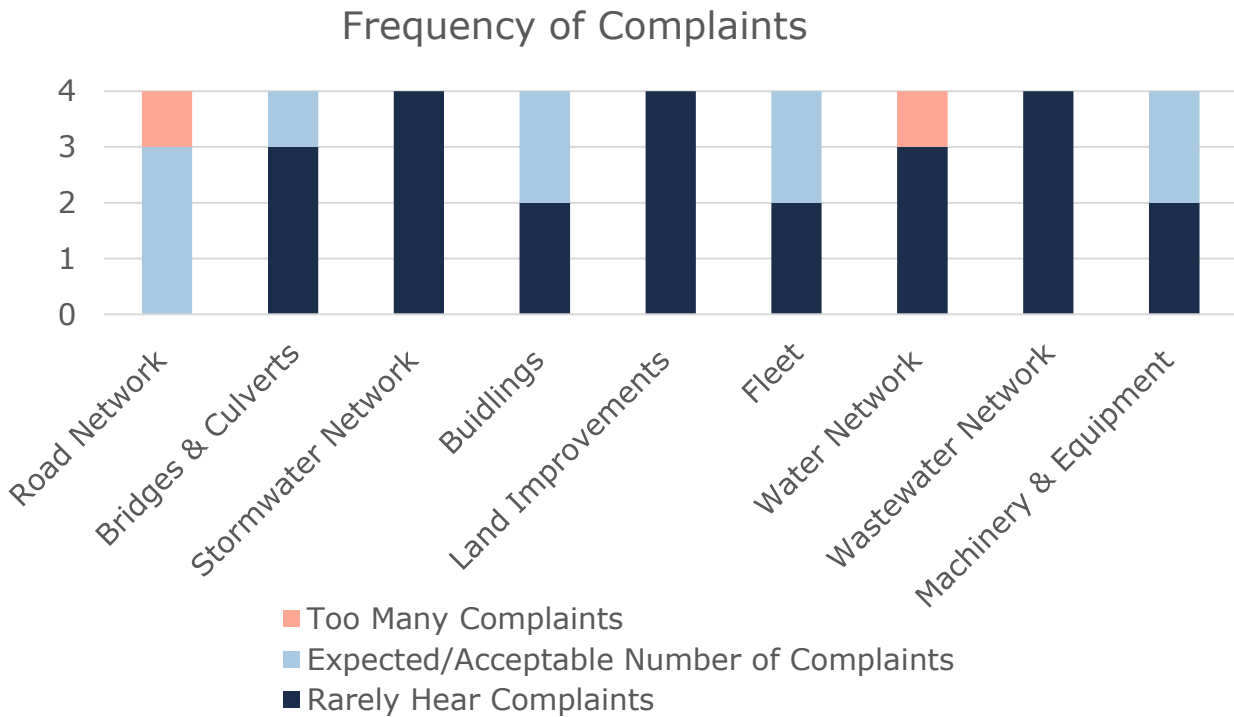

Figure 21: Residents' Complaints Received by Council

Key findings: Infrastructure Priorities and Financial Approach to Addressing Infrastructure Needs

Respondents indicated recognition that it will take time to increase capital funding levels and, in most cases, identified a desire to increase funding to top priority asset categories first. This is summarized in Figure 22 below.

Capital Funding Strategy
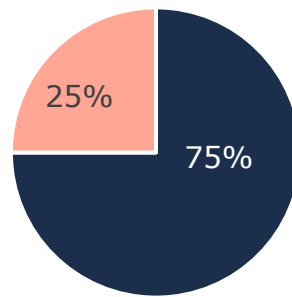
- Increase funding to top priority asset categories first, then fill in the gap with the remaining categories later
- Increase funding to all categories proportionally, so all asset categories benefit the same amount, slowly over time

Figure 22: Council Survey Financial Approach to Addressing Infrastructure Gap

Consistent with the findings from the resident survey, council respondents identified the road network as the priority for investment followed by bridges and culverts and stormwater. This is highlighted in Figure 23 below.

Asset Category Prioritization
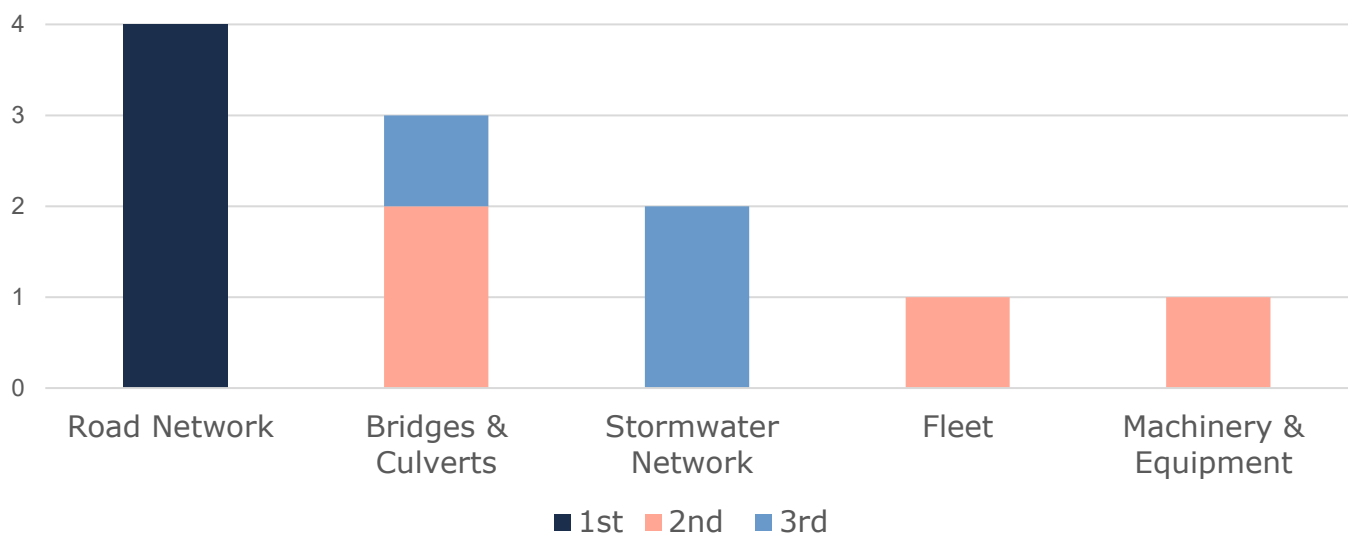
Figure 23: Priority of Investment

Council respondents also indicated a willingness to adjust taxation levels to maintain the Township's infrastructure. The amount of increase respondents felt their constituents would accept varied between 2-8% per year with most respondents indicating an annual increase of 2-3%. This is summarized in Figure 24 below.

Rate Change Appetite
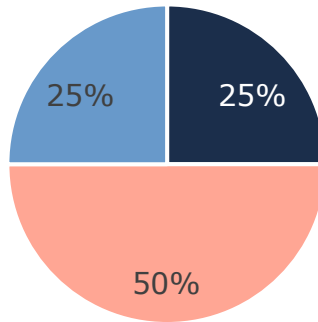
- 6-8% per year (over ~5 years, then stabilize to inflation)
- 2-3% per year (over ~15 years, then stabilize to inflation)
- 4-5% per year (over ~10 years, then stabilize to inflation)

Figure 24: Taxation Changes to Support Infrastructure Needs

In most cases, council respondents recognized that increased taxation would work towards maintaining service levels rather than increasing them. This is highlighted in Figure 25 below.

Taxation Changes & Expected Service Levels
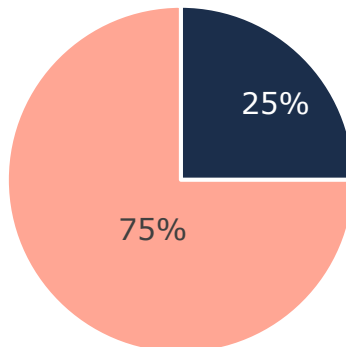
- We should substantially increase taxes to improve/enhance the services offered by the Township
- We should increase taxes to ensure the services at the Township remain the same

Figure 25 Taxation Changes & Expected Service Levels

3. Staff Surveys

Staff involved in the management of infrastructure assets were surveyed to better understand their perspectives and insights on current level of service and proposed LOS considerations. Key findings from these surveys are:

- The road network was identified as in need of improvement most
- Throughout all asset categories insufficient capital budget commonly noted; simultaneously needed budget viewed as unrealistic to implement. Therefore, phased budget increase is likely most suitable**.**

4. Discovery Sessions

Findings from the resident and staff surveys, the Strategic Plan, and the State of the Infrastructure report were consolidated, and a meeting was held with Township staff to review and discuss findings.

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

Table 10: Annual Capital Budgets by PLOS Scenario

Scenario Number	Name	Description
1	Priority Categories 70% AAR, everything else the same	Maintain current investment for everything except for roads, bridges and culverts, and land improvements (priority categories): a. Roads- investment at 70% of average annual requirement (AAR) b. Bridges and Culverts- investment at 70% of AAR c. Land Improvements- investment at 70% of need
2	2% Annual Increase to max AAR	Current capital investment in all asset categories with a 2% annual increase until the AAR is reached.
3	70% AAR all categories	Annual Capital Investment of 70% of AAR across asset categories

The above scenarios represent the Proposed LOS options. General infrastructure and operational risks associated with each scenario option are summarized in section 5.2.2. below.

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. Achievability
3. Affordability (discussed in Section 6)

The proceeding sections outline the above noted considerations and analysis information.

Proposed LOS Options: Risks

Table 11 below details the qualitative risks associated with each of the Proposed LOS and the anticipated relative severity of each scenario.

Table 11: Proposed LOS Option Risks

Risks Associated with Proposed LOS Options			
Applicable Scenario(s)	**Relative Severity**	**Risk**	**Defined**
1: 70% to Priority Categories	Lowest	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 burden on rate payers, they are considered an unsustainable revenue source. The Township will be more vulnerable to changes in provincial and federal policy and funding programs.
2: 2% Annual Increase	High		
3: 70% AAR Funded	Moderate		
1: 70% to Priority Categories	High (Long-term) Low (Short-term)	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 and replacements to maintain service.
2: 2% Annual Increase	Low (long-term), high (short-term)		
3: 70% AAR Funded	Moderate (all time periods)		

Risks Associated with Proposed LOS Options			
Applicable Scenario(s)	**Relative Severity**	**Risk**	**Defined**
1: 70% to Priority Categories	High	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.
2: 2% Annual Increase	Low		
3: 70% AAR Funded	Moderate		
1: 70% to Priority Categories	Moderate	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 Township does not have functional assets that are critical to their operations.
2: 2% Annual Increase	High initially, Reducing over time		
3: 70% AAR Funded	Lowest		

Proposed LOS Options: Achievability

Additional considerations for the achievability were explored. These are summarized in Table 12 below:

Table 12: LOS Options Achievability Considerations

Considerations	Key Findings
Resourcing: Can the scenario be resourced (internally or externally)?	In all scenarios staff determined that most required contract administration would be resourced externally. Based on this approach, no concerns were presented about the ability to execute the capital events required under any scenario.
Long-term Execution: Are the required taxation/rate changes likely to be consistently passed for the required period?	Scenarios 1 and 3 are predicted on a consistent level of funding which would be approved within one budget period. In contrast scenario 2 requires a consistent 2% annual funding increase until the average annual requirement is funded, which would take several decades for some asset categories. It is likely that over this period the required investment levels are not consistently supported, and the proposed LOS is not achievable.

Considerations	Key Findings
Dynamic Data: Are the projections reasonable baseline estimates?	As noted in the State of the Infrastructure Report, asset data and information is dynamic. New condition assessments are expected in 2026 for the Road Network, and these will result in changes to the current average condition. This will impact future projections of asset conditions even with the same budget constraints. It is noted that condition forecasts provide a general understanding of the trends anticipated and that exact projections are unlikely to materialize.

Many of the risks noted in Table 12 above are due to declining asset conditions. Table 13 below, summarizes the average long-term condition by asset category and by scenario. The weighted average long-term condition is highest (or best) under scenario two, second best for scenario three and the worst under scenario one. At the asset category level, condition scores are the same for scenarios 1 and 3 for the road network, bridges & culverts, and land improvements as the funding level (70% of the average annual requirement) is the same in both scenarios. For the other asset categories, conditions are the lowest in scenario one, this is because the investment levels are lowest under this scenario.

Table 13: Risks by PLOS Scenario and Asset Category

Asset Category	Average Condition		
	Scenario 1: 70% AAR Priority Categories	Scenario 2: 2% Annual Increase	Scenario 3: 70% AAR All
Road Network	46.27%	57.18%	46.27%
Bridges & Culverts	53.82%	54.67%	53.82%
Stormwater Network	28.75	45.33	40.52
Facilities	22.69%	40.09	34.89
Land Improvements	50.53%	49.78%	50.23%
Vehicles	19.85	38.87	30.35
Machinery & Equipment	17.35%	37.32%	28.65%
Water Network	20.14%	25.99%	41.73%
Sanitary Sewer Network	8.66%	15.43%	29.40%
Weighted Average	**39%**	**48%**	**44%**

In addition to the above noted qualitative risks, there are measurable risks held by each asset. Risks are quantified based on the respective probability and consequence of asset failure models detailed in Appendix E – Proposed LOS Models: Results. Across the three scenarios, the following patterns emerge:

- Scenario One (70% AAR Priority Categories) has the highest level of risk for everything except roads, bridges and culverts, and land improvements.
- Scenario two (2% annual increase): Risk levels slowly reduce overtime as investment levels increase.
- Scenario three (70% AAR, all): Risk is initially lowest but overtime it is second lowest (with scenario two being the lowest).

Table 14 below illustrates the average risk by asset category under each scenario in the long term. Overall, risk scores are similar between scenarios, however there are more significant differences at the asset category level especially for the road network, stormwater network, vehicles, and machinery and equipment.

Table 14: Average Risk by Scenario

	Average Risk		
Asset Category	**Scenario 1: 70% AAR Priority Categories**	**Scenario 2: 2% Annual Increase**	**Scenario 3: 70% AAR All**
Road Network	10.34/25	8.65/25	10.34/25
Bridges & Culverts	9.82/25	9.68/25	9.82/25
Stormwater Network	9.42/25	7.79/25	8.27/25
Facilities	19.64/25	16.03/25	17.19/25
Land Improvements	3.91/25	3.98/25	3.94/25
Vehicles	12.17/25	9.62/25	10.83/25
Machinery & Equipment	10.2/25	7.92/25	9.43/25
Water Network	16.44/25	15.82/25	13.56/25
Sanitary Sewer Network	16.83/25	16.28/25	14.56/25
Weighted Average	**11.71/25**	**10.26/25**	**11.03/25**

Proposed LOS Options: Affordability & Strategic Alignment

The discovery session provided several key insights that guided priority areas of investment. Notable items are:

- o Importance of balancing infrastructure investment levels with ratepayer affordability
- o Priority to focus investment on the road network, bridges & culverts, and land improvements

Considering the above, investment levels under each scenario were strategically allocated based on asset category. Table 15 below identifies the percentage of the average annual requirement (AAR) funded under each scenario by asset category and overall. Within Scenario 1, the road network, bridges and culverts, and land improvements are priority categories and have a higher proportion of their AAR funded.

Table 15: Scenarios & Percentage of Average Annual Requirement Funded

Asset Category	Scenario 1: 70% AAR Priority Categories	Scenario 2: 2% Annual Increase (by year 10)	Scenario 3: 70% AAR All
Road Network	70%	69%	70%
Bridges & Culverts	70%	69%	70%
Stormwater Network	41%	51%	70%
Facilities	41%	51%	70%
Land Improvements	70%	51%	70%
Vehicles	41%	51%	70%
Machinery & Equipment	41%	51%	70%
Water Network	7%	9%	70%
Sanitary Sewer Network	11%	14%	70%
Total	**57%**	**59%**	**70%**

5.3 Selected Proposed LOS

The three above noted scenarios were analyzed and results were reviewed and presented to the Township's Council. With consideration for achievability, risks, and affordability, the Township of Southgate selected **Scenario 2: 2% Annual Increase for tax funded assets** and **Scenario 3 for rate funded assets** as their Proposed Level of service. The financial strategy and 10-year capital forecasts reported herein reflect the selected scenarios.

Scenario 2: Tax Funded Assets

Scenario 3: Rate Funded Assets (Water Network, Sanitary Sewer Network)

5.3.1 Required Lifecycle Strategies

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

Table 16 Lifecycle Changes Required to Meet PLOS

Asset Category	Lifecycle Changes to Reach PLOS	Reference Information
Road Network	No significant lifecycle changes, annual capital spending increases only.	
Bridges & Culverts	No significant lifecycle changes, annual capital spending increases only.	
Stormwater Network	Enhancement and improved documentation of assessed condition information anticipated to improve PLOS outcomes; annual capital spending increase otherwise.	
Buildings	Enhancement and improved documentation of assessed condition information anticipated to improve PLOS outcomes, annual capital spending increase otherwise.	Current Lifecycle Management Strategies outlined in the State of the Infrastructure Report
Water Network	Enhancement and improved documentation of assessed condition information anticipated to improve PLOS outcomes; annual capital spending increase otherwise.	
Sanitary Sewer Network	Enhancement and improved documentation of assessed condition information anticipated to improve PLOS outcomes; annual capital spending increase otherwise.	
Land Improvements	No significant lifecycle changes, annual capital spending increases only.	
Vehicles	No significant lifecycle changes, annual capital spending increases only.	
Machinery & Equipment	No significant lifecycle changes, annual capital spending increases only.	

Changes to Community and Technical Levels of Service for Scenario 1

The Township of Southgate anticipates that qualitative community levels of services will change in this period in parallel with technical LOS. For example, if the average condition of assets declines the community LOS, which describes condition, will reflect a lower average condition. All asset categories will see adjustments to their technical levels of service over time, particularly relating to capital reinvestment rate and average condition of assets. Proposed LOS are informed by the above noted levels of investment; these values are summarized in the next section.

5.3.2 Proposed LOS Over 10 Years

The proposed LOS is based on each asset category's metrics and the funding levels as discussed earlier.

Table 17 below summarizes the proposed LOS overtime. The trend description summarizes how the metric is projected to change over the 10-year period.

Table 17: Proposed LOS: Average Condition Metrics

Year Category	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
					Average Condition								
Road Network	63%	64%	65%	64%	62%	62%	61%	61%	60%	58%	58%	57%	
Bridges & Culverts	67%	68%	67%	67%	65%	65%	64%	63%	61%	60%	59%	57%	
Stormwater Network	28%	62%	61%	60%	59%	58%	57%	56%	54%	53%	53%	52%	Decline
Buildings	48%	52%	48%	49%	46%	42%	39%	35%	32%	29%	28%	25%	
Water Network	69%	69%	68%	66%	65%	63%	66%	66%	65%	65%	64%	64%	
Sanitary Sewer Network	32%	34%	34%	34%	34%	33%	33%	33%	33%	33%	33%	33%	Maintain
Land Improvements	38%	48%	47%	51%	48%	45%	47%	44%	56%	56%	53%	49%	Increase
Vehicles	51%	49%	44%	42%	40%	35%	35%	31%	32%	31%	30%	29%	
Machinery & Equipment	30%	29%	27%	25%	24%	23%	23%	22%	22%	21%	20%	19%	Decline

Table 18: Proposed LOS: Average Risk Metrics

Year Category	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	'35	Trend
						Average Risk							
Road Network	8.03	7.52	7.16	7.79	7.92	7.74	7.94	7.97	8.05	8.21	8.46	8.89	
Bridges & Culverts	10.6	7.27	7.33	7.32	7.5	7.53	8.31	8.32	8.68	8.75	8.88	9	
Stormwater Network	6.89	6.07	6.14	6.26	6.86	6.89	7.12	7.37	7.42	7.48	7.28	7.23	
Buildings	13.07	15.5	15.5	14.75	14.84	15.23	15.26	19.26	19.26	19.45	19.08	19.47	
Land Improvements	7.74	4.15	4.13	4.08	4.53	4.72	4.54	4.62	3.51	3.54	3.99	4.14	Decline
Vehicles	7.37	7.87	8.75	8.76	9.42	10.06	10.04	10.22	10.28	10.38	10.97	11.21	
Machinery & Equipment	9.46	8.79	9.26	9.09	9.35	9.70	9.6	9.66	9.84	10.02	10.07	10.12	
Water Network	5.99	6.78	6.71	8.02	7.99	8.01	7.62	7.6	7.48	7.35	7.31	7.34	
Sanitary Sewer Network	10.9	12.36	12.24	12.17	12.25	12.16	12.08	13.91	13.84	13.72	13.72	13.63	

Table 19: Proposed LOS Capital Reinvestment Rate Metrics

Capital Reinvestment Rate vs. Target Reinvestment Rate												
Year	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	Trend
Road Network	1.72%	1.8%	1.8%	1.8%	1.9%	1.90%	1.94%	1.98%	2.01%	2.05%	2.10%	
Bridges & Culverts	1.33%	1.4%	1.4%	1.4%	1.4%	1.47%	1.50%	1.53%	1.56%	1.59%	1.62%	Increase
Stormwater Network	0.83%	0.8%	0.9%	0.9%	0.9%	0.92%	0.93%	0.95%	0.97%	0.99%	1.01%	
Buildings	1.40%	1.4%	1.5%	1.5%	1.5%	1.55%	1.58%	1.61%	1.65%	1.68%	1.71%	

Capital Reinvestment Rate vs. Target Reinvestment Rate											
Year	'24	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34	Trend
Land Improvements	1.39%	1.4%	1.4%	1.5%	1.5%	1.54%	1.57%	1.60%	1.63%	1.66%	1.70%	
Vehicles	3.48%	3.6%	3.6%	3.7%	3.8%	3.85%	3.92%	4.00%	4.08%	4.16%	4.25%	
Machinery & Equipment	3.53%	3.6%	3.7%	3.7%	3.8%	3.89%	3.97%	4.05%	4.13%	4.21%	4.30%	
Water Network	0.1%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	1.32%	Maintain 2026 Onwards
Sanitary Sewer Network	0.2%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	

Table 20: Mandate LOS Metrics, Future Projections

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	N/A	2024 levels +/- 5%[4]	Maintain
	Lane-km of collector roads per land area (km/km2) 0.33 km/km2	0.33 km/km2		
	Lane-km of local roads per land area (km/km2) 0.56 km/km2	0.56 km/km2		
Bridges & Culverts	% of bridges in the Township with loading or dimensional restrictions	20%[5]	2024 levels +10-15%[6]	Declining

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[4] Some level of change is anticipated due to recent new subdivision development adding additional local and collector roads to inventory, but it is anticipated to have a minor impact to the LOS.

[5] Overall, 20% of the Townships bridges or 8% of all bridges and structural culverts have load restrictions.

[6] As the AAR will be underfunded, it is anticipated that the state of bridges and culverts will decline and this may increase the number of assets with loading or dimensional restrictions.

Mandated LOS Metrics (Core Assets only)				
Category	**Metric**	**2024**	**2025-2034**	**Trend**
Water Network	% of Dundalk properties connected to the municipal water system	99%	2024 levels	Maintain
	% of Dundalk properties where fire flow is available	100%		
	# 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. 1460	0-8[7]	Decrease
	# 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	4 vs. 1460	2024 levels +/- 25%[8]	Decrease
Sanitary Sewer Network	% of properties connected to the municipal wastewater system: Dundalk Area	99%	2024 levels +/- 5%	Maintain
	# of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system	2 Vs. 1412	2024 levels +/- 5%	Maintain
	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	3 Vs. 1412	2024 levels +/- 5%	Maintain

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[7] The Township will continue operating the water treatment plant to the highest standard, however lower levels of investment may increase the risk of adverse water events and associated boil water advisories.
[8] The Township will continue to operate the distribution system to the highest standard, however investment levels are anticipated to be less than the required investment causing a decline in condition and an increase rate of unexpected asset failure, which may include water main breaks.

Financial Strategy

6 Financial Strategy Overview

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 Township of Southgate to identify the financial resources required for sustainable asset management based on existing asset inventories, proposed levels of service, and projected growth requirements.

The Township's State of the Infrastructure Report identified the financial requirements for:
  a. Existing assets
  b. Existing service levels
  c. Requirements of contemplated changes in service levels (none identified in the 2024 plan)
  d. Requirements of anticipated growth (none identified)

This plan (2025 AMP) identifies the financial requirements to meet the identified proposed LOS and meet anticipated costs of growth. It is based on the financial requirements for existing assets; however, the required funding is based on meeting the proposed LOS with consideration for any additional financial impacts from economic and population growth. The financial plan considers and accounts for traditional and non-traditional sources of municipal funding, which are:
  2. Use of traditional sources of municipal funds:
      a. Tax levies
      b. User fees
      c. Debt
      d. Development charges
  3. Use of non-traditional sources of municipal funds:
      a. Reallocated budgets
      b. Partnerships
      c. Procurement methods
  4. Use of Senior Government Funds:
      a. CCBF (Formerly Gas Tax)
      b. Ontario Community Infrastructure Fund (OCIF)
      c. Annual grants

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

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

1. 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 Proposed LOS: Annual Requirements & Capital Funding

The annual requirements represent the annual allocation required to meet the proposed LOS. For the Township of Southgate, the proposed LOS provides for an annual capital investment of $5,064,000 (by year 10) for tax funded assets and $401,000 for rate funded assets. Generally, this means that under this proposed LOS assets are being replaced later than recommended. However, it should be noted that this level of investment is a significant increase from the current level of investment ($4,155,000 tax funded assets and $50,000 rate funded assets) and therefore the proposed LOS is still higher than it would be if existing levels of capital funding continued.

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

6.1.1 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately $4,205,000,000 towards capital projects per year. Given the annual capital requirement of $5,465,000 under the selected proposed LOS scenario, there is currently a funding gap of $1,261,000 annually.

6.1.2 Funding Objective

We have developed a scenario that would enable Southgate Township's to achieve full funding required to meet the proposed LOS within 1 to 20 years for the following assets:
1. **Tax Funded Assets:** Road Network, Bridges & Culverts, Stormwater Network, Facilities, Land Improvements, Vehicles, and Machinery & Equipment
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.

6.2 Financial Profile: Tax Funded Assets

6.2.1 Current Funding Position

The following tables show, by asset category, Southgate Township's average annual asset investment requirements to meet the proposed level of service by year 10, their current funding positions, and funding increases required to achieve funding levels required for the selected proposed LOS.

Table 21: Proposed LOS Current Funding Position

| Asset Category | Avg. Annual Requirement (PLOS; yr 10) | Annual Funding Available | | | | | Annual Deficit |
		Taxes	Gas Tax	OCIF	Capital Reserve Allocation	PLOS	PLOS
Road Network	$1,700,464	$363,493	$128,795	$247,981	$654,704	$ 305,491	$305,491
Bridges & Culverts	$1,908,302	$407,189	$145,237	$279,639	$733,407	$ 342,830	$342,830
Stormwater Network	$164,011	$48,032			$86,513	$ 29,465	$ 29,465
Buildings	$508,885	$149,033			$268,430	$ 91,422	$ 91,422
Land Improvements	$41,084	$12,032			$21,671	$ 7,381	$ 7,381
Vehicles	$343,962	$100,733			$181,435	$ 61,794	$ 61,794
Machinery & Equipment	$397,724	$116,478			$209,794	$ 71,451	$ 71,451
Total	**$5,064,432**	**$1,196,990**	**$274,032**	**$527,620**	**$2,155,955**	4,154,597	**$909,835**

To meet the proposed LOS, the average annual investment requirement for the above categories is $5,064,432. Annual revenue currently allocated to these assets for capital purposes is $4,154,597 leaving an annual deficit of $909,835. Put differently, the current level of investment is 82% of the investment needed to achieve the proposed LOS.

6.2.2 Full Funding Requirements

In 2024, Township of Southgate had budgeted annual tax revenues of $11,486,493. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding to meet the proposed LOS would require the following tax change over time:

Table 22: Tax Changes Required

Asset Category	Tax Change Required for PLOS
Road Network	2.7%
Bridges & Culverts	3.0%
Stormwater Network	0.3%
Buildings	0.8%
Land Improvements	0.1%
Vehicles	0.5%
Machinery & Equipment	0.6%
Total	**8.0%**

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

a) Southgate Township is anticipated to incur capital costs associated with growth that are considered Benefits to Existing development and may not be funded by development charges. These costs must be funded through the taxation base. These estimates are defined in the Township's Development Charges Background Study and the average annual expenditure is noted in Table 23 below.
b) Southgate Township's debt payments for these asset categories will be decreasing by $166,748 by 2030 and by $245,212 by 2035

Our recommendations include accounting for the Benefits to Existing Development and allocating future debt changes to the infrastructure deficit outlined above. The table below outlines the financial impacts of not reallocating and reallocating debt and presents several time-period options:

Table 23: Recommended Reallocations

	Without Capturing Changes				With Capturing Changes			
	5 Years	10 Years	15 Years	20 Years[9]	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit (PLOS)	$909,835	$909,835	$1,436,945	$2,018,917	$909,835	$909,835	$1,436,945	$2,018,917
Plus: Benefit to Existing Development	$1,148,423	$1,219,145	$1,242,815	$1,254,649	$1,148,423	$1,219,145	$1,242,815	$1,254,649
Change in Debt Costs	n/a	n/a	n/a	n/a	$-166,748	$-245,212	$-245,212	$-245,212
Resulting Infrastructure Deficit:	$2,058,258	$2,128,980	$2,679,760	$3,273,566	$1,414,089	$1,883,768	$2,434,548	$3,028,354
Tax Increase Required	17.9%	18.5%	23.3%	28.5%	12.3%	16.4%	21.2%	26.4%
Annually:	3.40%	1.80%	1.5%	1.3%	2.4%	1.6%	1.3%	1.2%

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[9] The proposed LOS is based on a 2% annual increase from current capital investment. The infrastructure deficit reports the same amounts in years 5 and 10 to ensure that the projected outcomes by year 10 can be met. The amounts required by years 15 and 20 represent the capital fundings required at that time based on the 2% annual increase.

6.3 Financial Profile: Rate Funded Assets

6.3.1   Current Funding Position

The following table shows, by asset category, Southgate Township's average annual asset investment requirements to meet the proposed level of service, the Township's current funding positions, and funding increases required to meet the selected proposed LOS.

Table 24: Proposed LOS Current Funding Position

Asset Category	Avg. Annual Requirement (PLOS; yr 10)	Annual Deficit	
		Rates	PLOS
Water Network	$ 243,666	$25,000	$218,666
Sanitary Sewer Network	$157,309	$25,000	$132,310
Total	**$400,976**	$50,000	**$350,976**

To meet the proposed LOS, the average annual investment requirement for the above categories is $400,976. Annual revenue currently allocated to these assets for capital purposes is $50,000 leaving an annual deficit of $350,976. Put differently, the current level of investment is 12% of the investment needed to achieve the proposed LOS.

6.3.2 Full Funding Requirements

In 2024, Township of Southgate has annual rate revenues of $933,000 for water and $1,035,000 for the sanitary sewer network. As illustrated in Table 25 below, without consideration of any other sources of revenue or cost containment strategies, full funding to meet the proposed LOS would require the following rate changes over time:

Table 25: Rate Changes Required

Asset Category	Tax Change Required for PLOS
Water Network	23.4%
Sanitary Sewer Network	14.2%
Total	**37.6%**

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

a) Southgate Township is anticipated to incur capital costs associated with growth that are considered Benefits to Existing development and may not be funded by development charges. These costs must be funded through the taxation base. These estimates are defined in the Township's Development Charges Background Study and the average annual expenditure is noted in Table 26 below.

b) Southgate Township's debt payments for these asset categories will be decreasing by $166,748 by 2030 and by $245,212 by 2035.

Our recommendations include accounting for the Benefits to Existing Development and allocating future debt changes to the infrastructure deficit outlined above. Table 26 and Table 27 below outline the financial impacts of not reallocating and reallocating debt and present several time-period options to phase in the funding increase:

Table 26: Water Network Recommended Rates & Reallocations

	Water Network							
	Without Capturing Changes				**With Capturing Changes**			
Time (Years)	**5**	**10**	**15**	**20**	**5**	**10**	**15**	**20**
Infrastructure Deficit (PLOS)				$218,666				
Plus: Benefit to Existing Development		$87,150					$87,150	

Water Network							
Without Capturing Changes				With Capturing Changes			
Time (Years)	**5**	**10**	**15**	**20**	**5**	**10**	**15**	**20**
Change in Debt Costs	n/a	n/a	n/a	n/a		$127,001		
Resulting Infrastructure Deficit:		$305,816				$178,815		
Tax Increase Required	32.8%	32.8%	32.8%	32.8%	19.2%	19.2%	19.2%	19.2%
Annually:	**5.9%**	**2.9%**	**2.0%**	**1.5%**	**3.6%**	**1.8%**	**1.2%**	**0.9%**

Table 27: Sanitary Sewer Network Recommended Rate and Reallocations

Time (Years)	5	10	15	20
Infrastructure Deficit (PLOS)			$132,310	
Plus: Benefit to Existing Development			$25,000	
Change in Debt Costs[10]			$0	
Resulting Infrastructure Deficit:			$157,310	
Tax Increase Required	15.2%	15.2%	15.2%	15.2%
Annually:	2.9%	1.5%	1.0%	0.8%

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[10] There are no projected changes in debt costs over the 20-year analysis period. Therefore, this table has been simplified.

6.3.3 Financial Strategy Recommendations

With all things considered, we recommend the 5-year option for both tax and rate funded assets. This involves proposed levels of service being achieved over 5 year or less by:

a) Increasing tax revenues by 3.4% each year for the next 5 years to meet the funding levels required by year 10. In Year 10 re-examining the current funding relative to the identified needs in years 11-20 to determine additional tax revenue changes required. It is anticipated that annual tax rate increases between 1.3% and 1.5% will be required in years 11-20 to meet the proposed LOS.
b) Increasing Water rate revenues by 3.6% each year for the next 5 years solely for the purpose of phasing in the proposed levels of service for asset categories covered in this section of the AMP.
c) Increase sanitary rate revenues by 2.9% each year for the next 5 years solely for the purpose of phasing in the proposed levels of service for asset categories covered in this section of the AMP.
d) Upon debt expiration, reallocating debt payments to capital allocations.
e) Reallocating appropriate revenue from categories in a surplus position to those in a deficit position.
f) Allocating the current OCIF revenue as outlined previously.
g) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. We realize that raising revenues for infrastructure purposes may be challenging. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.
2. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable, since this funding is a multi-year commitment[11].

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

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[11] The Township 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   Use of Debt

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

a) the ability to stabilize tax & user rates when dealing with variable and sometimes uncontrollable factors

b) equitable distribution of the cost/benefits of infrastructure over its useful life

c) a secure source of funding

d) flexibility in cash flow management

Debt management policies and procedures with limitations and monitoring practices should be considered when reviewing debt as a funding option. In efforts to mitigate increasing commodity prices and inflation, interest rates have been rising. Sustainable funding models that include debt need to incorporate the now current realized risk of rising interest rates. The following graph shows the historical changes to the lending rates:
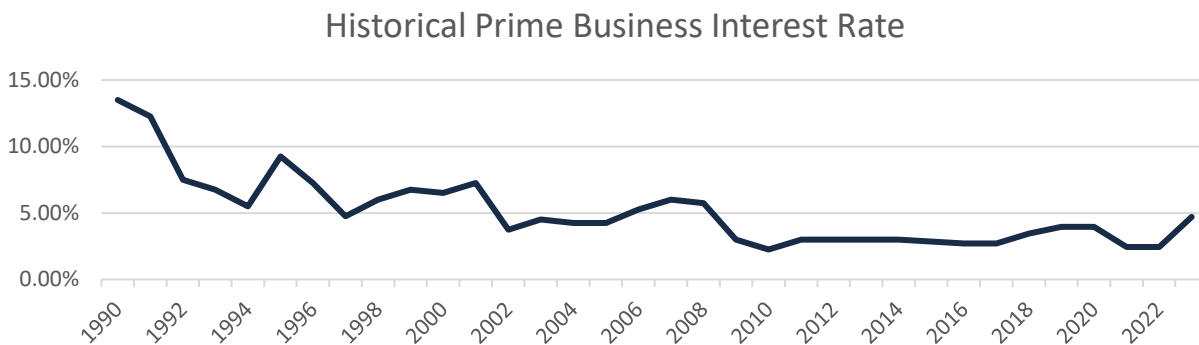
Figure 26: Historic Interest Rate

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

The following tables outline how Southgate Township's has historically used debt for investing in the asset categories as listed. As of 2024-year end debt outstanding for the assets covered by this AMP is $1,161,973 with corresponding interest and principal payments of $372,213.

Table 28: Use of Debt in the Last 5 Years

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2020	2021	2022	2023	2024
Road Network	$368,115	$633,164	$569,205	$503,735	$436,717	$368,115
Bridges & Culverts	$0	$0	$0	$0	$0	$0
Stormwater Network	$0	$0	$0	$0	$0	$0
Facilities	$0	$0	$0	$0	$0	$0
Land Improvements	$198,032	0	$678,040	$520,402	$360,411	$198,032
Vehicles	$0	$0	$0	$0	$0	$0
Machinery and Equipment	$0	$0	$0	$0	$0	$0
Total Tax Funded:	566,147	633,164	1,247,245	1,024,137	797,128	566,147
Water Network	595,827	1,024,831	921,309	815,339	706,865	595,827
Sanitary Sewer Network	$0	$0	$0	$0	$0	$0
Total Rate Funded	595,827	1,024,831	921,309	815,339	706,865	595,827
Grand Total	1,161,973	1,657,995	2,168,553	1,839,477	1,503,993	1,161,973

Table 29: Future Debt Payments

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	2026	2027	2028	2029	2030	2035
Road Network	$78,464	$78,464	$78,464	$78,464	$78,464	$78,464	0
Bridges & Culverts							0
Stormwater Network							
Buildings							0
Land Improvements	$166,748	$33,330	0	0	0	0	
Vehicles							0
Machinery & Equipment							0
Total Tax Funded:	$245,212	$111,794	$78,464	$78,464	$78,464	$78,464	- 2,035
Water Network	$127,001	$127,001	$127,001	$127,001	$127,001	0	0

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	**2026**	**2027**	**2028**	**2029**	**2030**	**2035**
Sanitary Sewer Network	0	0	0	0	0	0	0
Total Rate Funded	$127,001	$127,001	$127,001	$127,001	$127,001	0	0
Grand Total	372,213	238,796	205,465	205,465	205,465	78,464	

The revenue options outlined in this plan allow Southgate Township's to fully fund its long-term infrastructure requirements without further use of debt.

6.5 Use of Reserves

6.5.1 Available Reserves

Reserves play a critical role in long-term financial planning. The benefits of having reserves available for infrastructure planning include:
  a) the ability to stabilize tax rates when dealing with variable and sometimes uncontrollable factors
  b) financing one-time or short-term investments
  c) accumulating the funding for significant future infrastructure investments
  d) managing the use of debt
  e) normalizing infrastructure funding requirement

By asset category, the table below outlines the details of the reserves currently available by asset category to Southgate Township's.

Table 30: Reserve Balances

Asset Category	Balance at December 31, 2023
Road Network	$1,885,676
Bridges & Culverts	
Stormwater Network	
Facilities	$1,729,363
Land Improvements	$172,779
Vehicles	
Machinery and Equipment	$1,603,293
Total	$5,391,111
Water Network	$155,947[12]
Sanitary Sewer Network	$3,737,210
Total	$3,893,157

There is considerable debate in the municipal sector as to the appropriate level of reserves that a Township should have on hand. There is no clear guideline that has gained wide acceptance. Factors that municipalities should consider when determining their capital reserve requirements include:
  a) breadth of services provided
  b) age and condition of infrastructure
  c) use and level of debt
  d) economic conditions and outlook
  e) internal reserve and debt policies.

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[12] This value is as of December 2025. All other values are as of December 2023.

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

Appendices

Appendix A – Resident Survey

Resident Questionnaire

Southgate Township is committed to providing a high quality of life and exceptional services for our residents. As our community evolves, we must invest your tax dollars wisely to maintain and improve our infrastructure, including roads, bridges, and other municipal services. Your input is crucial for strategic planning and asset management. This brief (10 min) Resident Questionnaire provides you with an opportunity to share your thoughts on our strengths and areas for improvement, as well as your feedback on our priorities for the coming years. The information gathered will be used to develop the forward-looking proposed levels of service for the 2025 Southgate Township Asset Management Plan. This plan is in accordance with Ontario Regulation 588/17, which mandates municipalities to establish a strategic asset management policy and maintain an asset management plan for core and non-core municipal infrastructure assets.

We thank you in advance for completing this questionnaire. If you have questions, please contact us on Township's website.

Questions:

1. **What is your current residency status in Southgate Township?**
    o Full-time resident – tenant

    o Full-time resident – property owner

    o Part-time resident – tenant

    o Part-time resident – property owner

    o Seasonal resident – property owner

    o I own property within the Township but do not reside here

2. **Which planning area best describes where you live within the Town?**
    o Urban (reside within a village, town, or city)

    o Semi-urban (reside within a hamlet or rural subdivision)

    o Rural (reside on a rural residential lot or farm)

3.   Family Structure
- o   Single
- o   Married/common law partner
- o   Married with children
- o   Retired single/spouse
- o   Other

4.   Please select your age range:
- o   15 - 29 years
- o   30 - 44 years
- o   45 - 64 years
- o   65 years plus

5.   Have you read the Township's 2022 Asset Management Plan?
- o   Yes
- o   No (You can view the AMP on the Township's website here: Southgate's 2022 Asset Management Plan)

6.   Please indicate how you would prefer to learn about municipal issues/events/initiatives such as the Asset Management Plan: (Select all that apply)
- o   In-person information sessions with Council and staff
- o   Township's website
- o   Township's social media
- o   Newspaper (print)
- o   Radio
- o   Email
- o   Mail

7. Please indicate how important the following features are in making Southgate Township a great place to live:

Service	Low Importance	Mid Importance	High Importance	N/A
Recreation or sports facilities (e.g., Arena)				
Heritage or Historical Sites				
Arts, Culture, and Heritage Opportunities				
Affordable living				
Building Services and Bylaw Enforcement				
Programs and support for seniors				
Maintenance of Public Property				
Safe and Well-Maintained Roads and Bridges				
Economic Investment and Local Jobs				
Communication From the Township				
Emergency Services				
Public safety and community spirit				

8. How important are the following municipal services to your household?

Service	Low Importance	Mid Importance	High Importance	Not Applicable
Roads and Bridges				
Waste Management Services				
Emergency Services				
Land Use and Development Planning				
Maintenance of public property				
Economic Development Initiatives				
Historical Sites and Services				
Stormwater Management				
Waste Water Services				
Water Services				
Natural attractions and conservation areas				
Arts, culture, and heritage opportunities				
Building services and bylaw enforcement				

9. How would you describe your experience with different infrastructure?

Availability:

Infrastructure	Dissatisfied	Somewhat Satisfied	Satisfied	Unsure	Not Applicable
Roads					
Bridges					
Water Services					
Waste Water Services					
Stormwater Services					
Parks and Recreation					
Waste Management					
Emergency Services Vehicles and Equipment					

Reliability and Condition:

Infrastructure	Dissatisfied	Somewhat Satisfied	Satisfied	Unsure	Not Applicable
Roads					
Bridges					
Water Services					
Waste Water Services					
Stormwater Services					
Parks and Recreation					

Safety:

Infrastructure	Dissatisfied	Somewhat Satisfied	Satisfied	Unsure	Not Applicable
Roads					
Bridges					
Water Services					
Waste Water Services					
Stormwater Services					
Parks and Recreation					

10. In your experience with the municipal services offered, would you decrease, maintain, or increase service levels for each of the services provided?

Service	Decrease Service Levels	Maintain Service Levels	Increasing Service Levels	Not Applicable
Roads and Bridges				
Waste Management Services				
Emergency Services				
Land Use and Development Planning				
Maintenance of public property				
Economic Development Initiatives				
Historical Sites and Services				
Stormwater Management				
Natural attractions and conservation areas				
Parks and Recreation				
Building services and bylaw enforcement				
Water Services				
Wastewater Services				

11. For each of the following services, indicate your preference for spending and willingness to pay for improvements:

Service	Not Willing	Somewhat Willing	Willing	Not Applicable
Roads and Bridges				
Waste Management Services				
Emergency Services				
Land Use and Development Planning				
Maintenance of public property				
Economic Development Initiatives				
Historical Sites and Services				
Stormwater Management				
Natural attractions and conservation areas				
Parks and Recreation				
Building services and bylaw enforcement				
Water Services				
Wastewater Services				

12. The Township is growing. This means spending on infrastructure services may need to change over time to meet the evolving needs of the community. How important are the following factors in deciding if the Township's spending on infrastructure is best for the community?

Factor	Less Important	Somewhat Important	Highly Important	Not Applicable
Preserve the Current Character and Charm				
Attract New Residents				
Attract New Businesses				
Limit Cost Increase to Residents				
Support the Local Economy				
Protect the Environment				
Support the Older Population				
Support Young Families and Singles				
Support the Vulnerable Population				

13. In your opinion, the Township is making the right investments in infrastructure for its current residents:

- Strongly Agree

- Agree

- Disagree

- Strongly Disagree

- Unsure

14. In your opinion, the Township is making the right investments in infrastructure for its future:

- Strongly Agree

- Agree

- Disagree

- Strongly Disagree

- Unsure

15. In your opinion, the Township is overspending on any service areas:

- Strongly Agree

- Agree

- Disagree

- Strongly Disagree

- Unsure

If so, in which areas (i.e. roads, parks and recreation): _____.

Any other thoughts/comments?

Appendix B – Infrastructure Report Card

Asset Category	Replacement Cost	Average Condition (2024)	Financial Capacity	
Road Network	**$195.82M**	**Fair (34%)**	Annual Requirement (PLOS)[13]:	$1,700,000
			Funding Available:	$1,395,000
			Annual Deficit:	**$305,000**
Bridges & Culverts	**$117.54 m**	**Good (67%)**	Annual Requirement (PLOS):	$1,908,000
			Funding Available:	$1,565,000
			Annual Deficit:	**$342,000**
Water Network	**$18.34 m**	**Fair (68%)**	Annual Requirement (PLOS):	$348,000
			Funding Available:	$25,000
			Annual Deficit:	**$323,000**
Sanitary Sewer Network	**$10.2 m**	**Fair (35%)**	Annual Requirement (PLOS):	$225,000
			Funding Available:	$25,000
			Annual Deficit:	**$200,000**
Stormwater Network	**$16.2 m**	**Good (46%)**	Annual Requirement (PLOS):	$164,000
			Funding Available:	$135,000
			Annual Deficit:	**$29,00**
Buildings	**$29.7 m**	**Fair (48%)**	Annual Requirement (PLOS):	$509,000
			Funding Available:	$417,000
			Annual Deficit:	**$91,000**
Land Improvements	**$2.4 m**	**Poor (38%)**	Annual Requirement (PLOS):	$41,000
			Funding Available:	$34,000
			Annual Deficit:	**$7,000**

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[13] Under the Proposed LOS the annual requirement for tax funded assets increases each year. The annual requirement is based on funding required by year 10. For water network and sanitary sewer network assets the annual requirement does not change over time. This statement applies throughout the above table.

Asset Category	Replacement Cost	Average Condition (2024)	Financial Capacity	
Vehicles	**$8.1 m**	**Fair (53%)**	Annual Requirement (PLOS):	$344,000
			Funding Available:	$282,000
			Annual Deficit:	**$62,000**
Machinery & Equipment	**$ 9.2 m**	**Poor (30%)**	Annual Requirement (PLOS):	$398,000
			Funding Available:	$326,000
			Annual Deficit:	**$71,000**

Appendix C – 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.

Road Network											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						$2.4m					
Total Forecasted Investment	$1.4m	$1.1m	$1.5m	$821k	$2.1m	$1.9m	$1.6m	$1.6m	$1.6m	$1.7m	$1.7m

Bridges and Culverts											
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						$2.8m					
Total Forecasted Investment	$1.0m	$1.5m	$1.5m	$439k	$2.2m	$746k	$1.3m	$368k	$424k	$1.2m	$274k

Water Network

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						$352k					
Total Forecasted Investment	$243k	$239k	$5k	$117k	$12k	$843k	$244k	$245k	$241k	$245k	$246k

Sanitary Sewer Network

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						$256k					
Total Forecasted Investment	$157k	$157k	$158k	$155k	$157k	$160k	$158k	$154k	$160k	$153k	$160k

Stormwater Network

	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation						$325k					
Total Forecasted Investment	$134k	$136k	$141k	$143k	$146k	$148k	$150k	$109k	$73k	$292k	$158k

Buildings										
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation					$1.0m					
Total Forecasted Investment										
$115k	-	$1.2m	$66k	-	-	-	-	$115k	$692k	-

Land Improvements										
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation					$81k					
Total Forecasted Investment										
$21k	$16k	$59k	-	-	$45k	-	$147k	$34k	-	-

Vehicles										
2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation					$681k					
Total Forecasted Investment										
$173k	$180k	$425k	$377k	$84k	$470k	$100k	$584k	$338k	$339k	$279k

Machinery and Equipment										
	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Required Annual Allocation					$787k					
Total Forecasted Investment	$323k	$332k	$343k	$344k	$354k	$360k	$368k	$375k	$383k	$389k	$399k

Appendix D – Level of Service Maps & Photos

Map of the Road Network

Map of Bridges and Structural Culverts
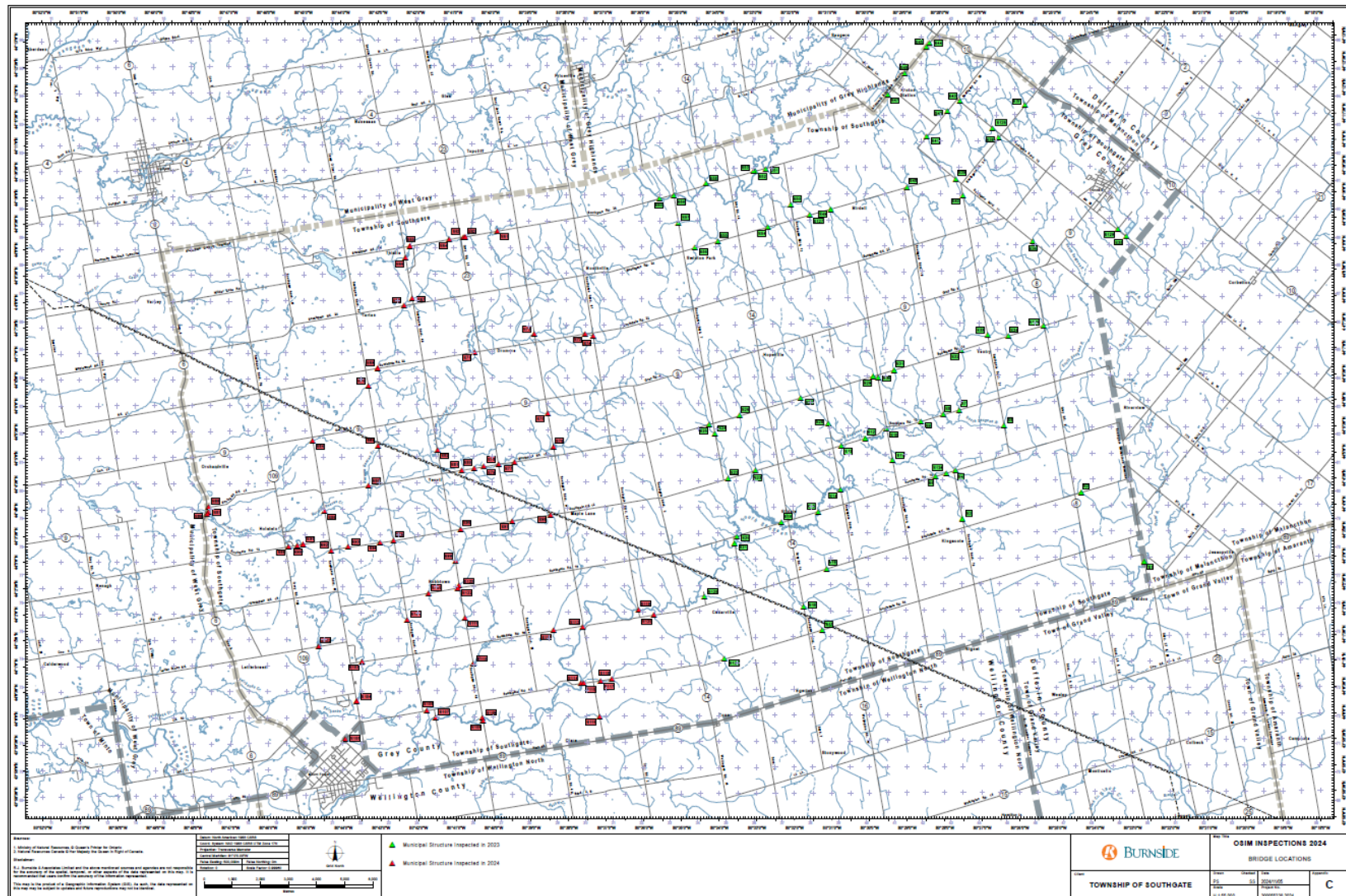
Bridges or Structural Culverts in Very Good Condition

Structure 61: 87/100 Condition , Photo Captured: August 2024

Bridges or Structural Culverts in Good Condition

Structure 62: 73/100 Condition , Photo Captured: August 2024

Bridges or Structural Culverts in Fair Condition

Structure 73: 51/100 Condition , Photo Captured: August 2024

Bridges or Structural Culverts in Poor Condition

Structure 71: 36/100 Condition , Photo Captured: August 2024

Map of the Water Distribution System (as of 2018)
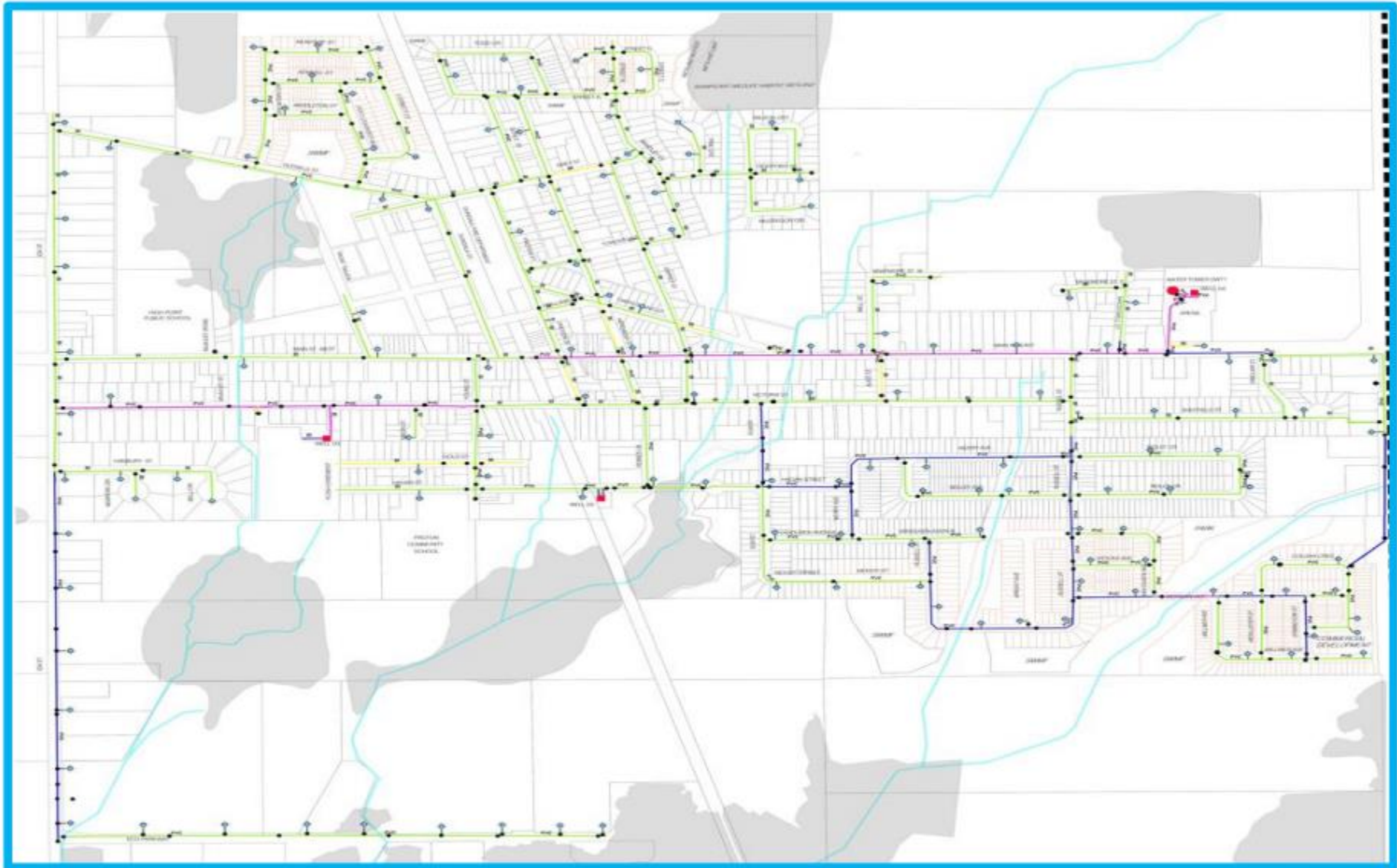
Map of the Sanitary Sewer Network
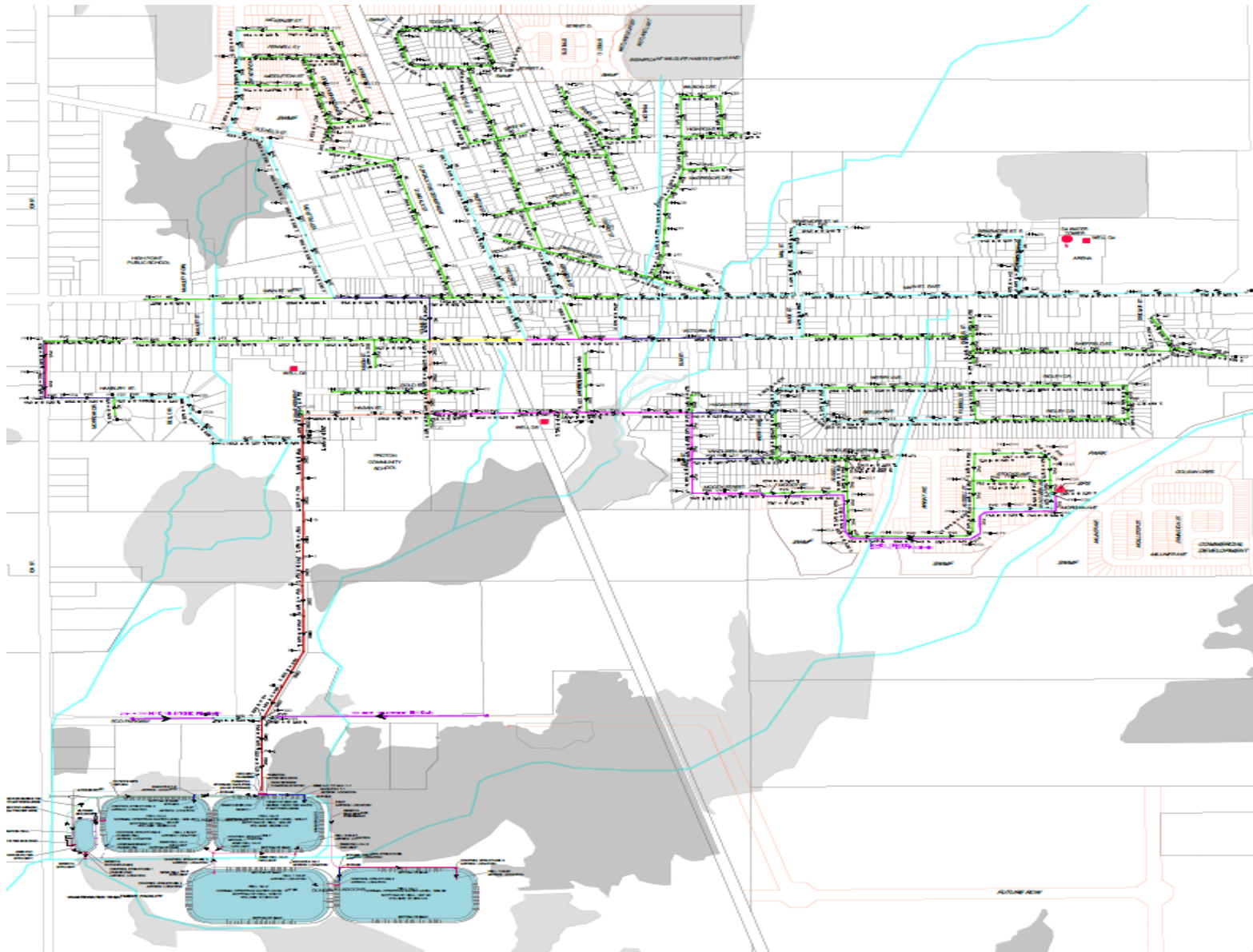
Map of Stormwater Network
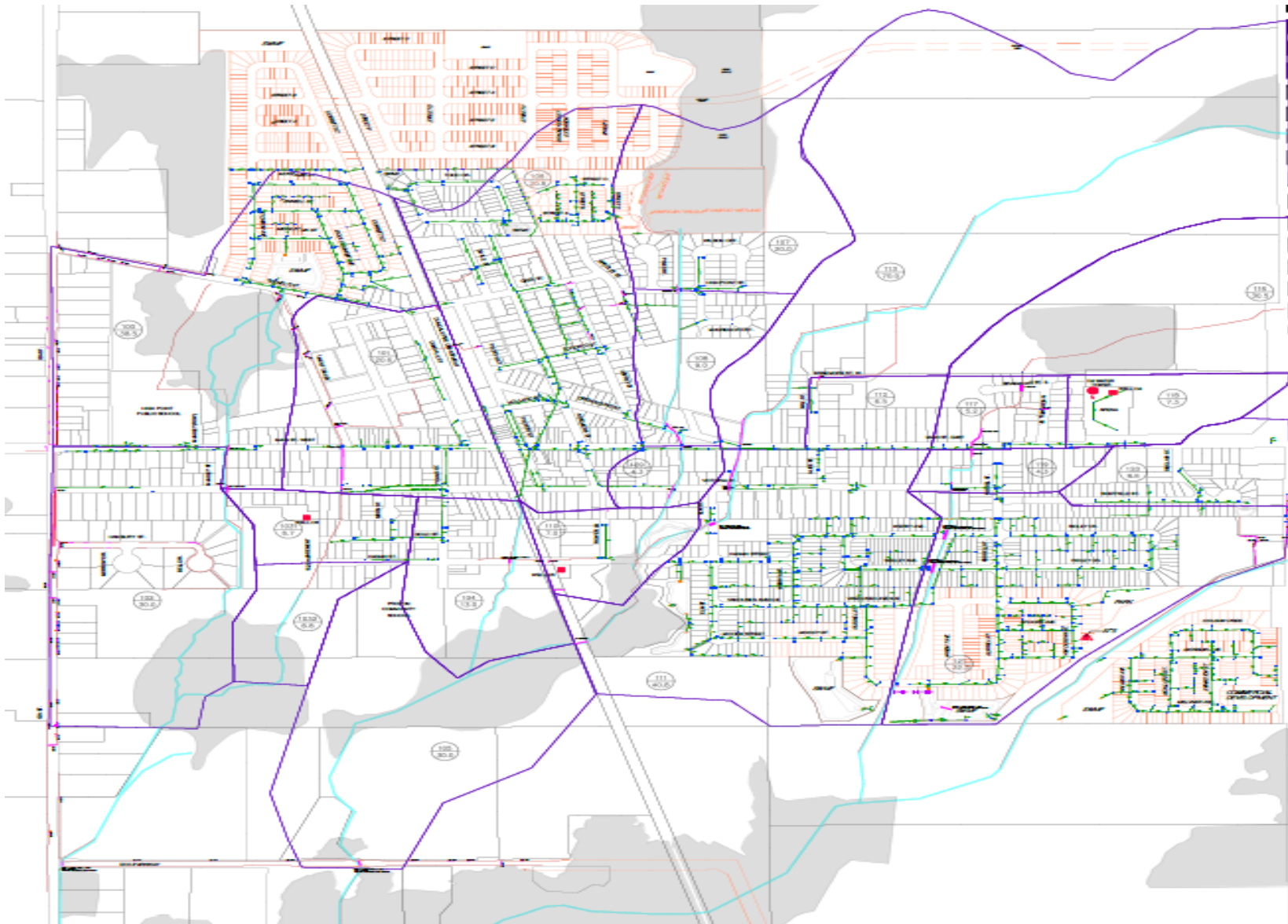
Appendix E – Proposed LOS Models: Results

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

Stormwater Network
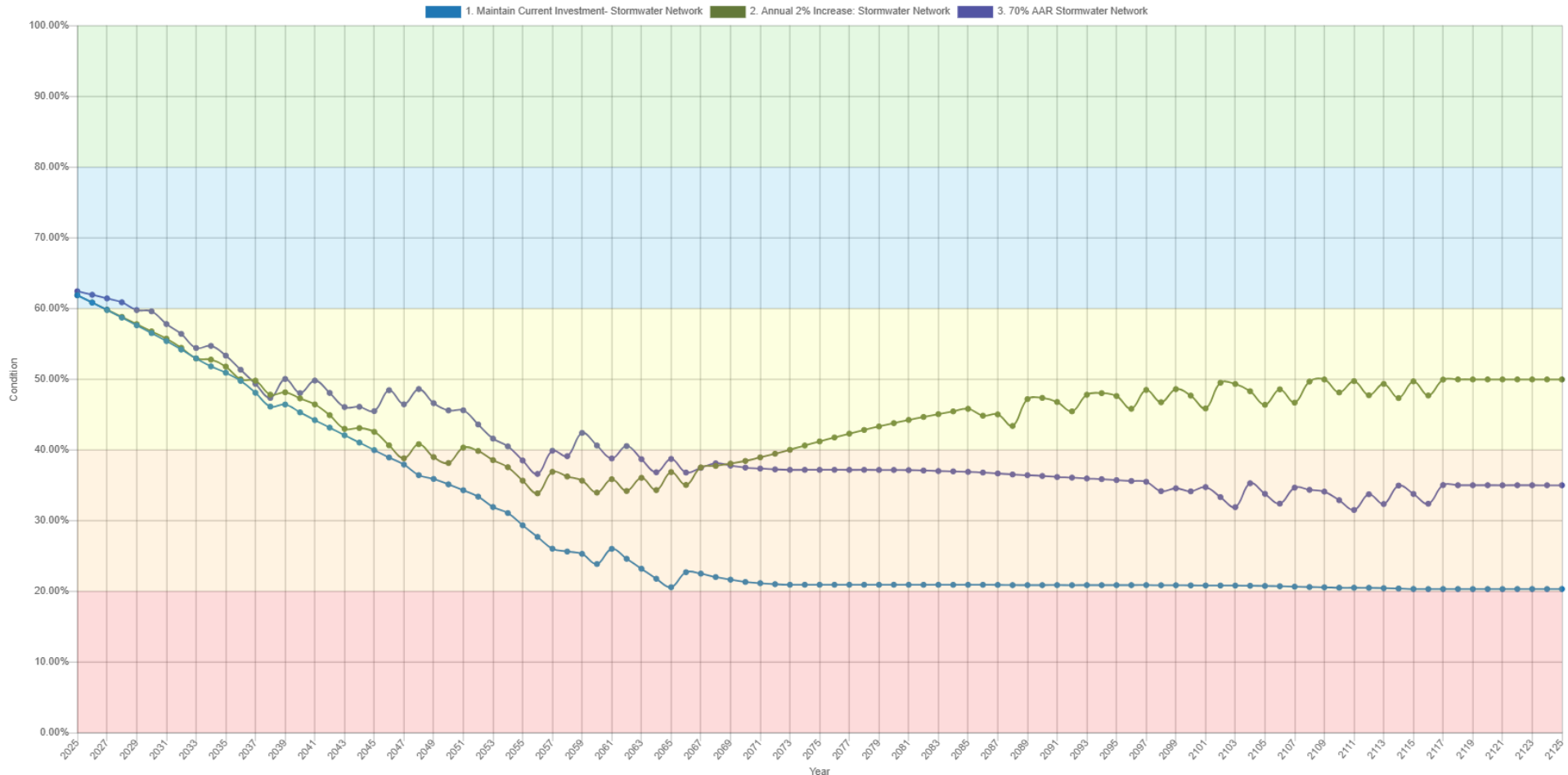
Figure 27: Stormwater Network Projected Condition Changes by Scenario

95
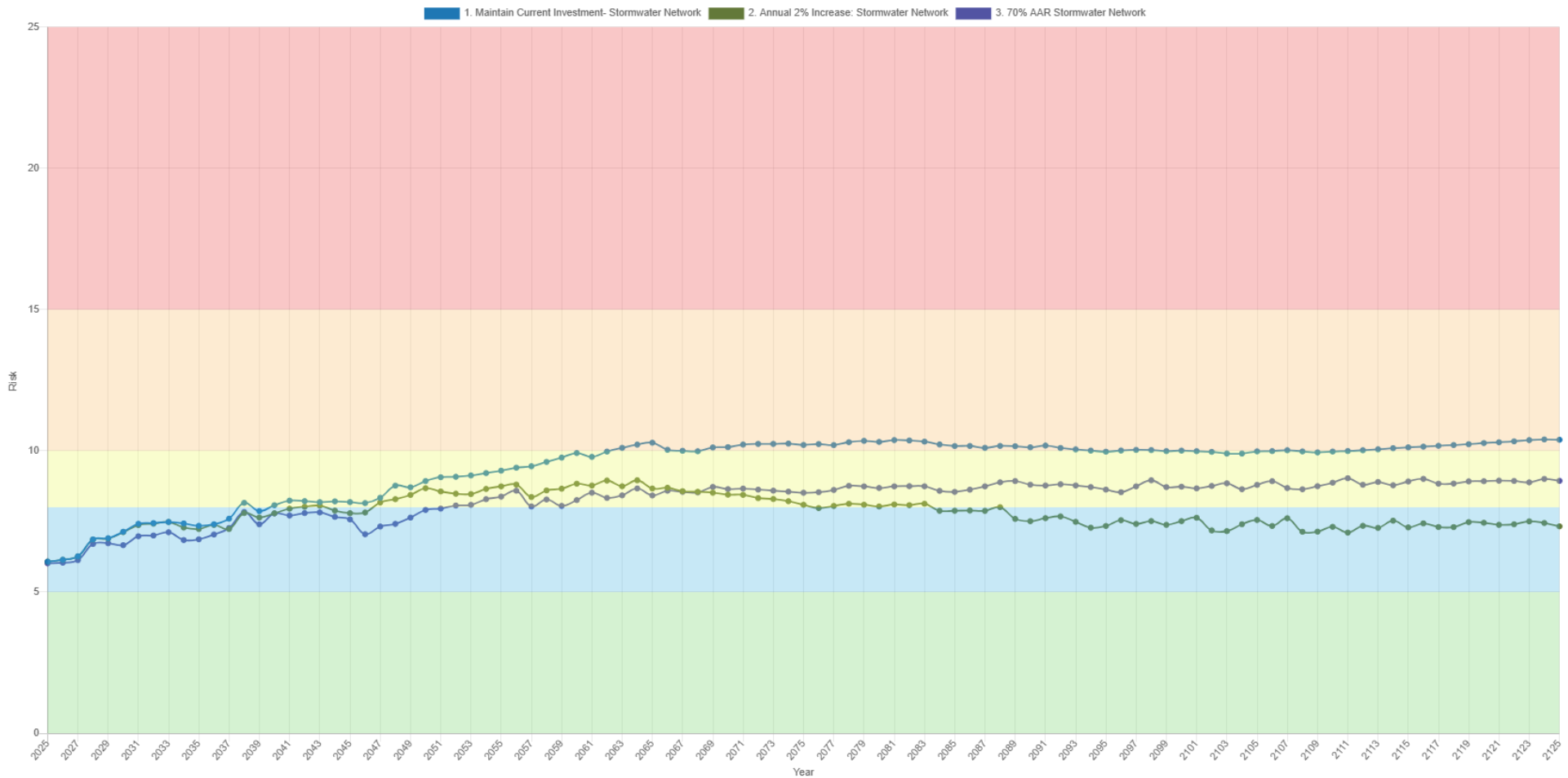
Figure 28: Stormwater Network Risk Projections by Scenario

Land Improvements
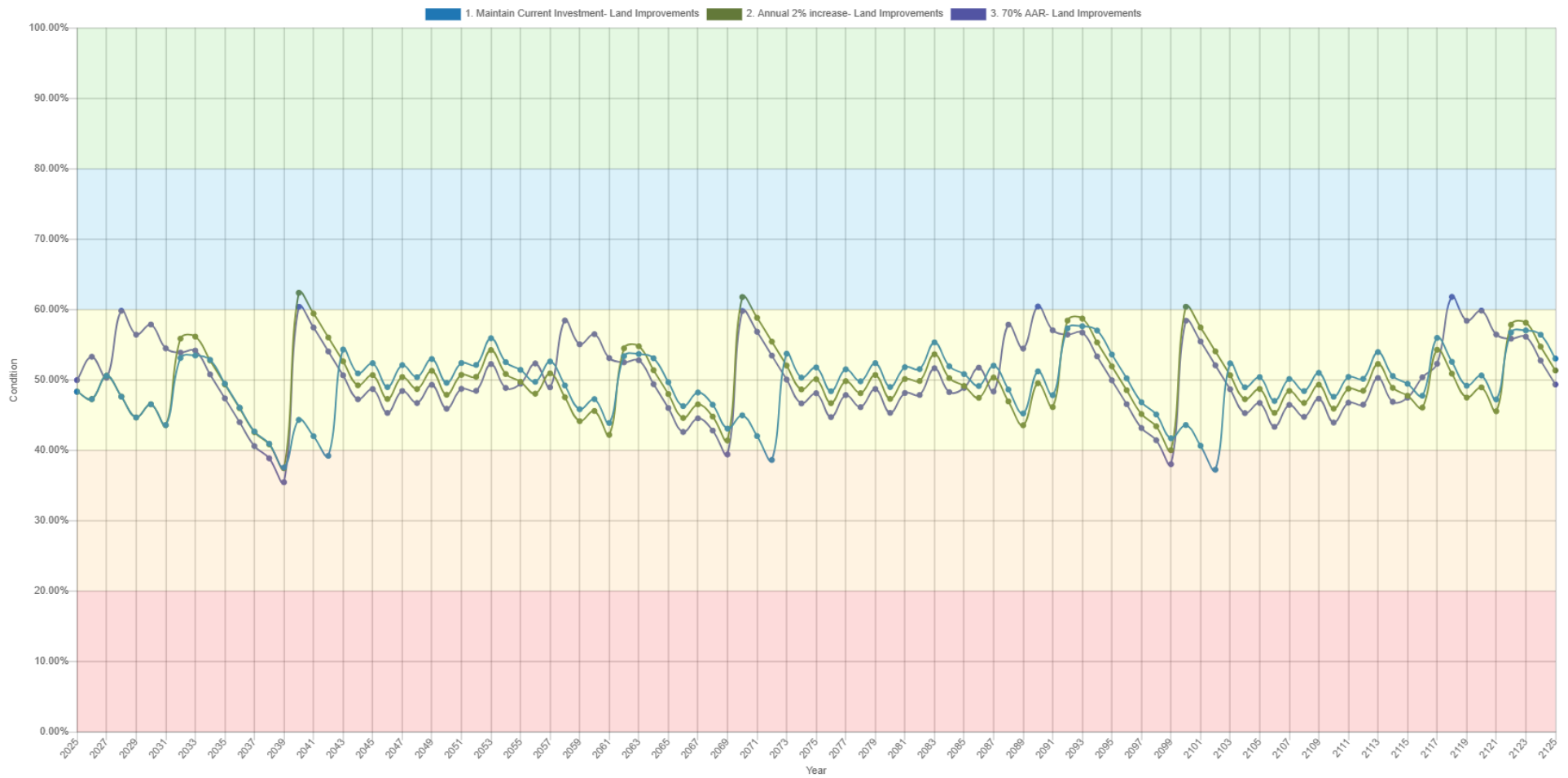
Figure 29:Land Improvements Projected Condition Changes by Scenario
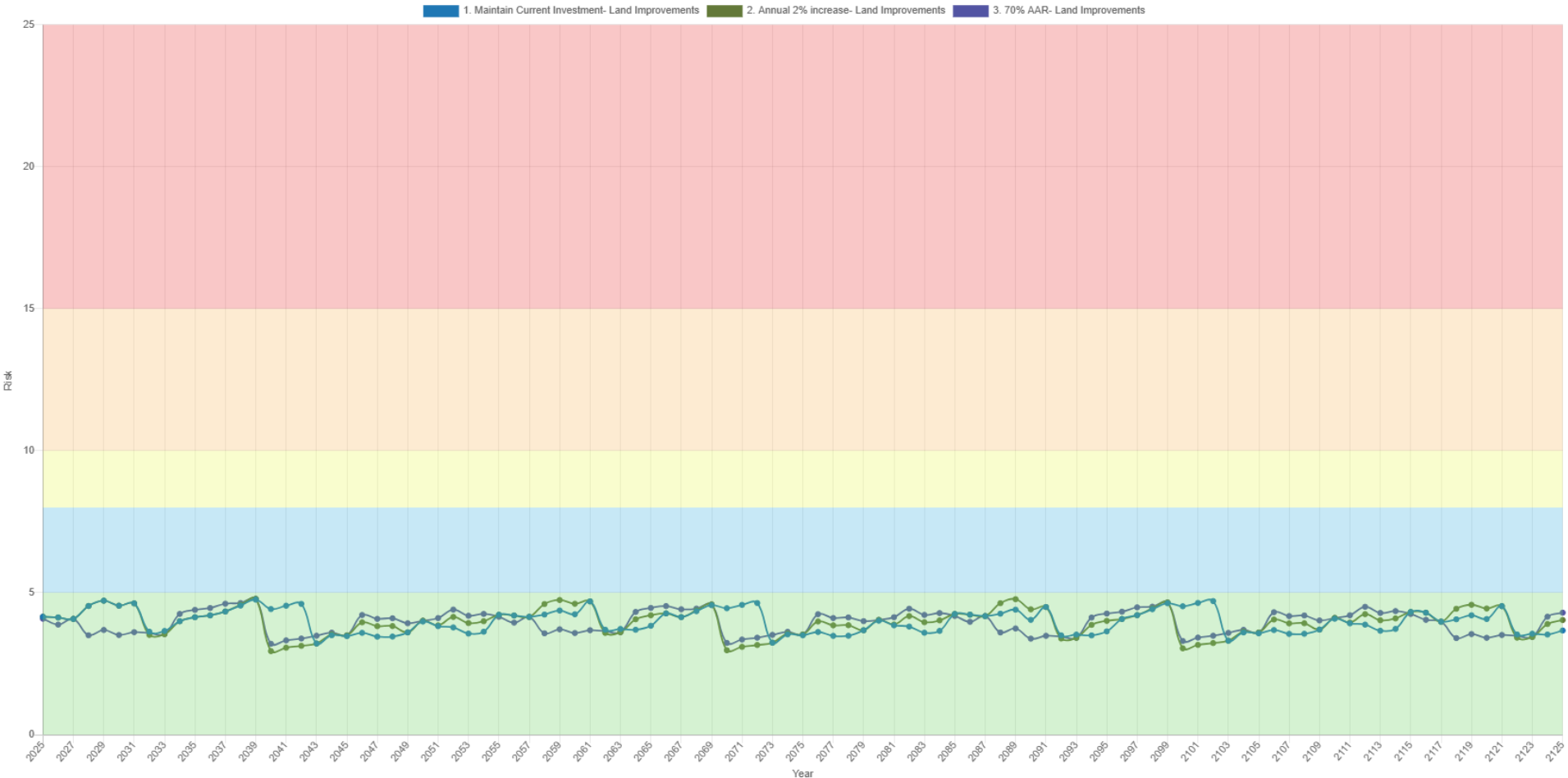
Figure 30: Land Improvements Risk Projections by Scenario

Road Network
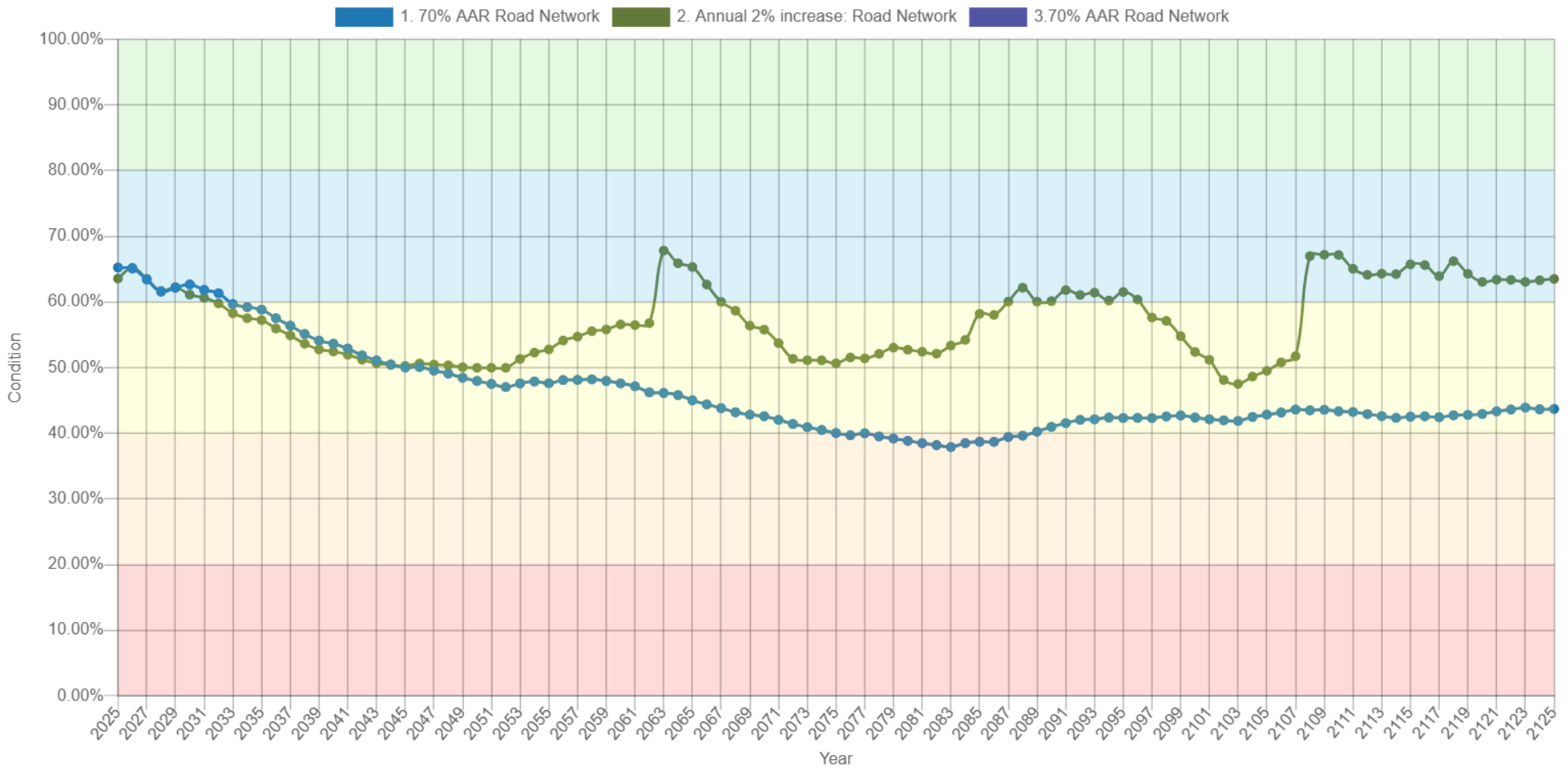
Figure 31: Road Network Projected Condition Changes by Scenario
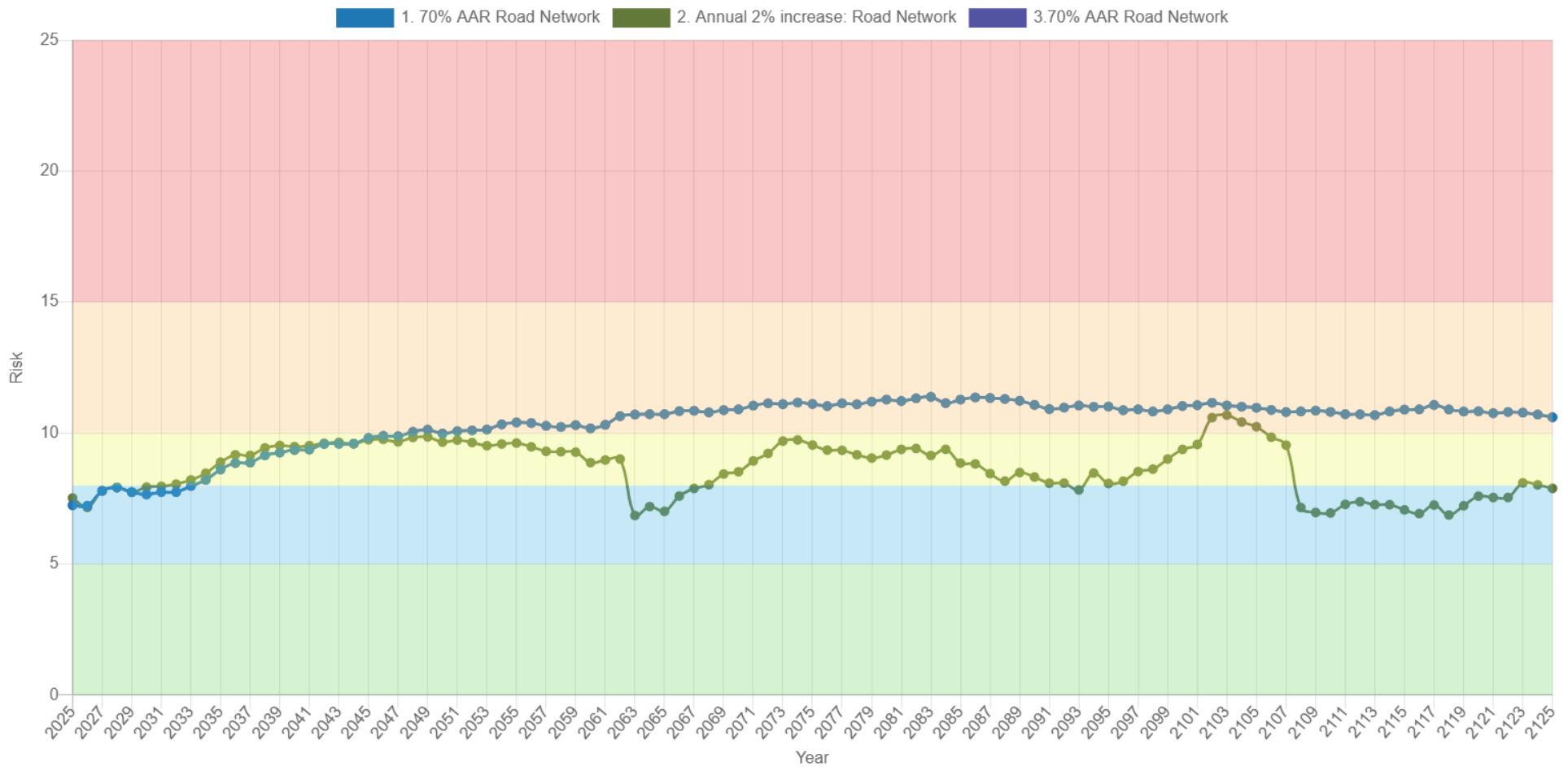
Figure 32: Road Network Risk Projections by Scenario

Bridges and Culverts
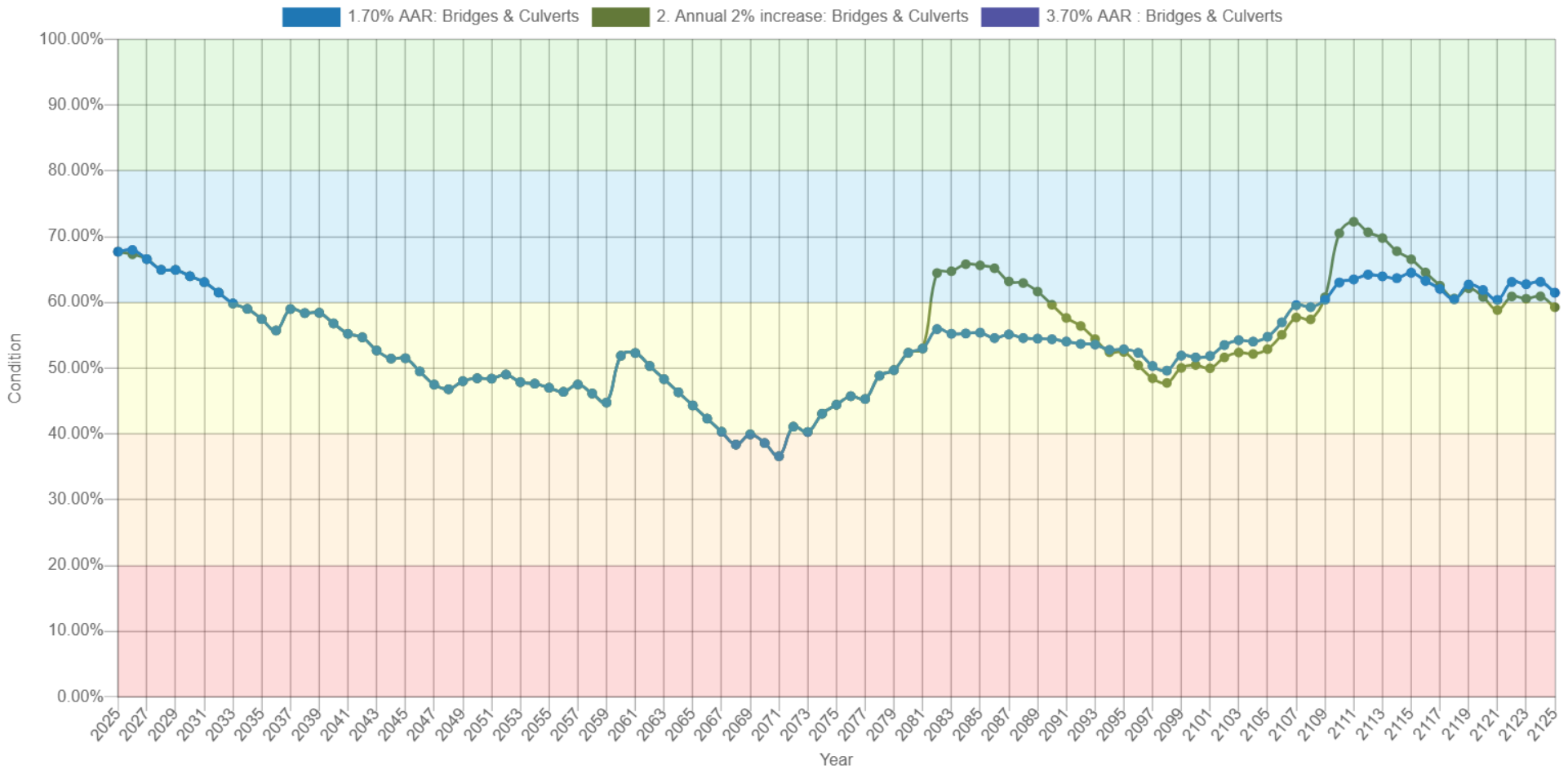
Figure 33: Bridges and Culverts Projected Condition Changes by Scenario
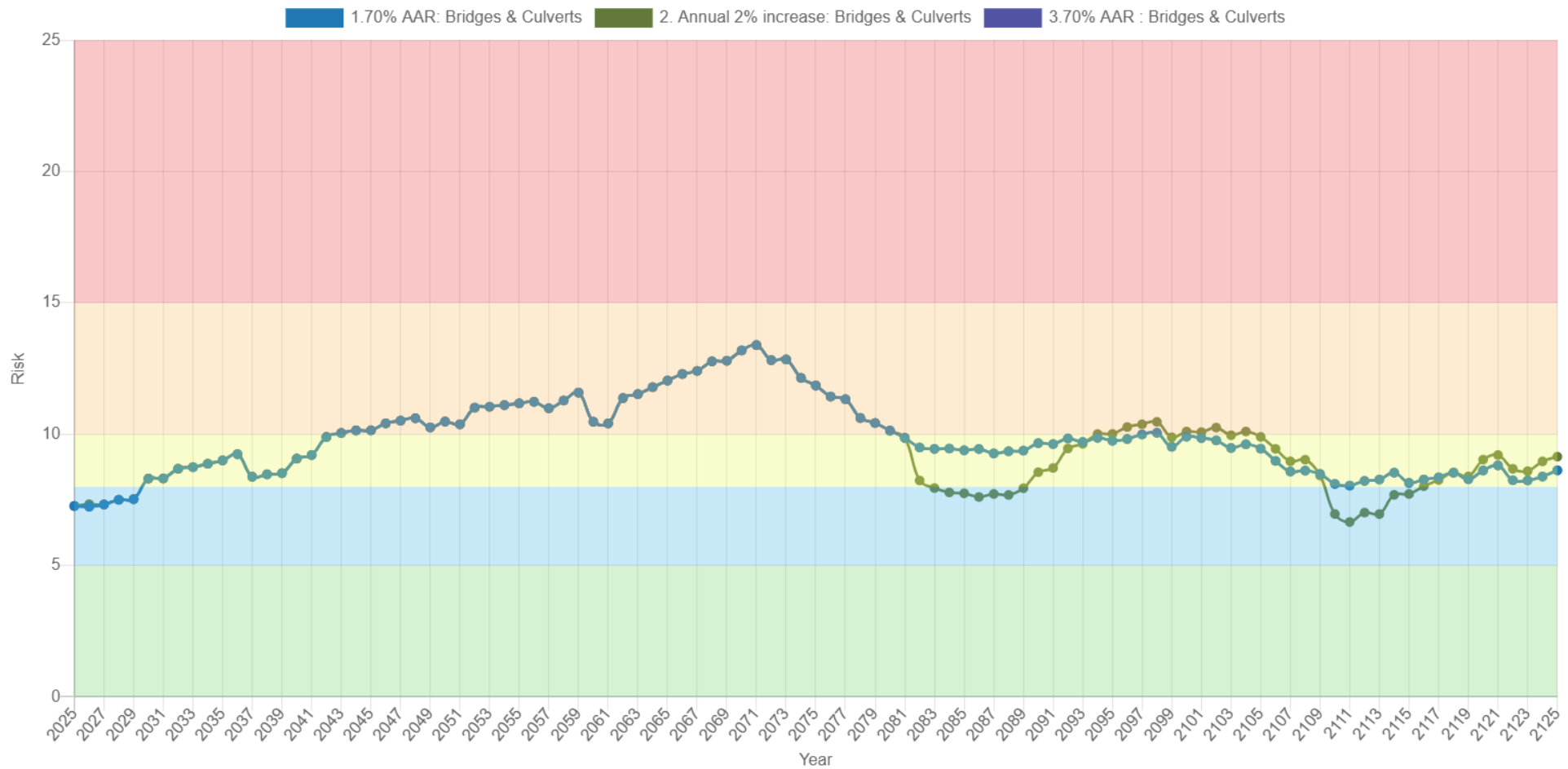
Figure 34: Bridges and Culverts Risk Projections by Scenario

Water Network
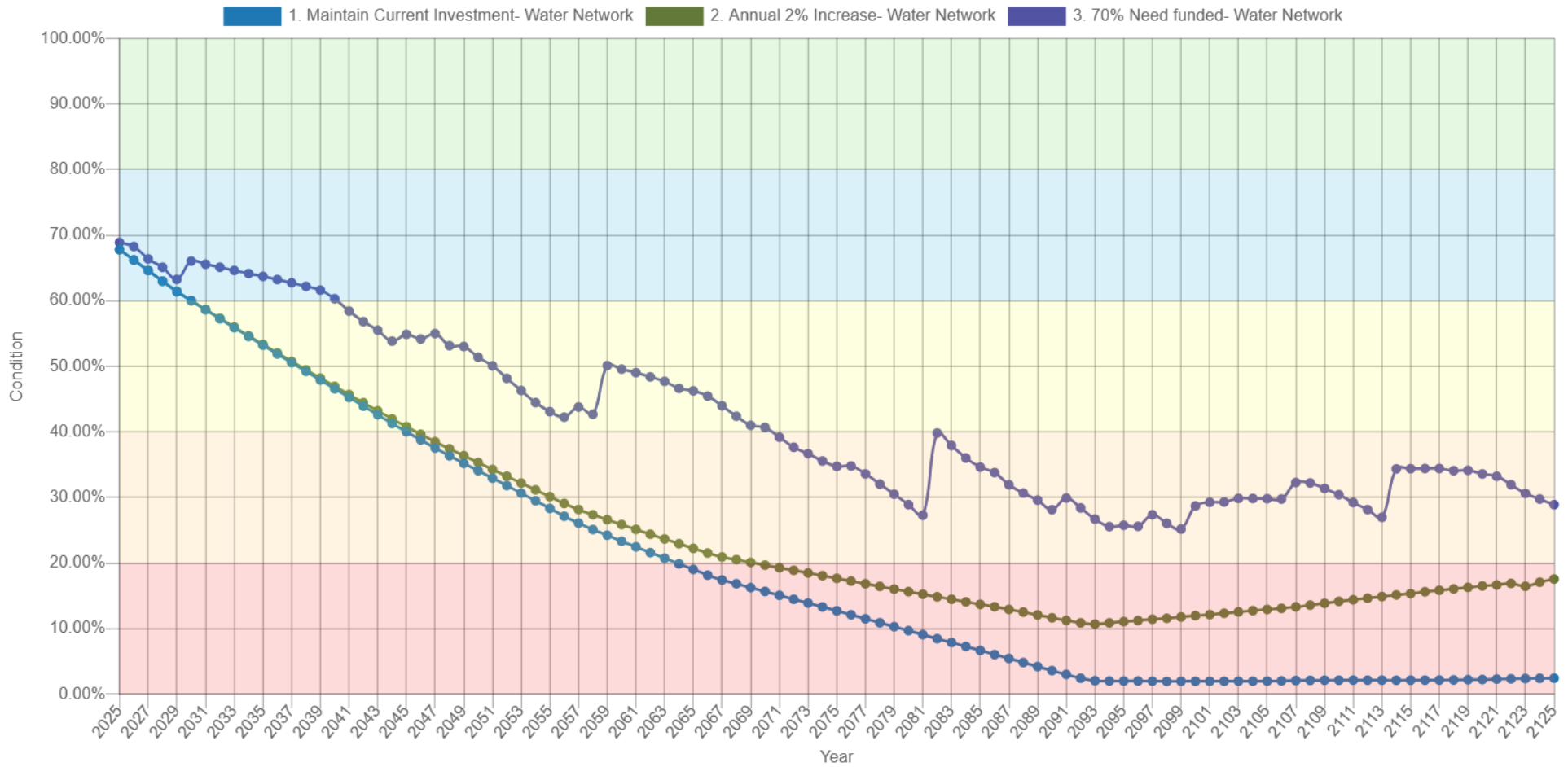
Figure 35: Water Network Projected Condition Changes by Scenario
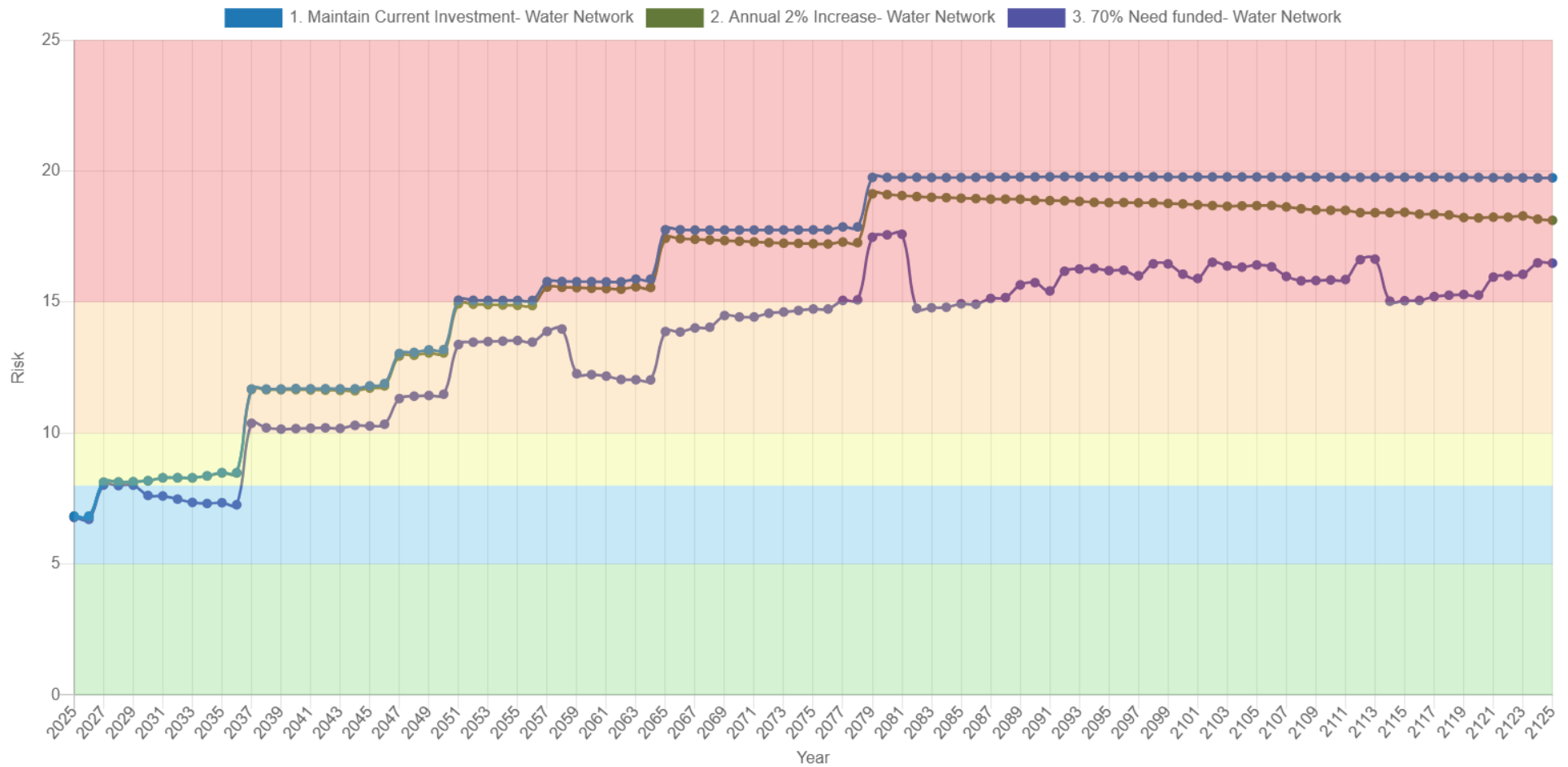
Figure 36: Water Network Risk Projections by Scenario

Sanitary Sewer Network
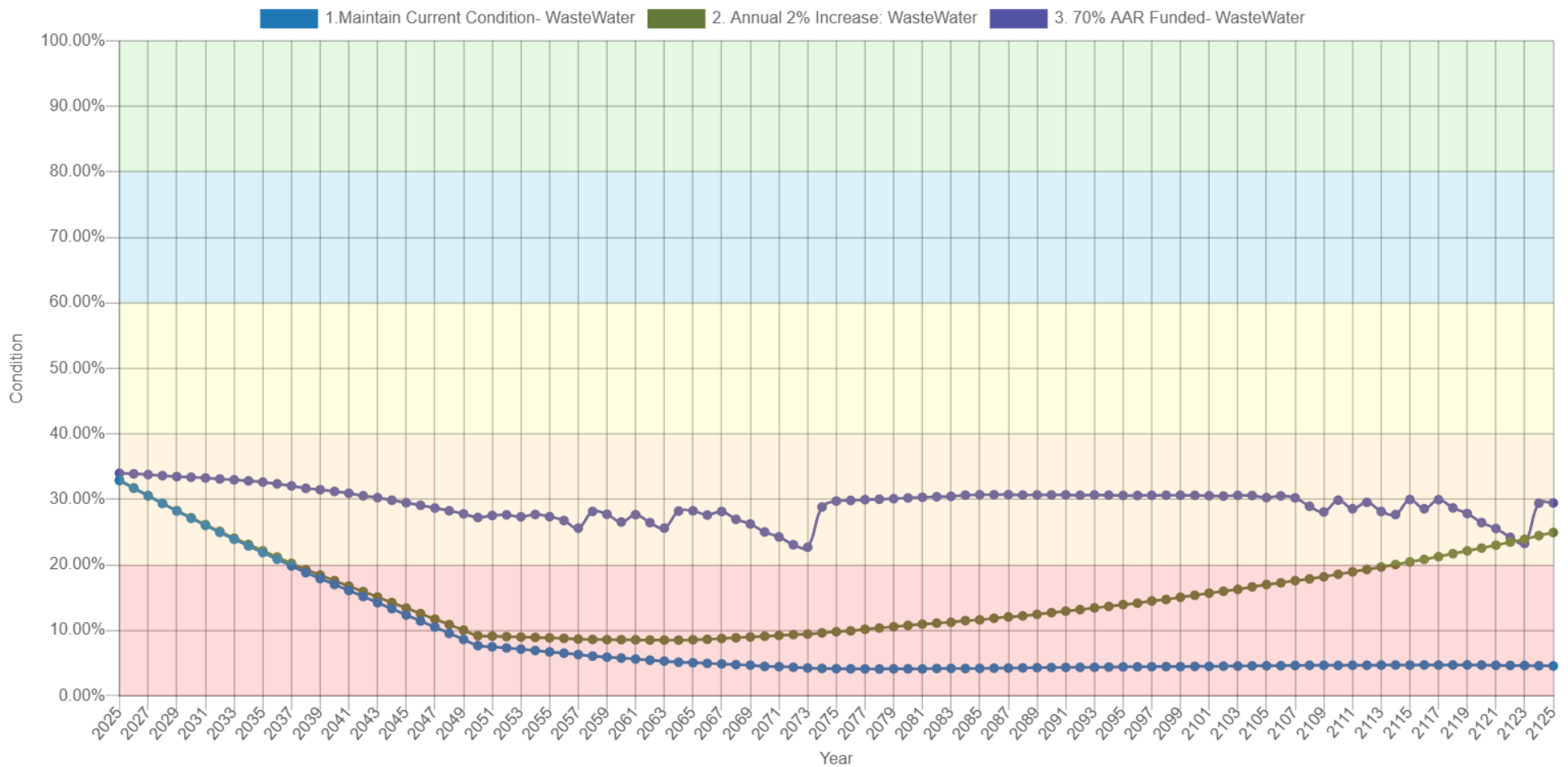
Figure 37: Sanitary Sewer Network Projected Condition Changes by Scenario
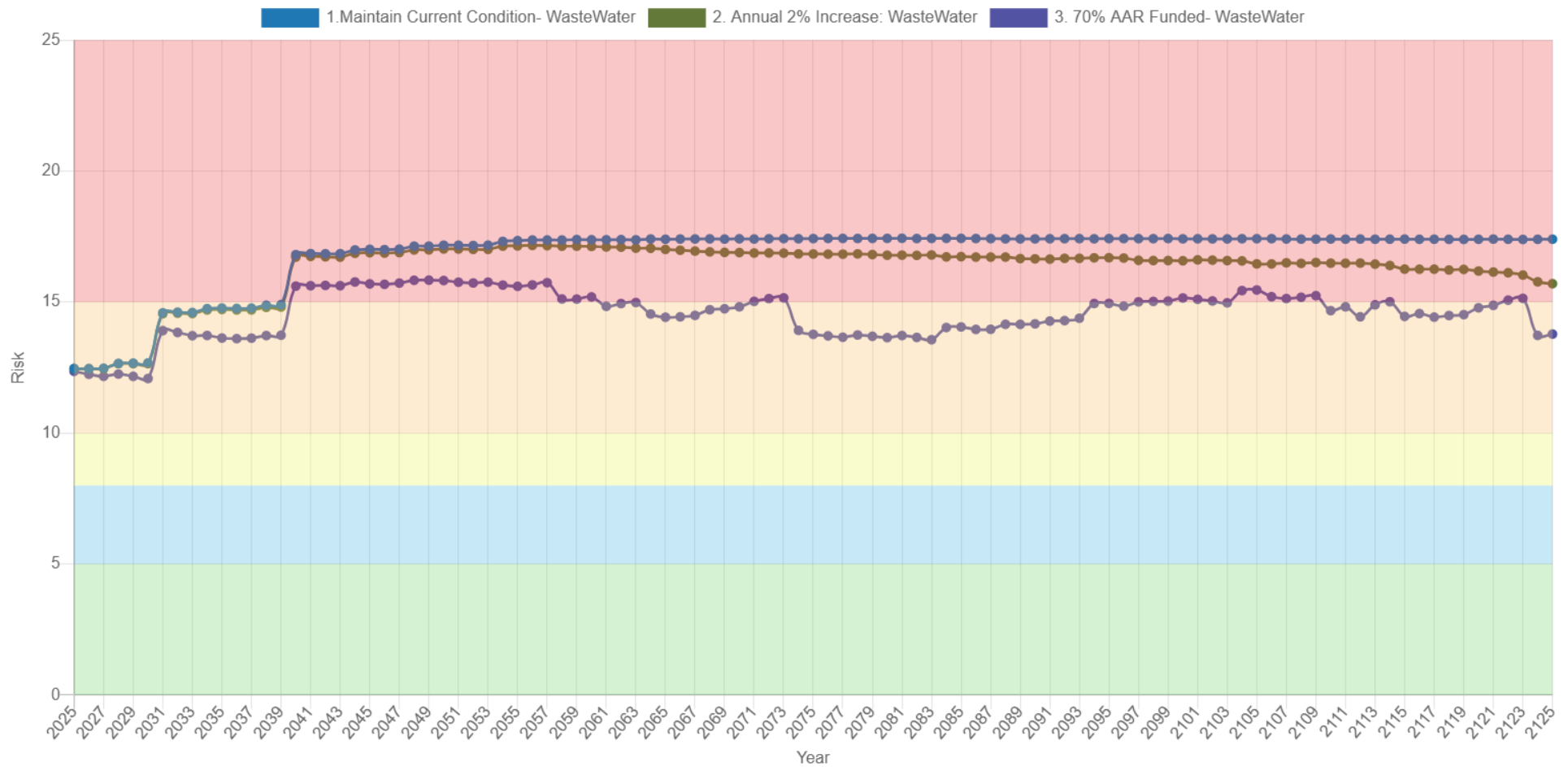
Figure 38: Sanitary Sewer Network Risk Projections by Scenario

Buildings
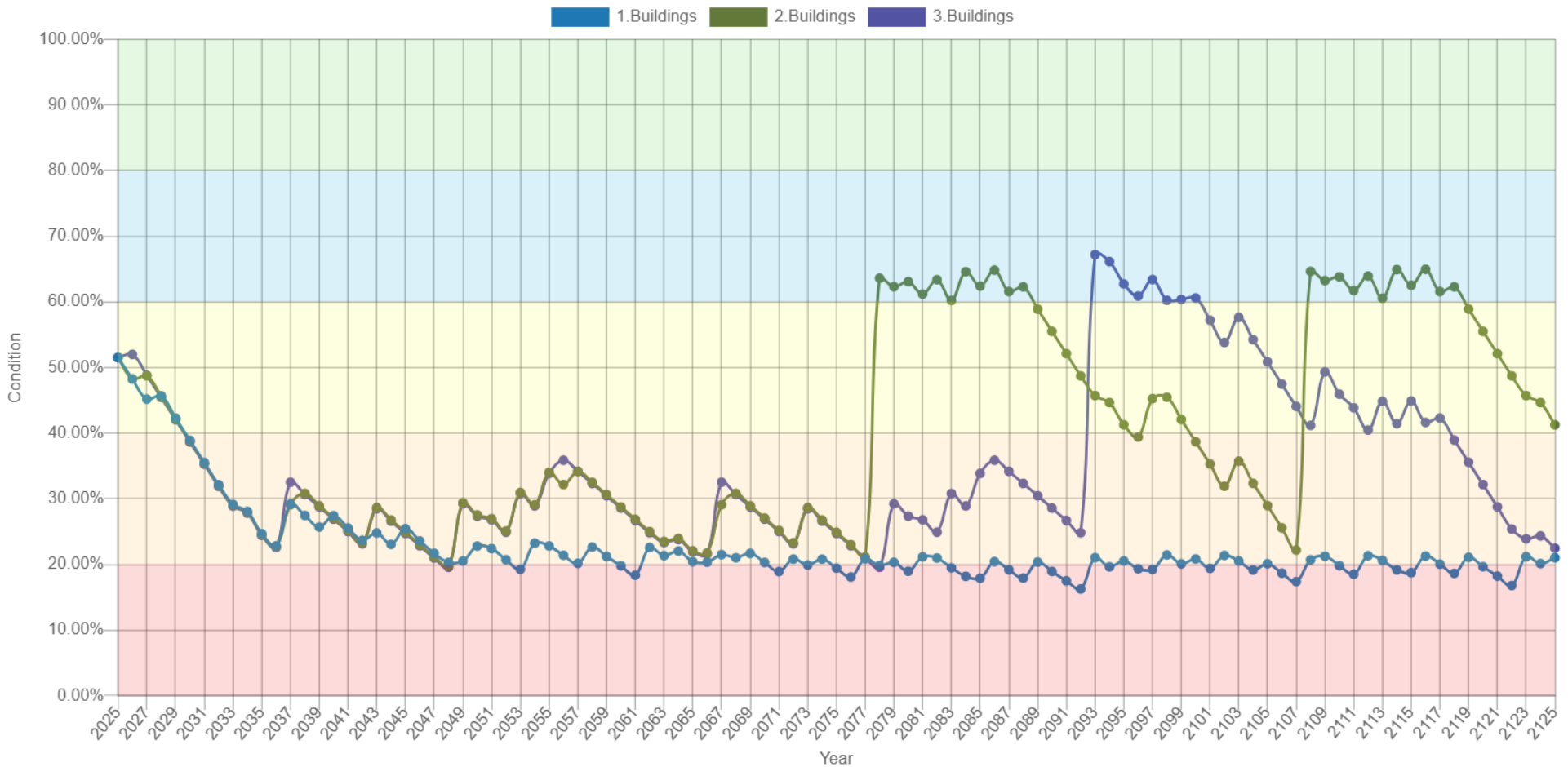
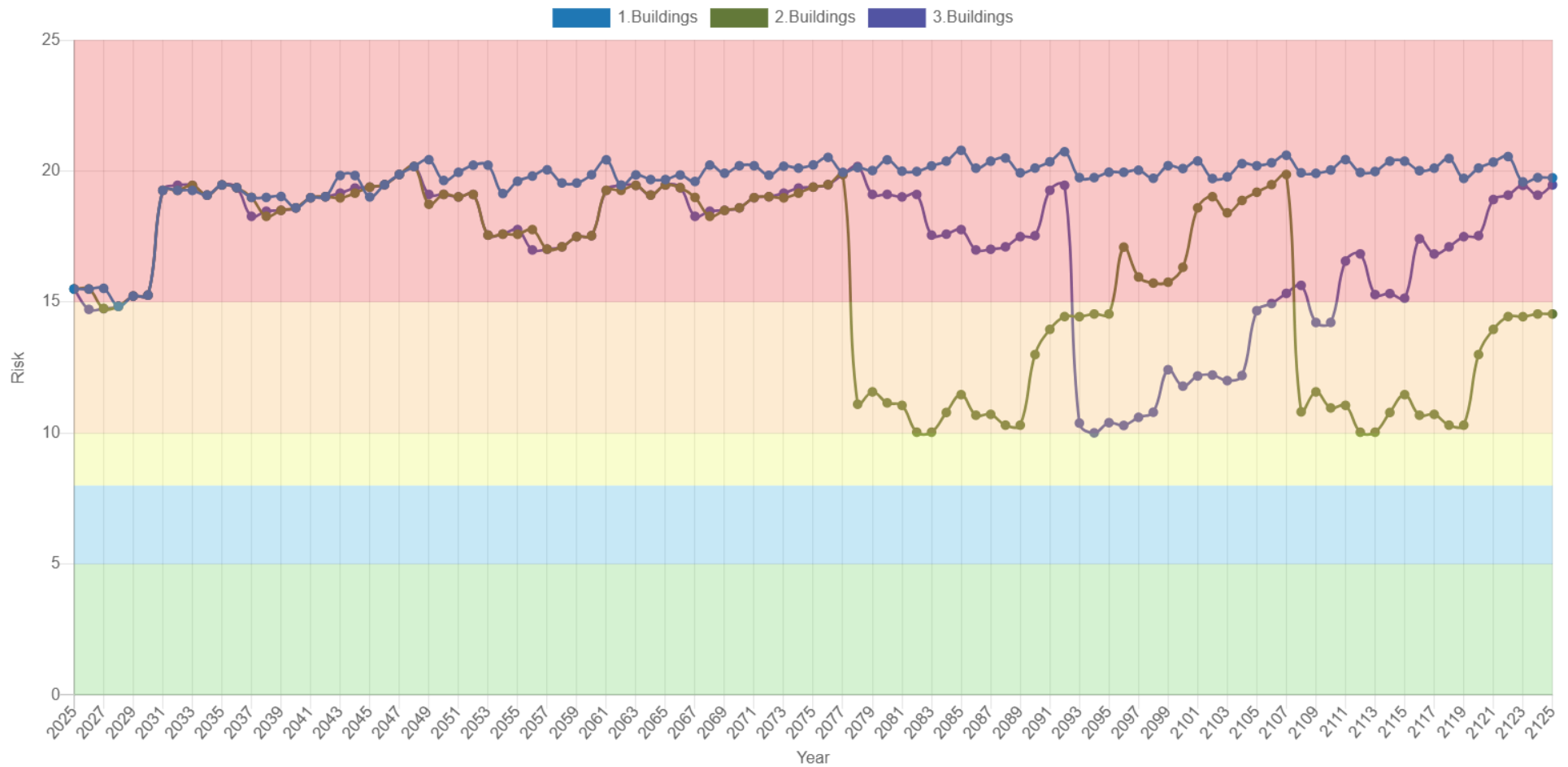*Figure 39: Buildings Projected Condition Changes by Scenario*

Figure 40: Buildings Risk Projections by Scenario

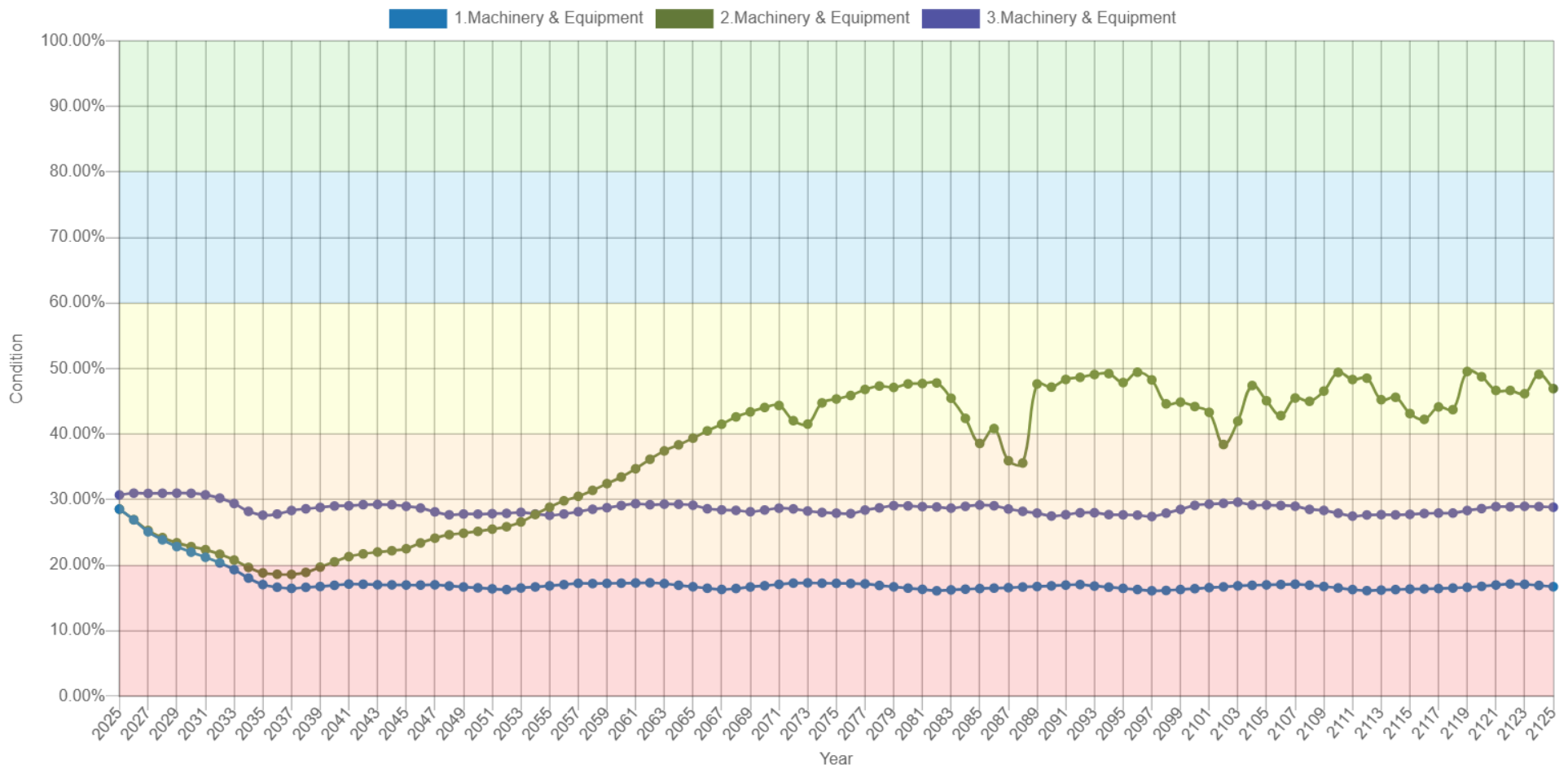**Machinery and Equipment**

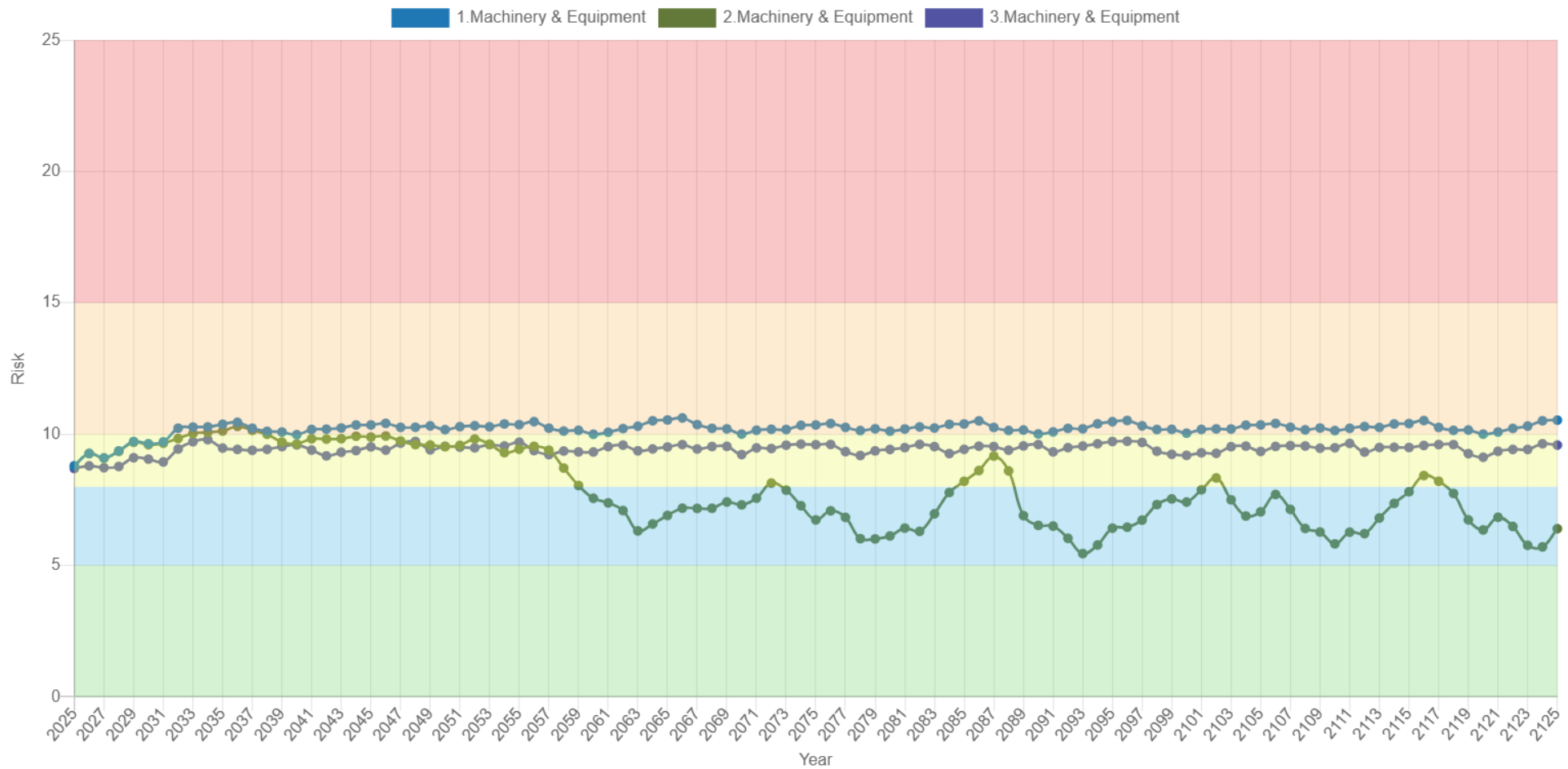*Figure 41: Machinery and Equipment Projected Condition Changes by Scenario*

Figure 42: Machinery and Equipment Risk Projections by Scenario
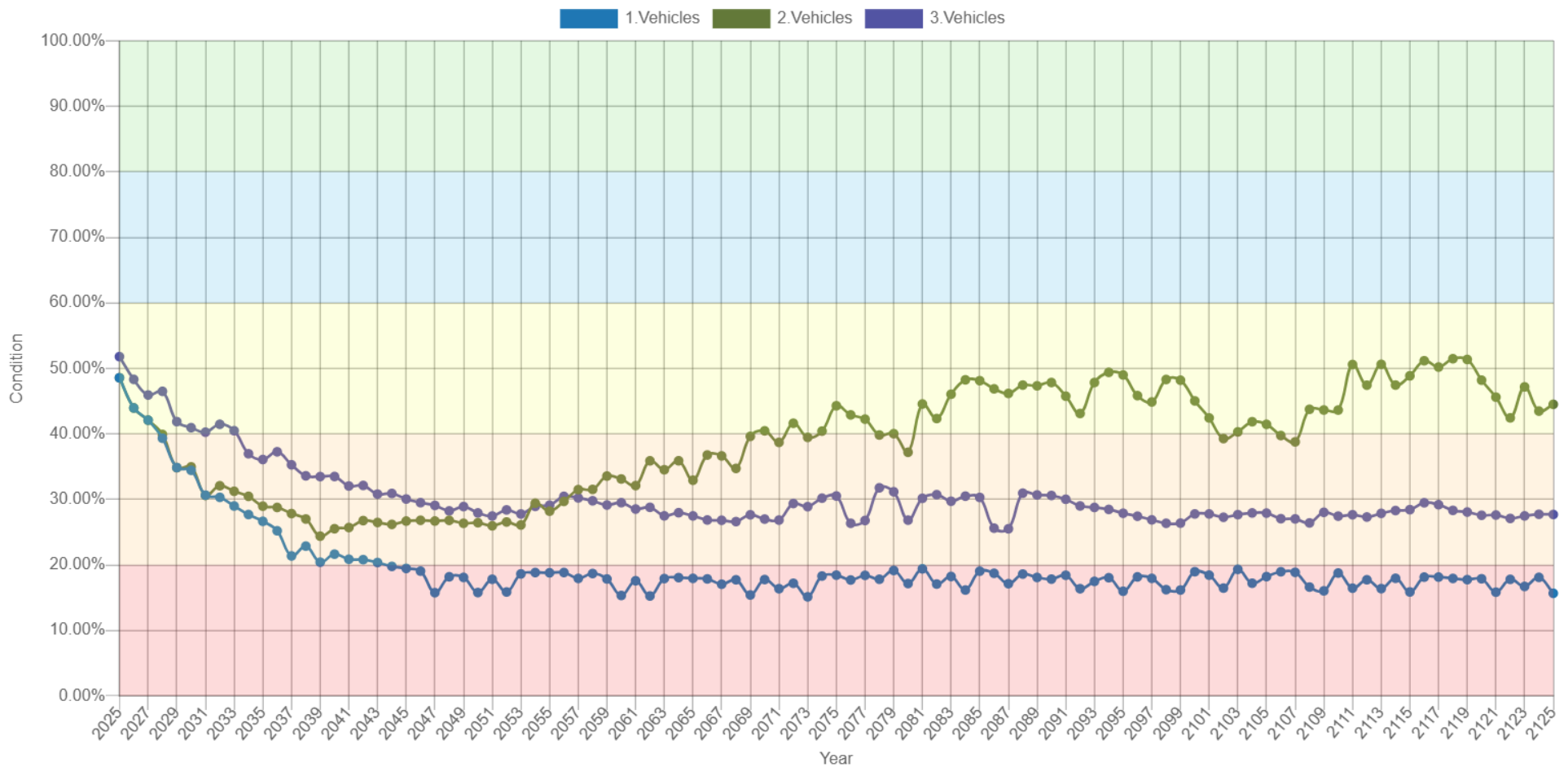
Vehicles

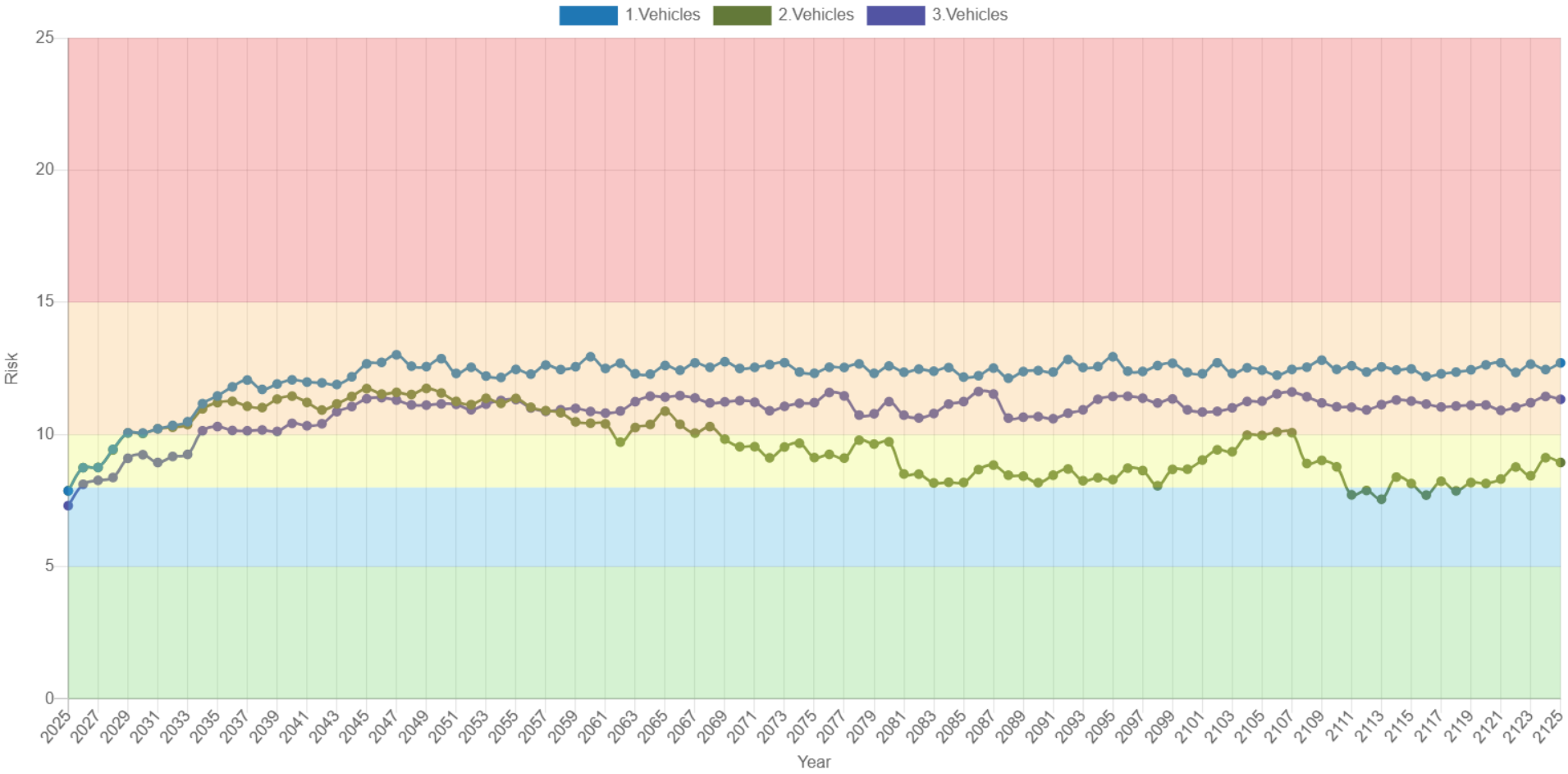*Figure 43: Vehicles Projected Condition Changes by Scenario*

Figure 44: Vehicles Risk Projections by Scenario

Appendix F – Risk Rating Criteria

Probability of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Probability of Failure Score
All Assets	Economic (100%)	Condition (100%)	0-19	5
			20-39	4
			40-59	3
			60-79	2
			80-100	1

Consequence of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Water and Storm Mains[14]	Economic (65%)	Replacement Cost (100%)	$0-25,000	1-Insignifcant
			$25,001-75,000	2- Minor
			$75,001-125,000	3- Moderate
			$125,001-220,000	4- Major
			$220,001+	5- Severe
	Operational (35%)	Pipe Diamter (65%)	0-50	1-Insignifcant
			51-100	2- Minor
			101-250	3- Moderate
			250-400	4- Major
			401+	5- Severe
		AMP Segment (35%)	Storm Mains	2- Minor
			Water Mains	4- Major
Paved Roads	Economic (60%)	Replacement Cost (100%)	$0-100,000	1-Insignifcant
			$100,001-200,000	2- Minor
			$200,001-400,000	3- Moderate
			$400,001-600,000	4- Major
			$800,001+	5- Severe
	Operational (20%)	Roadside Environment	Rural	2- Minor
			Urban	3- Moderate
	Social (20%)	AADT	0-49	1-Insignifcant
			50-199	2- Minor
			200-499	3- Moderate

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[14] Sewer mains do not have diameter information appended to them and because of that were are not included in this risk model.

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
			500-999	4- Major
			1000-1999	5- Severe
Bridges and Culverts	Economic (80%)	Replacement Cost (100%)	$0-300,000	1-Insignifcant
			$500,001-750,000	2- Minor
			$750,001-1,500,000	3- Moderate
			$1,500,001-3,500,000	4- Major
			$3,500,001+	5- Severe
	Operational (20%)	Span (m)	5	1-Insignifcant
			8	2- Minor
			12	3- Moderate
			20	4- Major
			35	5- Severe
All Other Assets	Economic (100%)	Replacement Cost (100%)	$0-100,000	1-Insignifcant
			$100,001-300,000	2- Minor
			$300,001-600,000	3- Moderate
			$600,001-850,000	4- Major
			$13,500,001+	5- Severe

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