

Municipality of Mattice- Val Côté



2022 Asset Management Plan



This Asset Management Program was prepared by:



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Key Statistics

Replacement cost of asset portfolio
\$86.4 million

Replacement cost of infrastructure per household
\$332,249(2021)

Percentage of assets in fair or better condition
59%

Percentage of assets with assessed condition data
38%

Annual capital infrastructure deficit
\$2 million

Recommended timeframe for eliminating annual infrastructure deficit
40 Years

Target reinvestment rate
2.3%

Actual reinvestment rate
0.15%

Table of Contents

1	Introduction.....	4
2	Scope and Methodology	13
3	Portfolio Overview	16
4	Road Network	20
5	Bridges & Culverts	27
6	Buildings	33
7	Land Improvements.....	38
8	Vehicles	43
9	Equipment.....	48
10	Water Network	54
11	Sanitary Network	61
12	Impacts of Growth	68
13	Financial Strategy	69
14	Appendices	80

Executive Summary

Municipal infrastructure provides the foundation for the economic, social, and environmental health and growth of a community through the delivery of critical services. The goal of asset management is to deliver an adequate level of service in the most cost-effective manner. This involves the development and implementation of asset management strategies and long-term financial planning.

Scope

The scope of this document is to identify the current practices and strategies that are in place to manage public infrastructure. Through the implementation of sound asset management strategies, the Municipality can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

The following asset categories are addressed in further sections:

Asset Categories

 Road Network	 Bridges & Culverts
 Vehicles	 Buildings
 Land Improvements	 Equipment
 Sanitary Network	 Water Network

The Township has achieved compliance with O. Reg. 588/17 to the extent of the requirements that must be completed by 2022. There are additional requirements concerning general infrastructure, proposed levels of service and growth that must be met by July 1, 2024 and 2025.

Findings

The overall replacement cost of the asset categories owned by Mattice-Val Côté totals \$86.4 million. 59% of all assets analysed are in fair or better condition and assessed condition data was available for 38% of assets. For the remaining 62% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation.

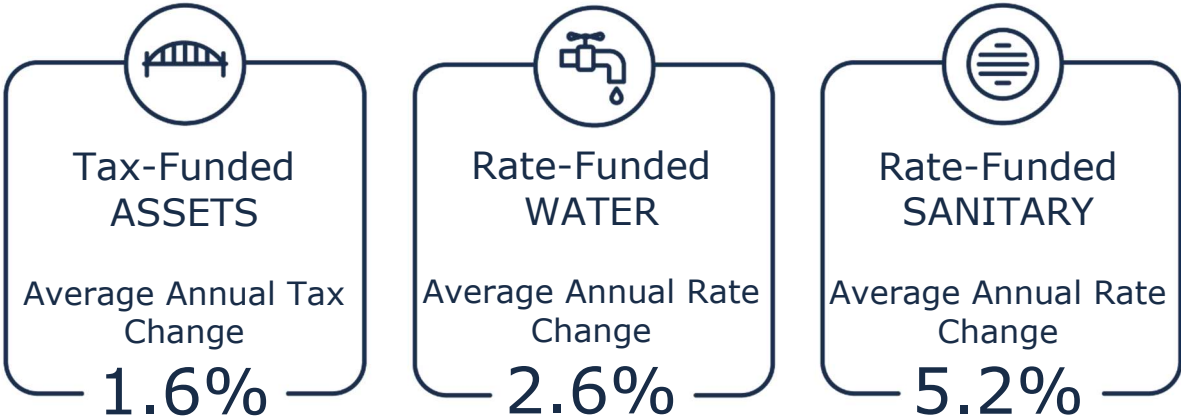
The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. Using a combination of proactive lifecycle strategies (roads) and replacement only strategies (all other assets) to determine the lowest cost option to maintain the current level of service, a sustainable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

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the Municipality’s average annual capital requirement totals \$2 million. Based on a historical analysis of sustainable capital funding sources, the Municipality is committing approximately \$130,600 towards capital projects or reserves per year. As a result, there is currently an annual funding gap of \$1.87 million.

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

Recommendations

A financial strategy was developed to address the annual capital funding gap. The annual tax/rate change required to eliminate the Municipality’s infrastructure deficit based on a 40-year plan is:



Recommendations to guide continuous refinement of the Municipality's asset management program include:

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

1 Introduction

1.1 Key Insights

- 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 Municipality’s asset management policy provides clear direction to staff on their roles and responsibilities regarding asset management
- An asset management plan is a living document that should be updated regularly to inform long-term planning

1.2 Mattice-Val Côté Community Profile

Census Characteristic	Mattice-Val Côté	Ontario
Population 2021	542	14,223,942
Population Change 2016-2021	-16.4%	5.8%
Total Private Dwellings	260	5,929,250
Population Density	1.3/km ²	15.9/km ²
Land Area	412.81 km ²	892,411.76 km ²

The Municipality of Mattice-Val Côté is in the Cochrane District in Northeastern Ontario. It is located approximately 30 km east of Hearst and 70 km west of Kapuskasing on Ontario Highway 11.

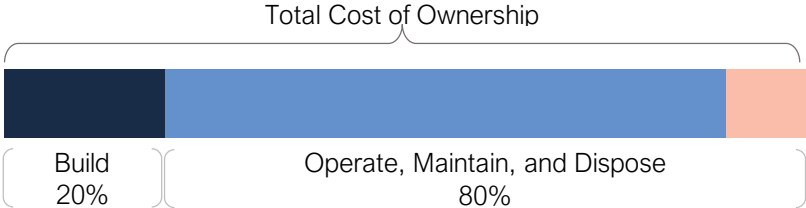
The Municipality was incorporated on April 18, 1975, as the United Townships of Eilber and Devitt, with Paul Zorzetto as first reeve. Its two primary population centres are Mattice and Val-Côté. Mattice is located on the Missinaibi River, a historic fur-trading route that flows into the Moose River, then into James Bay. The river is a popular destination for canoers, known for its historical significance.

The Municipality’s slogan, “In the Heart of the Missinaibi”, perfectly describes the charming community of Mattice – Val Côté.

1.3 An Overview of Asset Management

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

The acquisition of capital assets accounts for only 10-20% of the total cost of ownership. The remaining 80-90% is derived from operations and maintenance. The Municipality of Mattice-Val Côté focused its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.



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.

1.3.1 Asset Management Policy

An asset management policy represents a statement of the principles guiding the Municipality’s approach to asset management activities. It aligns with the organization and provides clear direction to municipal staff on their roles and responsibilities.

The Municipality adopted their asset management policy by resolution # 19-130 on June 24th, 2019 in accordance with Ontario Regulation 588/17. The objective of the policy is to demonstrate an organization-wide commitment to the good stewardship of municipal infrastructure assets, and to improved accountability and transparency to the community through the adoption of best practices regarding asset management planning.

1.3.2 Asset Management Strategy

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

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

1.4 Key Concepts in Asset Management

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

1.4.1 Lifecycle Management Strategies

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

To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration. There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation, and replacement. The following table provides a description of each type of activity and the general difference in cost.

Lifecycle Activity	Description	Example (Roads)	Cost
Maintenance	Activities that prevent defects or deteriorations from occurring	Crack Seal	\$
Rehabilitation/ Renewal	Activities that rectify defects or deficiencies that are already present and may be affecting asset performance	Mill & Re-surface	\$\$
Replacement/ Reconstruction	Asset end-of-life activities that often involve the complete replacement of assets	Full Reconstruction	\$\$\$

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.

The Municipality's approach to lifecycle management is described within each asset category. Developing and implementing a proactive lifecycle strategy will help staff 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.

1.4.2 Risk Management Strategies

Municipalities generally take a 'worst-first' approach to infrastructure spending. Rather than prioritizing assets based on their importance to service delivery, assets in the worst condition are fixed first, regardless of their criticality. However, not all assets are created equal. Some are more important than others, and their failure or disrepair poses more risk to the community than that of others. For example, a road with a high volume of traffic that provides access to critical services poses a higher risk than a low volume rural road. These high-value assets should receive funding before others.

By identifying the various impacts of asset failure and the likelihood that it will fail, risk management strategies can identify critical assets, and determine where maintenance efforts, and spending, should be focused.

A high-level evaluation of asset risk and criticality was performed. 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.

1.4.3 Levels of Service

A level of service (LOS) is a measure of what the Municipality is providing to the community and the nature and quality of that service. The Municipality has identified corporate values that describes how the municipality provides services to their residents as well as how they manage the infrastructure for the community. Being reliable and meeting regulatory requirements are the foundational values of the Municipality. The level of service statement for the Municipality is:

Mattice-Val Côté's municipal services focus on ensuring regulatory requirements while being reliably available to residents.

Within each asset category, technical metrics and qualitative descriptions that measure both technical and community levels of service have been established and measured as data is available.

These measures include a combination of those that have been outlined in O. Reg. 588/17 in addition to performance measures identified by the Municipality as worth measuring and evaluating. The Municipality measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories, the province, through O. Reg. 588/17, has provided qualitative descriptions that are required. For non-core asset categories, the Municipality must determine the qualitative descriptions that will be used by July 1, 2024. These descriptions can be found in the Levels of Service subsection within each asset category.

Technical Levels of Service

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

For core asset categories, the province, through O. Reg. 588/17, has provided technical metrics that are required. For non-core asset categories, the Municipality must determine the technical metrics that will be used by July 1, 2024. The metrics can be found in the Levels of Service subsection within each asset category.

Current and Proposed Levels of Service

The Municipality is focusing on measuring the current level of service provided to the community. Once current levels of service have been measured, the Municipality plans to establish proposed levels of service over a 10-year period, in accordance with O. Reg. 588/17.

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

1.5 Climate Change

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

The report revealed that between 1948 and 2016, the average temperature increase across Canada was 1.7°C; moreover, during this period, Northern Canada experienced a 2.3°C increase. The temperature increase in Canada has doubled that of the global average. If emissions are not significantly reduced, the temperature could increase by 6.3°C in Canada by the year 2100 compared to 2005 levels. Observed precipitation changes in Canada include an increase of approximately 20% between 1948 and 2012.

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

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

1.5.1 Mattice-Val Côté Climate Profile

The Municipality of Mattice-Val Côté is in North-eastern Ontario in the district of Cochrane. The Municipality is expected to experience notable effects of climate change which include higher average annual temperatures, an increase in total annual precipitation, and an increase in the frequency and severity of extreme events. According to Climatedata.ca – a collaboration supported by Environment and Climate Change Canada (ECCC) – the Municipality of Mattice-Val Côté may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1981 and 2010 the annual average temperature was 1.1°C
- Under a high emissions scenario, the annual average temperatures are projected to increase to 2.9°C by the year 2050 and to 6.8°C by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Mattice-Val Côté is projected to experience a 6% increase in precipitation by the year 2050 and a 16% increase by the end of the century.

Increase in Frequency of Extreme Weather Events:

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

1.5.2 Integration Climate change and Asset Management

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

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

1.6 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). Along with creating better performing organizations, more liveable and sustainable communities, the regulation is a key, mandated driver of asset management planning and reporting. It places substantial emphasis on current and proposed levels of service and the lifecycle costs incurred in delivering them.

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

2019

Strategic Asset Management Policy

2022

Asset Management Plan for Core Assets with the following components:

1. Current levels of service
2. Inventory analysis
3. Lifecycle activities to sustain LOS
4. Cost of lifecycle activities
5. Population and employment forecasts
6. Discussion of growth impacts

2024

Asset Management Plan for Core and Non-Core Assets (same components as 2022) and Asset Management Policy Update

2025

Asset Management Plan for All Assets with the following additional components:

1. Proposed levels of service for next 10 years
2. Updated inventory analysis
3. Lifecycle management strategy
4. Financial strategy and addressing shortfalls
5. Discussion of how growth assumptions impacted lifecycle and financial

1.6.1 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, 2024. Next to each requirement a page or section reference is included in addition to any necessary commentary.

Requirement	O. Reg. Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	4 - 11	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	4 - 11	Complete
Average age of assets in each category	S.5(2), 3(iii)	4 - 11	Complete
Condition of assets in each category	S.5(2), 3(iv)	4 - 11	Complete
Description of municipality’s approach to assessing the condition of assets in each category	S.5(2), 3(v)	4 - 11	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	4 - 11	Complete for Core Assets Only
Current performance measures in each category	S.5(2), 2	4 - 11	Complete for Core Assets Only
Lifecycle activities needed to maintain current levels of service for 10 years	S.5(2), 4	4 - 11	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	Appendix B	Complete
Growth assumptions	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	12	Complete

2 Scope and Methodology

2.1 Key Insights

- Mattice-Val Côté has 8 different asset categories and is divided between tax-funded and rate-funded categories
- The source and recency of replacement costs impacts the accuracy and reliability of asset portfolio valuation
- 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

2.2 Asset Categories

To ensure compliance with Ontario Regulation 588/17 the July 2022 deadline under the regulation requires analysis of only core assets (roads, bridges and culverts, water, wastewater, and stormwater). Where the July 2024 requires analysis of all other assets.

The state of the infrastructure for the Municipality’s asset portfolio, establishes current levels of service and the associated technical and customer oriented key performance indicators (KPIs), outlines lifecycle strategies for optimal asset management and performance, and provides financial strategies to reach sustainability for the asset categories listed below.

Asset Category	Source of Funding
Road Network	Tax Levy
Bridges & Culverts	
Buildings	
Vehicles	
Machinery & Equipment	
Land Improvements	
Water Network	User Rates
Sanitary Network	

2.3 Deriving Replacement Costs

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

- **User-Defined Cost and Cost/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 cost of the asset is inflated based on Consumer Price Index or Non-Residential Building Construction Price Index

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

2.4 Estimated Useful Life and Service Life Remaining

The estimated useful life (EUL) of an asset is the period over which the Municipality expects the asset to be available for use and remain in service before requiring replacement or disposal. The EUL for each asset 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 date and its EUL, the Municipality can determine the service life remaining (SLR) for each asset. Using condition data and the asset's SLR, the Municipality can more accurately forecast when it will require replacement. The SLR is calculated as follows:

$$\text{Service Life Remaining (SLR)} = \text{In Service Date} + \text{Estimated Useful Life (EUL)} - \text{Current Year}$$

2.5 Reinvestment Rate

As assets age and deteriorate they require additional investment to maintain a state of good repair. The reinvestment of capital funds, through asset renewal or replacement, is necessary to sustain an adequate level of service. The reinvestment rate is a measurement of available or required funding relative to the total replacement cost. By comparing the actual vs. target reinvestment rate the Municipality can determine the extent of any existing funding gap.

The reinvestment rate is calculated as follows:

$$\text{Target Reinvestment Rate} = \frac{\text{Annual Capital Requirement}}{\text{Total Replacement Cost}}$$

$$\text{Actual Reinvestment Rate} = \frac{\text{Annual Capital Funding}}{\text{Total Replacement Cost}}$$

2.6 Deriving Asset Condition

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

A condition assessment rating system provides a standardized descriptive framework that allows comparative benchmarking across the Municipality’s asset portfolio. The table below outlines the condition rating system used 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.

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

The analysis 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. Appendix E includes additional information on the role of asset condition data and provides basic guidelines for the development of a condition assessment program.

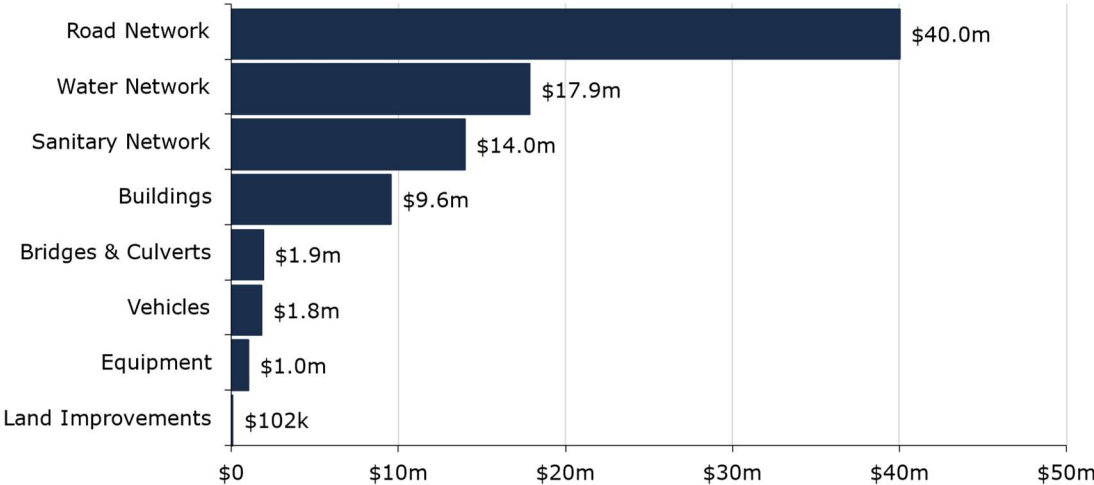
3 Portfolio Overview

3.1 Key Insights

- The total replacement cost of the Municipality’s asset portfolio is \$86.4 million
- The Municipality’s target re-investment rate is 2.3%, and the actual re-investment rate is 0.15%, contributing to an expanding infrastructure deficit
- 59% of all assets are in fair or better condition
- 26% of assets are projected to require rehabilitation / replacement in the next 10 years
- Average annual capital requirements total \$2 million per year across all assets

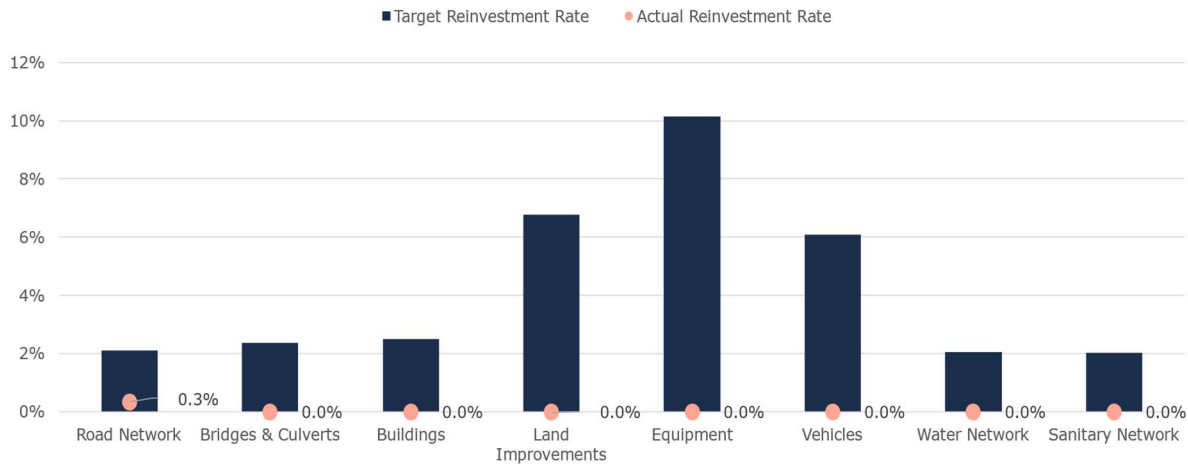
3.2 Total Replacement Cost

The asset categories have a total replacement cost of \$86.4 million based on inventory data from 2022. This total was determined based on a combination of user-defined costs and historical cost inflation. This estimate reflects replacement of historical assets with similar, not necessarily identical, assets available for procurement today.



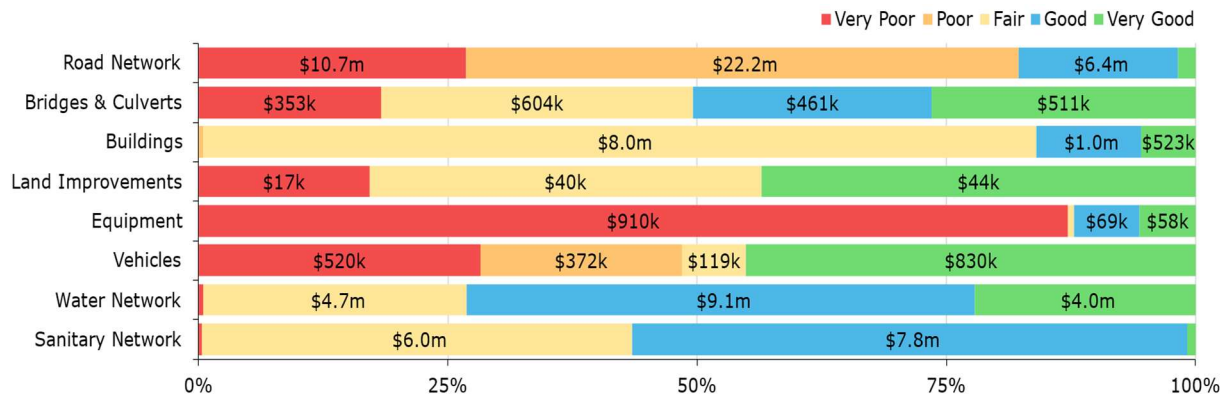
3.3 Target vs. Actual Reinvestment Rate

The graph below depicts funding gaps or surpluses by comparing target vs actual reinvestment rate. To meet the long-term replacement needs, the Municipality should be allocating approximately \$2 million annually, for a target reinvestment rate of 2.3%. Actual annual spending on infrastructure totals approximately \$130,600, for an actual reinvestment rate of 0.15%.



3.4 Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 59% of assets in Mattice-Val Côté are in fair or better condition. This estimate relies on both age-based and field condition data.



Assessed condition data is available for 38% of assets; for the remaining portfolio, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions.

The table below identifies the source of condition data.

Asset Category	Assets with Assessed Condition	Source of Condition Data
Road Network	81%	Resurfing / Construction Only
Bridges & Culverts	1 Bridge	2021 Rivard Engineering
All other Categories	0%	No Assessments

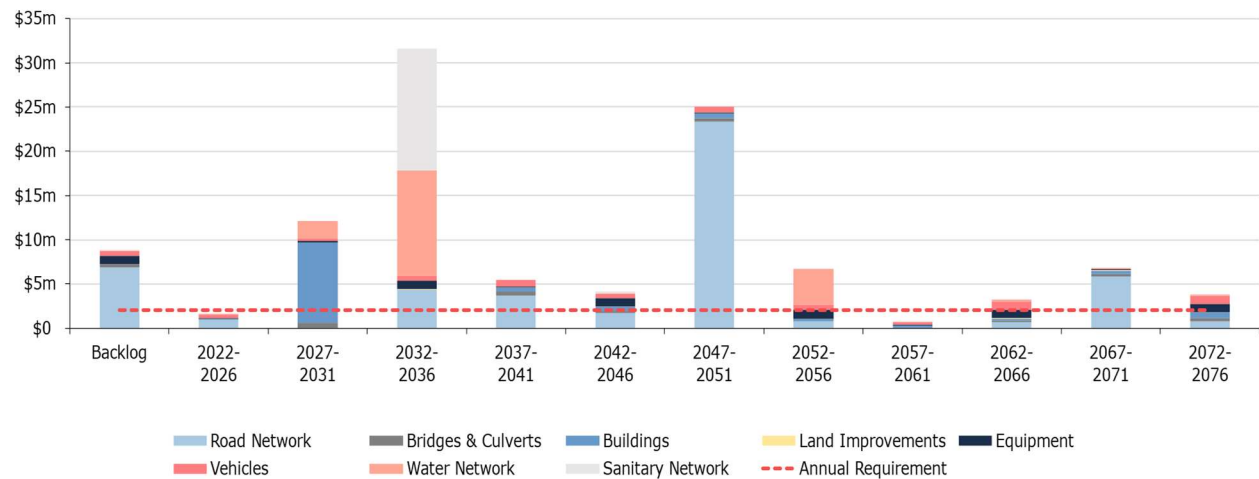
3.5 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 26% of the Municipality’s assets will require rehabilitation / replacement within the next 10 years. Capital requirements over the next 10 years are identified in Appendix B.

3.6 Forecasted Capital Requirements

The development of a long-term capital forecast should include both asset rehabilitation and replacement requirements. With the development of asset-specific lifecycle strategies that include the timing and cost of future capital events, the Municipality can produce an accurate long-term capital forecast.

The following graph identifies capital requirements over the next 115 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average annual capital requirements of \$2 million.



3.7 Risk & Criticality

The Municipality has noted key trends, challenges, and risks to service delivery that they are currently facing:



Capital Funding Strategies

Major capital rehabilitation and replacement projects are entirely dependant on the availability of grant funding opportunities. When grants are not available, rehabilitation and replacement projects are deferred.



Asset Data & Information

There is a lack of confidence in the available inventory data and condition data. The Municipality does not have the means to assess the infrastructure never mind replace or rehabilitate it. Staff find it a continuous challenge to dedicate resources and time towards data collection and condition assessments to ensure that condition and asset attribute data is regularly reviewed and updated.

4 Road Network

4.1 Key Insights

The road network is a critical component of the provision of safe and efficient transportation services and represents the highest value asset category in the Municipality's asset portfolio. It includes all municipally owned and maintained roadways in addition to supporting roadside infrastructure including sidewalks, and streetlights.

The Municipality's roads and sidewalks are maintained by the public works department who is also responsible for winter snow clearing, ice control and snow removal operations of municipal roads.

The state of the infrastructure for the road network is summarized in the following table.

Replacement Cost	Condition	Financial Capacity
\$40,018,283	Poor (35%)	Annual Requirement: \$843,016
		Funding Available: \$130,616
		Annual Deficit: \$712,400

4.2 Asset Inventory & Costs

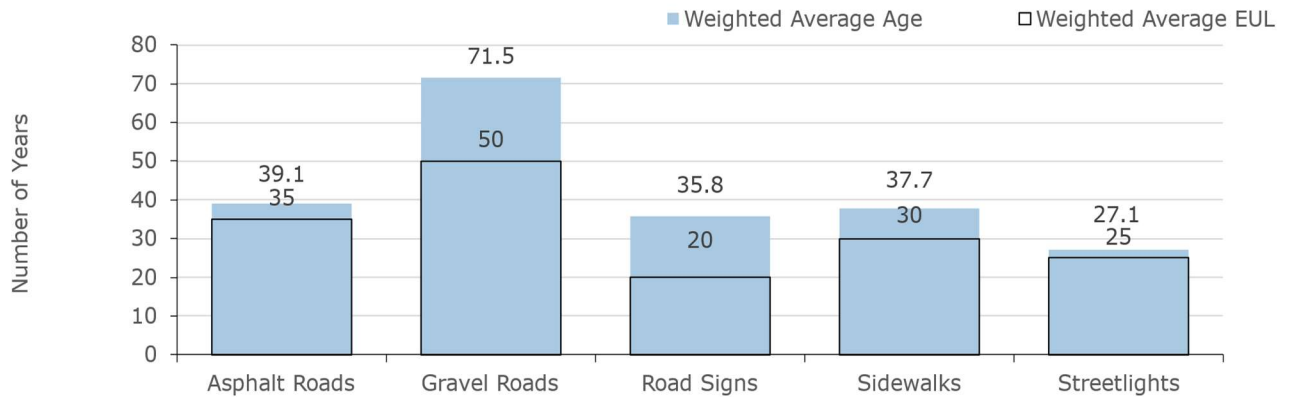
The table below includes the quantity and total replacement cost of each asset segment in the Municipality's road inventory.

Asset Segment	Quantity	Replacement Cost
Asphalt Roads	5,625m	\$6,596,100
Gravel Roads	50,885m	\$32,395,935
Road Signs	112	\$15,252
Sidewalks	3,755m	\$744,760
Streetlights	75	\$266,236
Total		\$40,018,283

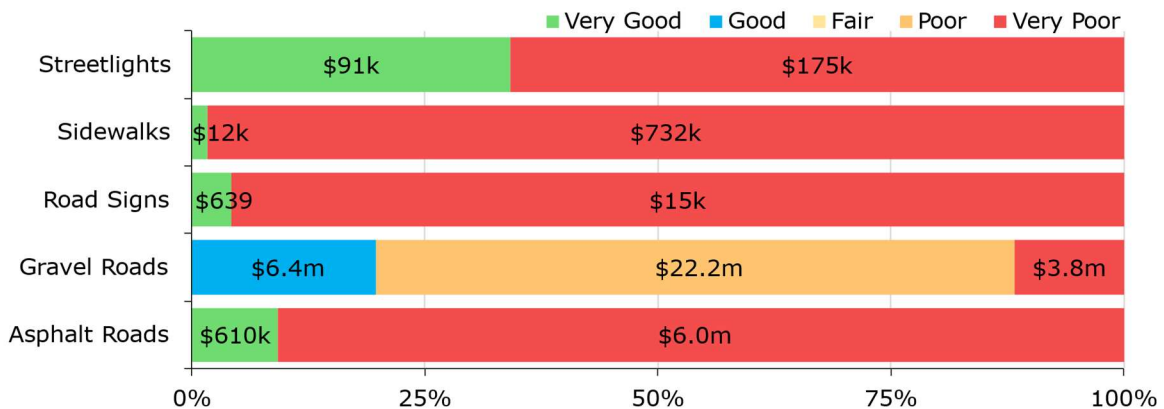
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

4.3 Asset Condition & Age

The graph below identifies the average age, and the estimated useful life for each asset segment. It is all weighted by replacement cost.



The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Municipality’s roads continue to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation, and replacement activities is required to increase the overall condition of the roads.

Each asset’s estimated useful life should also be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

4.3.1 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The last third-party assessment on the roads was done in 2007.

4.4 Lifecycle Management Strategy

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

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

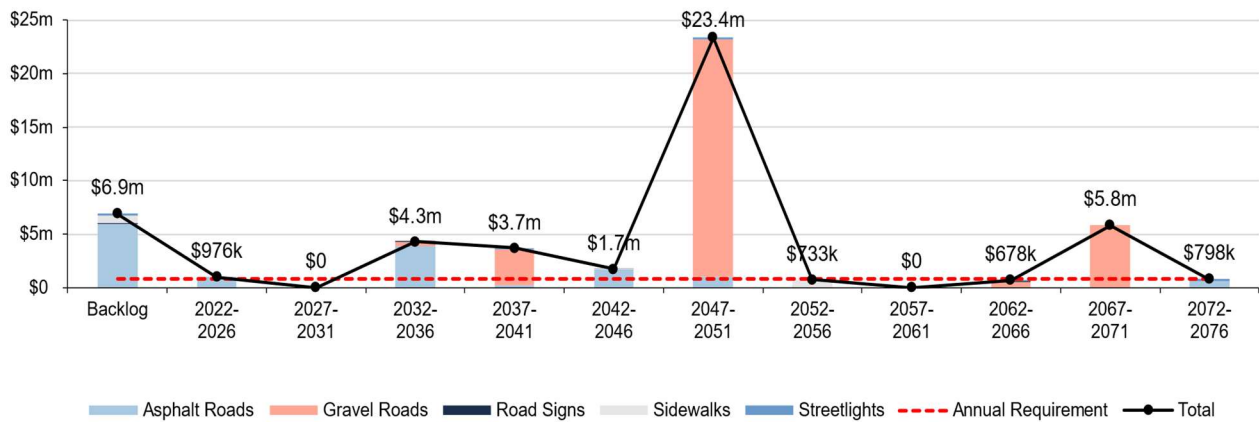


The Municipality has developed a gravel road program that adds gravel and grading which is not captured as a capital expense. The amount of gravel and the frequency is a current battle that is being lost due to inadequate funds. The Municipality has included the full reconstruction of the gravel roads because of this. They have also reduced the level of service of roads that were surface treated back to gravel.

4.4.1 Forecasted Capital Requirements

Based on the lifecycle strategies identified previously for roads, and assuming the end-of-life replacement of all other assets in this category, the following graph forecasts capital requirements for the road network. The annual capital requirement represents the average amount per year that the Municipality should allocate towards funding rehabilitation and replacement needs. The following projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the

trend line represents the average annual capital requirement. For the road network the annual capital requirement is \$843,016.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

4.5 Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix D for the criteria used to determine the risk rating of each asset.



This is a high-level model developed by municipal staff and it should be reviewed and adjusted to reflect an evolving understanding of both the probability and consequences of asset failure.

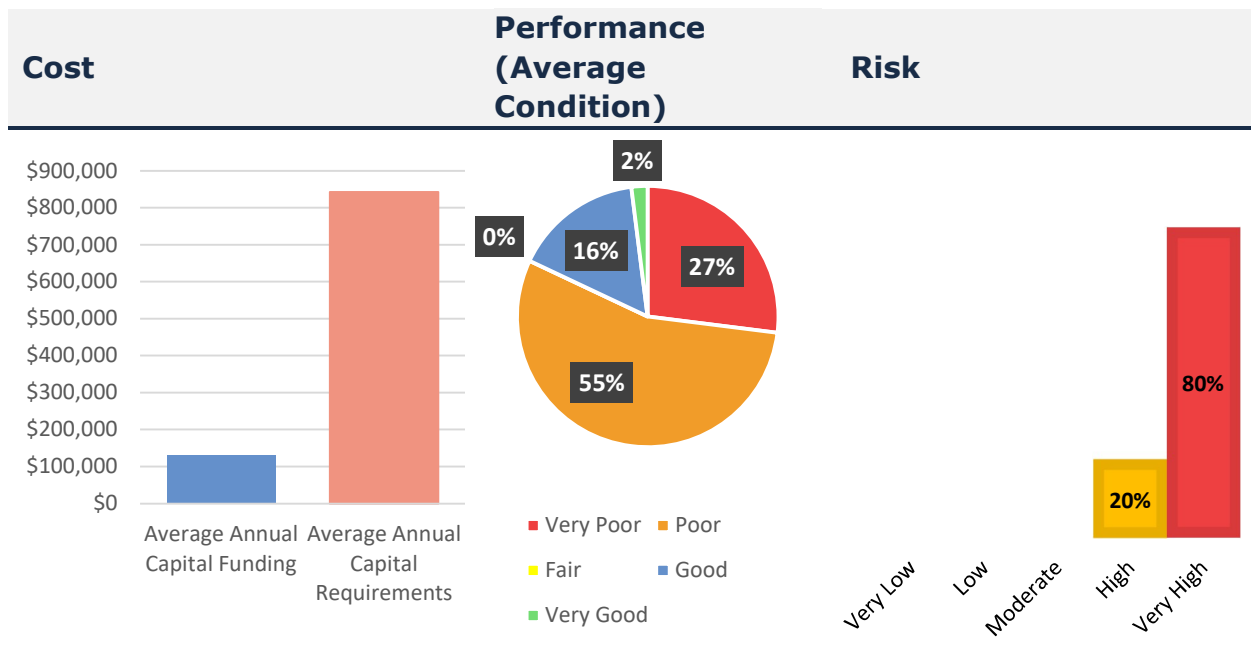
The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the road network are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition (Structural)	Replacement Cost (Economic)
Service Life Remaining (Functional)	Surface Type (Operational)

The identification of critical assets allows the Municipality to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

4.6 Levels of Service

The following tables identify the Municipality’s metrics to identify their current level of service for the roads. By comparing the cost, performance (average condition) and risk year over year the Municipality will be able to evaluate how their services/assets are trending. The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.



These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Municipality has selected.

4.6.1 Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by the road network.

Service Attribute	Qualitative Description	Current LOS
Scope	Description, which may include maps, of the road network in the municipality and its level of connectivity	See Appendix C
Quality	Description or images that illustrate the different levels of road class pavement condition	<p>The municipal staff provide surface condition with a rating as follows:</p> <p>0 – 20 Very Poor 20 – 40 Poor 40 – 60 Fair 60 – 80 Good 80 – 100 Very Good</p>

4.6.2 Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the road network.

Service Attribute	Technical Metric	Current LOS
Scope	Lane-km of arterial roads (MMS classes 1 and 2) per land area (km/km ²)	0
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km ²)	0
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km ²)	0.137
Quality	Average pavement condition index for paved roads in the municipality	39.6 (Poor)
	Average surface condition for unpaved roads in the municipality (e.g. excellent, good, fair, poor)	Poor

4.7 Recommendations

Condition Assessment Strategies

- The last comprehensive assessment of the road network was completed in 2007. Consider completing an updated assessment of all roads within the next 1-2 years.

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.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that the Municipality believes to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

5 Bridges & Culverts

5.1 Key Insights

Bridges and culverts represent a critical portion of the transportation services provided to the community. The state of the infrastructure for bridges and structural culverts is summarized in the following table.

Replacement Cost	Condition	Financial Capacity	
\$1,928,478	Fair (57%)	Annual Requirement:	\$45,864
		Funding Available:	\$0
		Annual Deficit:	\$45,864

5.2 Asset Inventory & Costs

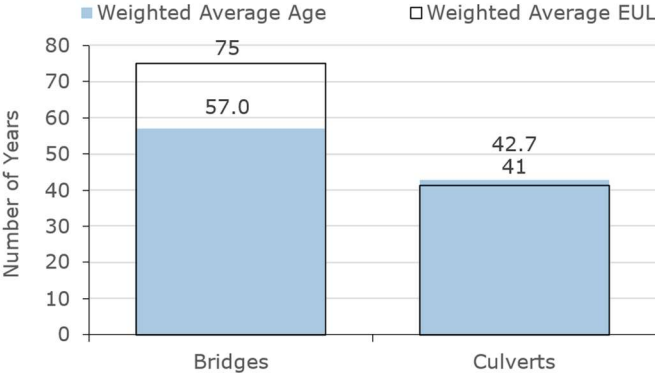
The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Municipality’s bridges and culverts inventory.

Asset Segment	Quantity	Replacement Cost	Annual Requirement	Capital
Bridges	1	\$460,775	\$6,144	
Structural Culverts	14	\$1,467,703	\$39,720	
Total		\$1,928,478	\$45,864	

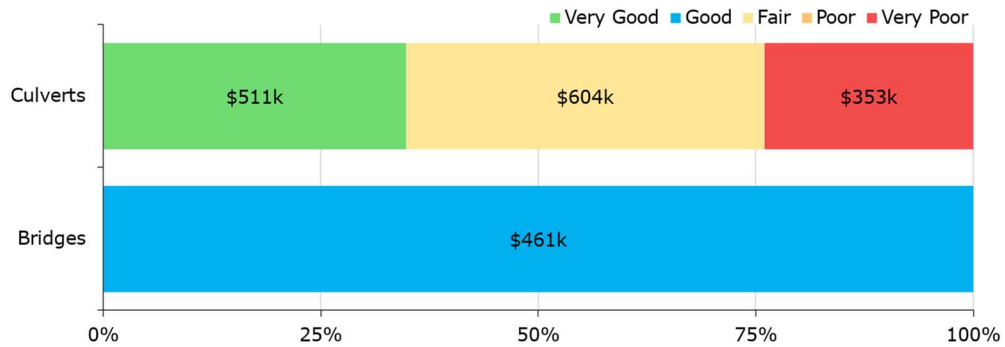
Each asset’s replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

5.3 Asset Condition & Age

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.



The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Municipality’s Bridges & Culverts continue to provide an acceptable level of service, the staff should monitor the average condition of all assets. If the average condition declines, the Municipality should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation, and replacement activities is required to increase the overall condition of the bridges and culverts.

Each asset’s Estimated Useful Life should also be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

5.3.1 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The Municipality’s current approach is to assess culverts as part of road studies and the 1 bridge is assessed every 2 years in accordance with the Ontario Structure Inspection Manual (OSIM).

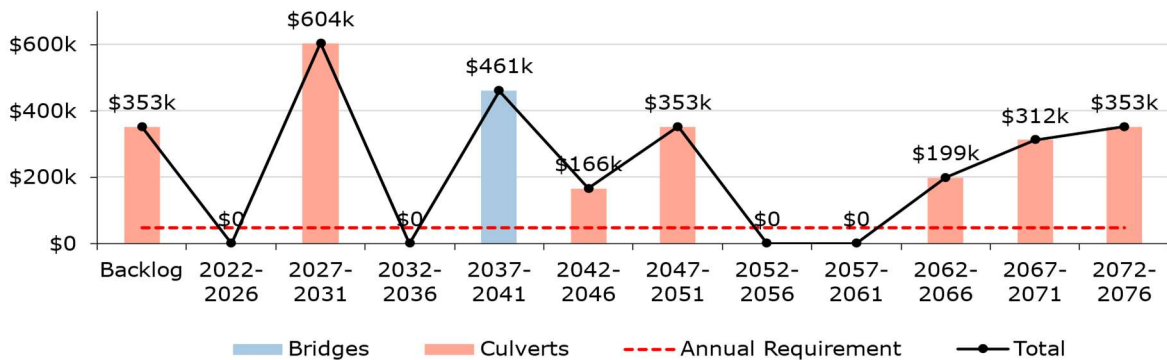
5.4 Lifecycle Management Strategy

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

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation and Replacement	All lifecycle activities are driven by the results of inspections completed according to the Ontario Structure Inspection Manual (OSIM)
Inspection	The most recent inspection report was completed in 2021 by Rivard Engineering

5.4.1 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements. The annual capital requirement represents the average amount per year that the Municipality should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 50 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average annual capital requirements. For bridges and culverts, the average annual capital requirement is \$45,864.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

5.5 Risk & Criticality

The risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix D for the criteria used to determine the risk rating of each asset.



This is a high-level model developed by municipal staff should review and adjust the risk model to reflect an evolving understanding of both the probability and consequences of asset failure.

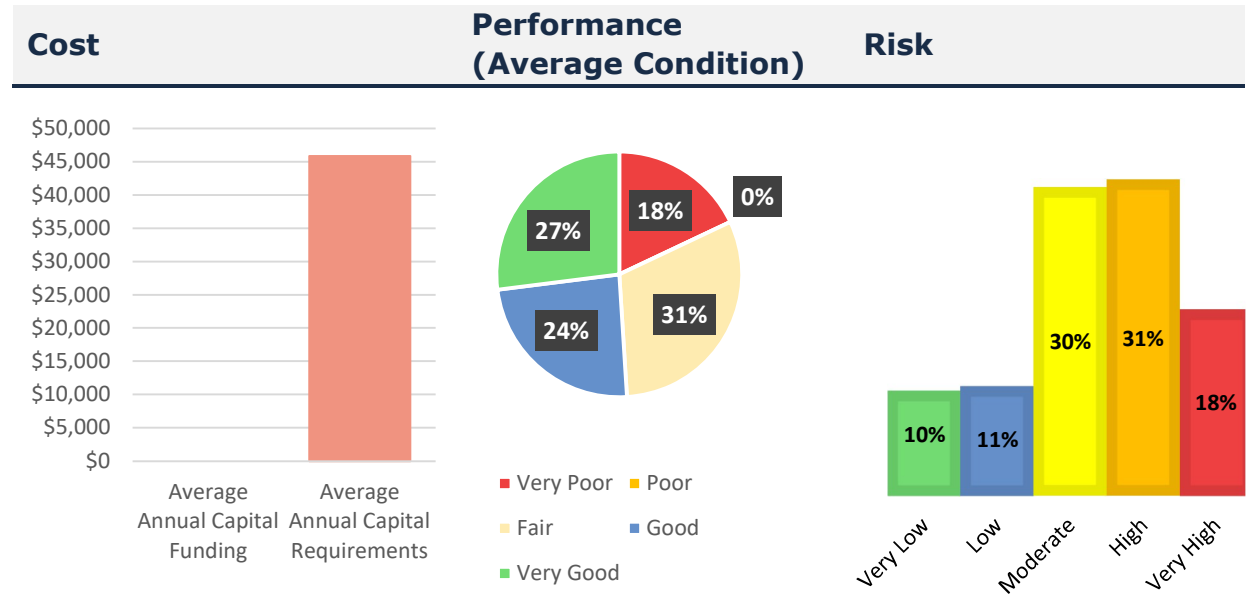
The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of bridges and culverts are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
Service Life Remaining	Surface Type (Operational)

The identification of critical assets allows the Municipality to determine risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

5.6 Levels of Service

The following tables identify the Municipality’s metrics to identify their current level of service for their bridge and large culverts. By comparing the cost, performance (average condition) and risk year over year the Municipality will be able to evaluate how their services/assets are trending. The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.



The metrics included below are the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Municipality has selected.

5.6.1 Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by bridges and culverts.

Service Attribute	Qualitative Description	Current LOS
Scope	Description of the traffic that is supported by municipal bridges (e.g. heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	Bridges and culverts are a key component of the municipal transportation network.
Quality	Description or images of the condition of bridges and culverts and how this would affect use of the bridges and culverts	See Appendix C

5.6.2 Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by bridges and culverts.

Service Attribute	Technical Metric	Current LOS
Scope	% of bridges in the Town with loading or dimensional restrictions	0
Quality	Average bridge condition index value for bridges	63
	Average bridge condition index value for structural culverts	55

5.7 Recommendations

Data Review/Validation

- Continue to review and validate inventory data, assessed condition data and replacement costs for bridges – an overall condition and replacement cost estimate should be included in the Assessment Report.
- Include culverts that meet the MTO definition of a bridge in the OSIM inspections every 2 years.

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.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17 and those metrics that the Municipality believe to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

6 Buildings

6.1 Key Insights

The Municipality of Mattice-Val Côté owns and maintains several facilities and a recreation centre that provide key services to the community. These include:

- administrative offices
- fire stations
- cemetery charnels (1 is active and 1 is heritage only)
- public works garages and storage sheds
- an arena and community centre

The state of the infrastructure for the buildings and facilities is summarized in the following table.

Replacement Cost	Condition	Financial Capacity
\$9,570,649	Fair (53%)	Annual Requirement: \$238,473
		Funding Available: \$0
		Annual Deficit: \$238,473

6.2 Asset Inventory & Costs

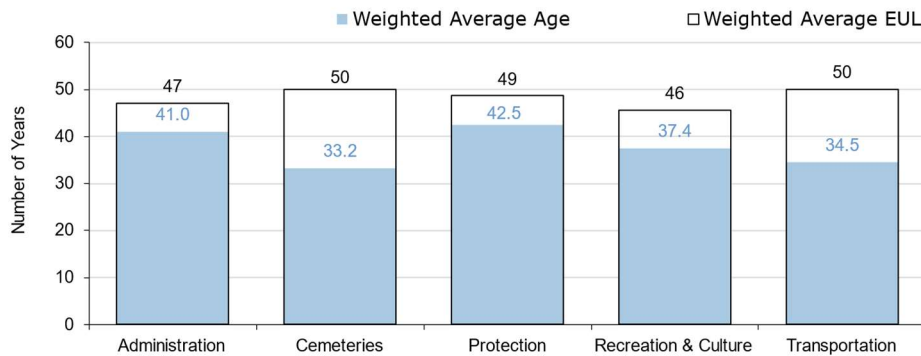
The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Municipality’s buildings inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Administration	1	\$2,358,510	\$60,484
Cemeteries	2	\$21,328	\$427
Protection	5	\$584,409	\$12,620
Recreation & Culture	8	\$6,141,940	\$155,652
Transportation	3	\$464,462	\$9,289
Total		\$9,570,649	\$238,473

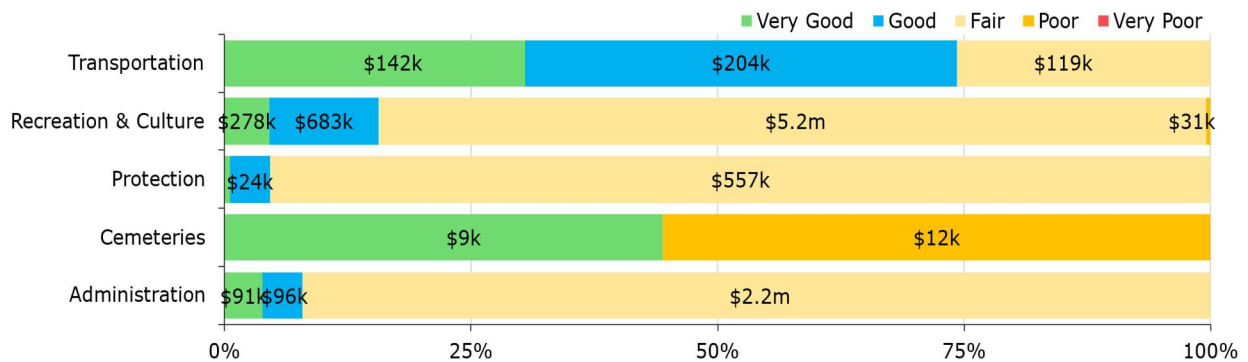
Each asset’s replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

6.3 Asset Condition & Age

The graph below identifies the average age, and the estimated useful life for each asset segment. The values are weighted based on replacement cost.



The graph below visually illustrates the average condition for each asset segment on a very good to very poor.



To ensure that the municipal buildings continue to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the buildings.

Each asset’s estimated useful life should also be reviewed to determine whether adjustments need to be made to better align with the observed service life.

6.3.1 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets. Buildings are repaired as required based on deficiencies identified by staff or residents.

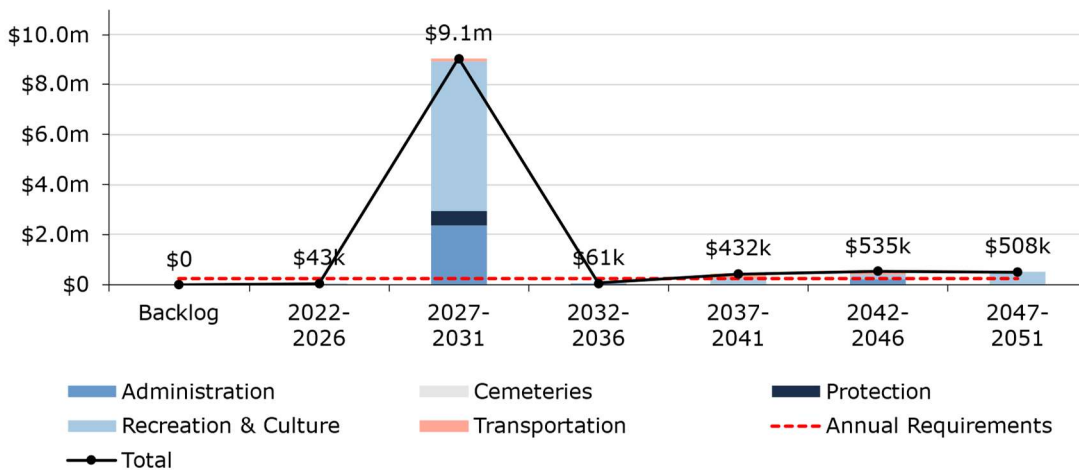
6.4 Lifecycle Management Strategy

To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration. The following table outlines the Municipality’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation	Maintenance of buildings is dealt with on a case-by-case basis
Replacement	Assessments are completed strategically as buildings approach their end-of-life to determine whether replacement or rehabilitation is appropriate

6.4.1 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the Municipality should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 30 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average capital requirements at \$238,473.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

6.5 Risk & Criticality

The risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix D for the criteria used to determine the risk rating of each asset.



This is a high-level model developed by municipal staff and should be reviewed and adjusted to reflect an evolving understanding of both the probability and consequences of asset failure.

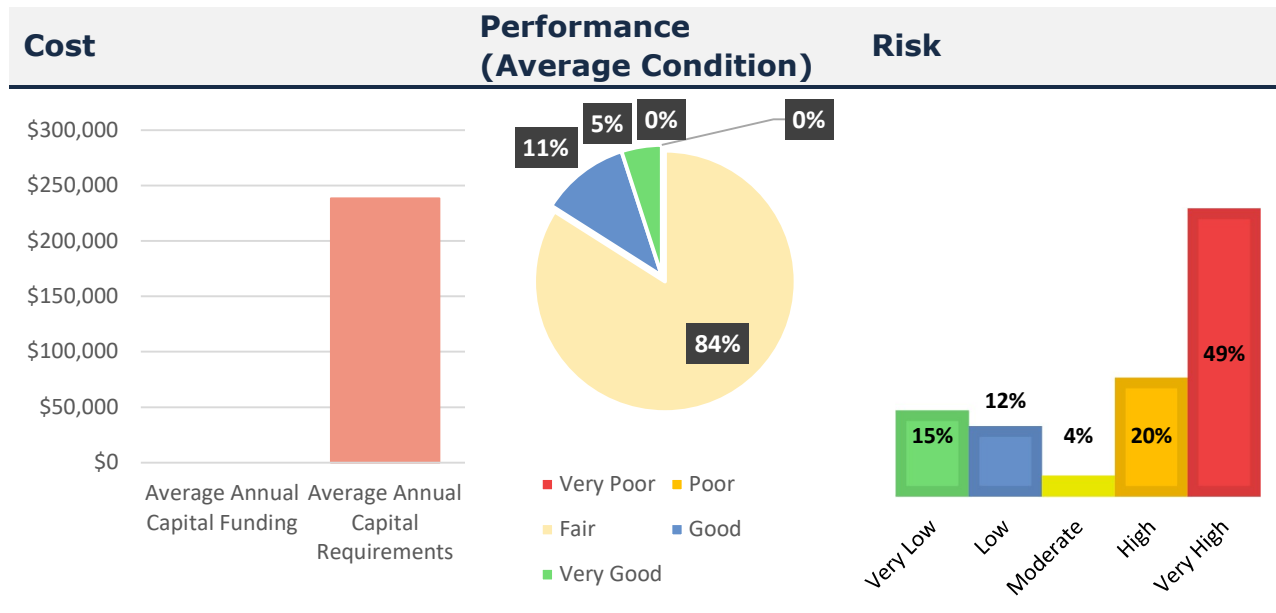
The identification of critical assets allows the Municipality to determine risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

6.6 Levels of Service

Buildings are considered a non-core asset category and as such, the Municipality has until July 1, 2024, to determine the qualitative descriptions and technical metrics that measure the current level of service provided.

The following tables identify the Municipality’s metrics to identify their current level of service for the building assets as a starting point for determining the technical and community level of service metrics that are required as part of O. Reg. 588/17.

By comparing the cost, performance (average condition) and risk year over year the Municipality will be able to evaluate how their services/assets are trending. The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.



6.7 Recommendations

Asset Inventory

- The Municipality’s asset inventory contains a limited breakdown of buildings. Facilities consist of several separate capital components that have unique estimated useful lives and require asset-specific lifecycle strategies. Staff should work towards a more detailed component-based inventory to allow for component-based lifecycle planning and inventory consistency.

Condition Assessment Strategies

- The Municipality should implement regular condition assessments for all facilities to better inform short- and long-term capital requirements.

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.

Levels of Service

- Establish current levels of service in accordance with O.Reg. 588/17 as well as additional metrics as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

7 Land Improvements

7.1 Key Insights

The Municipality of Mattice-Val Côté owns a small number of assets that are considered Land Improvements. This category includes Park assets like shelters, gazebos and playground equipment. The state of the infrastructure for the land improvements is summarized in the following table.

Replacement Cost	Condition	Financial Capacity	
\$101,785	Good (63%)	Annual Requirement:	\$6,883
		Funding Available:	\$0
		Annual Deficit:	\$6,883

7.2 Asset Inventory & Costs

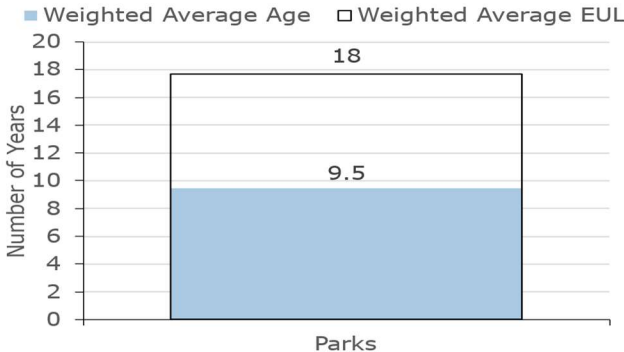
The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Municipality’s land improvement inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Parks	6	\$101,785	\$6,883
		\$101,785	\$6,883

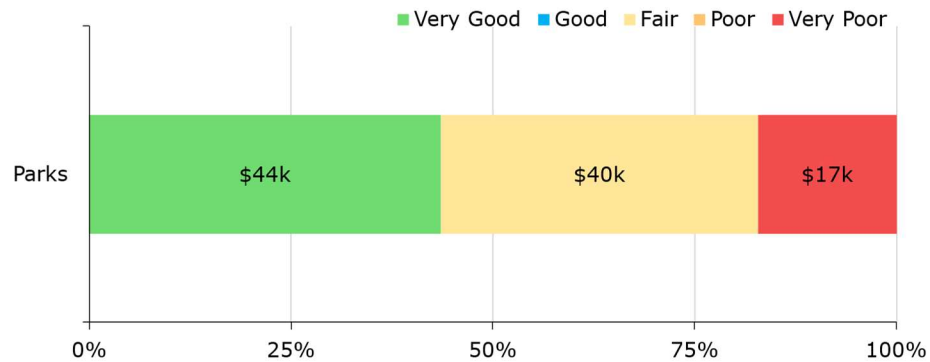
Each asset’s replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

7.3 Asset Condition & Age

The graph below identifies the average age, and the estimated useful life for each asset segment. The values are weighted based on replacement cost.



The graph below visually illustrates the average condition for each asset segment on a very good to very poor.



To ensure that the Municipality’s land improvements continue to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition.

Each asset’s estimated useful life should also be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

7.3.1 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Municipality’s current approach:

- Checks performed by internal staff

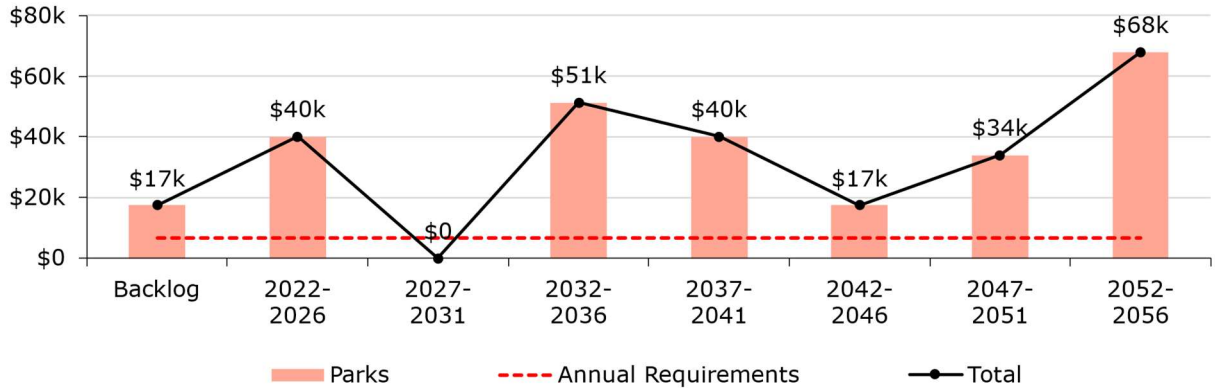
7.4 Lifecycle Management Strategy

To ensure that municipal assets are performing as expected and meeting the needs of residents, it is important to establish a lifecycle management strategy to proactively manage asset deterioration. The following table outlines the Municipality’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation & Replacement	Assessments are completed to determine maintenance work required

7.4.1 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the Municipality should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 35 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average annual capital requirements which are \$6,883.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

7.5 Risk & Criticality

The risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix D for the criteria used to determine the risk rating of each asset.



This is a high-level model developed by municipal staff and should be reviewed and adjusted to reflect an evolving understanding of both the probability and consequences of asset failure.

The identification of critical assets allows the Municipality to determine risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

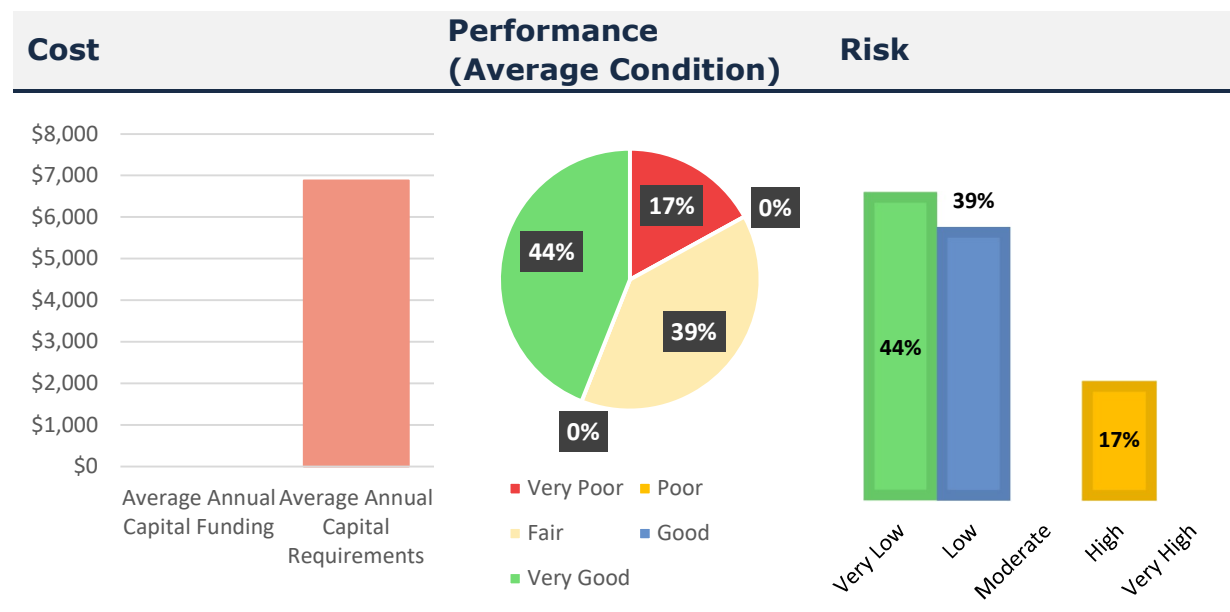
7.6 Levels of Service

Assets in the Land Improvement category are considered a non-core asset category and as such, the Municipality has until July 1, 2024, to determine the qualitative descriptions and technical metrics that measure the current level of service provided.

The following tables identify the Municipality’s metrics to identify their current level of service for the land improvements as a starting point for determining the technical and community level of service metrics that are required as part of O. Reg. 588/17.

By comparing the cost, performance (average condition) and risk year over year the Municipality will be able to evaluate how their services/assets are trending. The

Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.



7.7 Recommendations

Replacement Costs

- All replacement costs used were based on the inflation of historical costs. These costs should be evaluated to determine their accuracy and reliability.

Levels of Service

- Begin measuring current levels of service in accordance with the metrics that the Municipality has established. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

8 Vehicles

8.1 Key Insights

Vehicles allow staff to efficiently deliver municipal services and personnel. Municipal vehicles are used to support several service areas, including:

- tandem axle trucks for winter control activities
- fire rescue vehicles to provide protection services
- waste collection vehicles to provide waste management services

The state of the infrastructure for the vehicles is summarized in the following table.

Replacement Cost	Condition	Financial Capacity
\$1,841,110	Very (10%)	Poor
		Annual Requirement: \$111,842
		Funding Available: \$0
		Annual Deficit: \$111,842

8.2 Asset Inventory & Costs

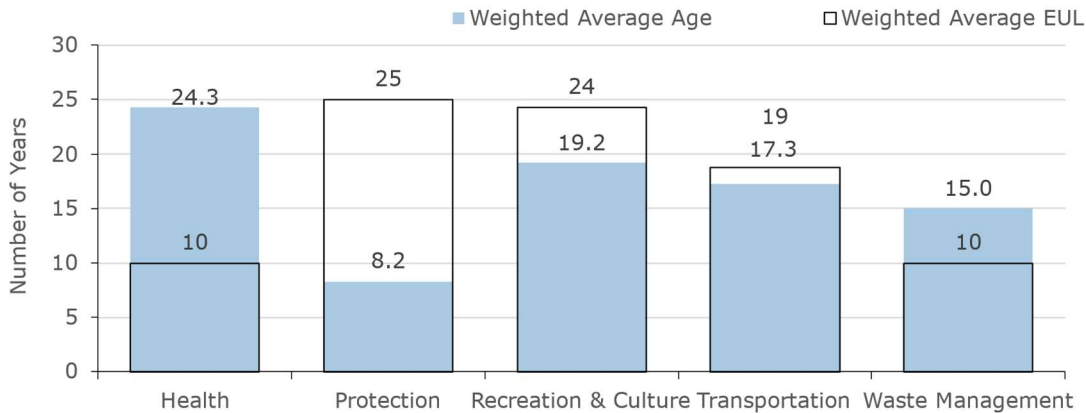
The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Municipality's vehicle inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Health	1	\$21,119	\$2,112
Protection	3	\$496,171	\$19,847
Recreation & Culture	3	\$107,630	\$4,596
Transportation	6	\$1,035,776	\$67,246
Waste Management	1	\$180,414	\$18,041
Total		\$1,841,110	\$111,842

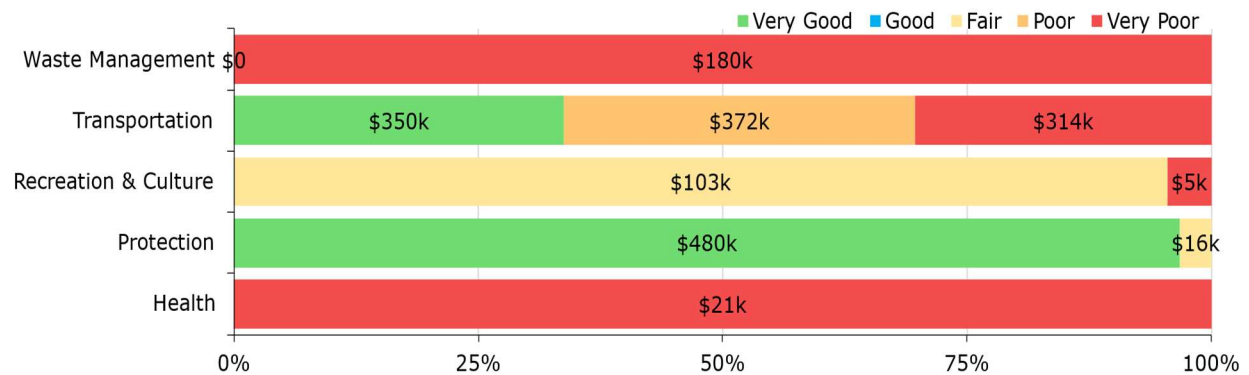
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

8.3 Asset Condition & Age

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.



The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Municipality’s vehicles continue to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the vehicles.

Each asset’s estimated useful life should also be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

8.3.1 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The Municipality’s current approach is staff complete regular visual inspections of vehicles to ensure they are in state of adequate repair prior to operation. The rating criteria used to determine the current condition and forecast future capital requirements is consistent with all other asset categories at 0 – 100.

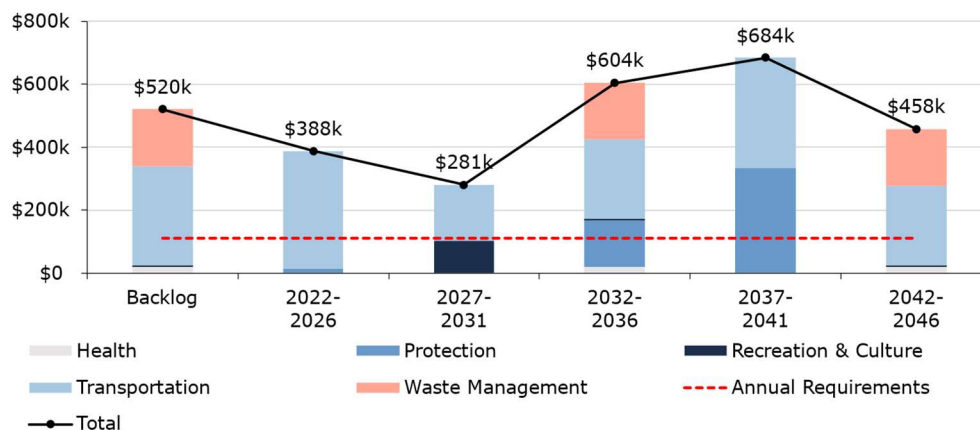
8.4 Lifecycle Management Strategy

The condition or performance of assets will deteriorate over time. To ensure vehicles are performing as expected, it is important to establish a lifecycle management strategy to proactively manage asset deterioration. The following table outlines the Municipality’s current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance / Rehabilitation	Visual inspections completed
Replacement	Vehicle replacements are based on age, usage and annual repair costs. All are considered when determining appropriate treatment options

8.4.1 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the Municipality should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 25 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average annual capital requirements at \$111,842.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

8.5 Risk & Criticality

The risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix D for the criteria used to determine the risk rating of each asset.



This is a high-level model developed by the municipal staff and should be reviewed and adjusted to reflect an evolving understanding of both the probability and consequences of asset failure.

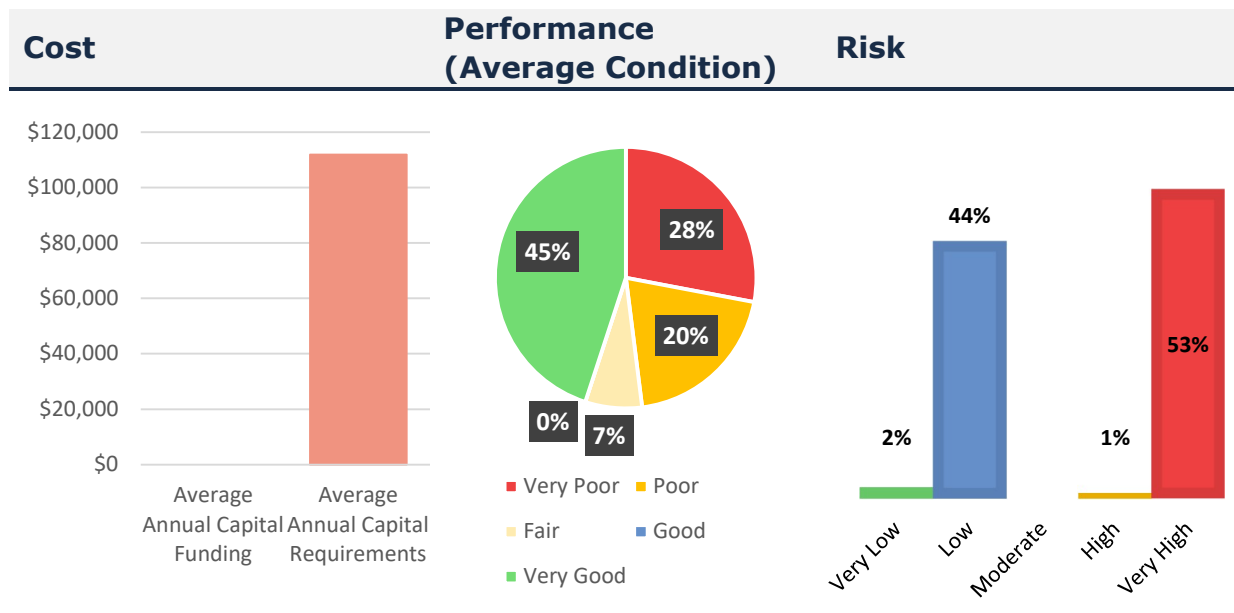
The identification of critical assets allows the Municipality to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

8.6 Levels of Service

Vehicles are considered a non-core asset category and as such, the Municipality has until July 1, 2024, to determine the qualitative descriptions and technical metrics that measure the current level of service provided.

The following tables identify the Municipality's metrics to identify their current level of service for the vehicles as a starting point for determining the technical and community level of service metrics that are required as part of O. Reg. 588/17.

By comparing the cost, performance (average condition) and risk year over year the Municipality will be able to evaluate how their services/assets are trending. The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.



8.7 Recommendations

Replacement Costs

- Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Levels of Service

- Establish current levels of service in accordance with O. Reg. 588/17 as well as additional metrics as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

9 Equipment

9.1 Key Insights

To maintain the quality stewardship of Mattice-Val Côté's infrastructure and support the delivery of services, municipal staff own and employ various types of equipment. This includes:

- Computer hardware, software, and phone systems to support all municipal services
- Equipment to support the delivery of protection services
- Plows and sand hoppers to provide winter control activities
- Equipment to enable the provision of recreational and parks services

The state of the infrastructure for equipment is summarized in the following table.

Replacement Cost	Condition	Financial Capacity	
\$1,043,451	Fair (51%)	Annual Requirement:	\$105,899
		Funding Available:	\$0
		Annual Deficit:	\$105,899

9.2 Asset Inventory & Costs

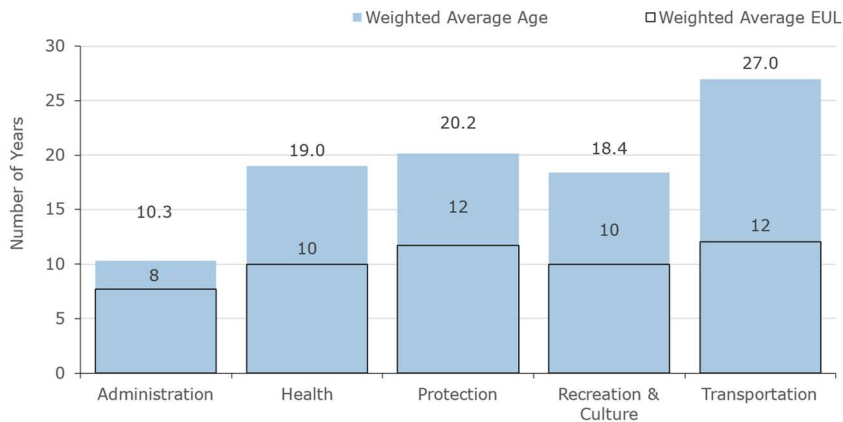
The table below includes the quantity, total replacement cost and annual capital requirements of each asset segment in the Municipality's equipment inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Administration	54	\$135,798	\$19,791
Health	18	\$59,709	\$5,971
Protection	382	\$598,752	\$55,739
Recreation & Culture	130	\$198,608	\$19,861
Transportation	13	\$50,584	\$4,537
Total		\$1,043,451	\$105,899

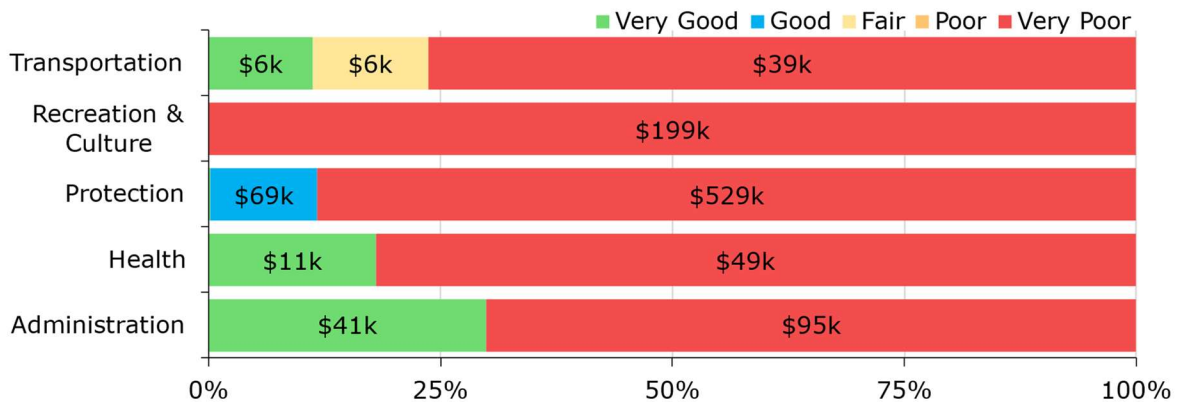
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

9.3 Asset Condition & Age

The graph below identifies the average age and the estimated useful life for each asset segment. The values are weighted based on replacement cost.



The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Municipality’s equipment continues to provide an acceptable level of service, the Municipality should continue to monitor the average condition. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination of maintenance, rehabilitation and replacement activities is required to increase the overall condition.

Each asset’s estimated useful life should also be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

9.3.1 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Municipality's current approach:

- Staff complete regular visual inspections of equipment to ensure they are in state of adequate repair
- The broad range of types of equipment included in this category, there are some types with very established assessments (i.e. Fire Equipment) but also many don't have any assessment procedures

The rating criteria used to determine the current condition and forecast future capital requirements is consistent throughout all asset categories with a scale of 0 - 100.

9.4 Lifecycle Management Strategy

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

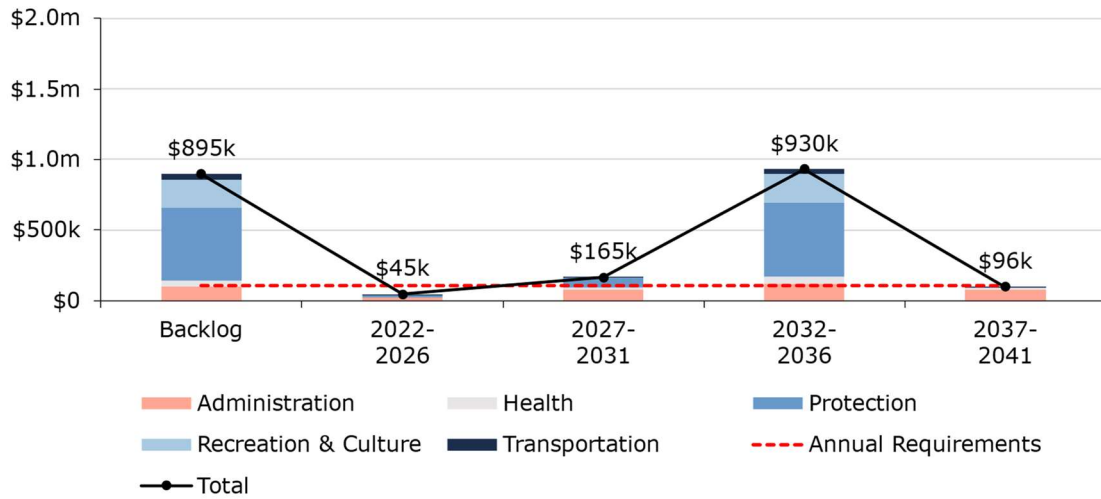
The following table outlines the Municipality's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	Maintenance program varies by department
	Fire Protection Services equipment is subject to a much more rigorous inspection and maintenance program compared to most other departments
	Equipment is maintained according to manufacturer recommended actions and supplemented by the expertise of municipal staff
Replacement	The replacement of equipment depends on deficiencies identified

9.4.1 Forecasted Capital Requirements

The following graph identifies capital requirements over the next 20 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement.

The forecasted requirements are aggregated into 5-year bins and the trend line represents the average annual capital requirements at \$105,899.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

9.5 Risk & Criticality

The risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix D for the criteria used to determine the risk rating of each asset.



This is a high-level model developed by municipal staff and should be reviewed and adjusted to reflect an evolving understanding of both the probability and consequences of asset failure.

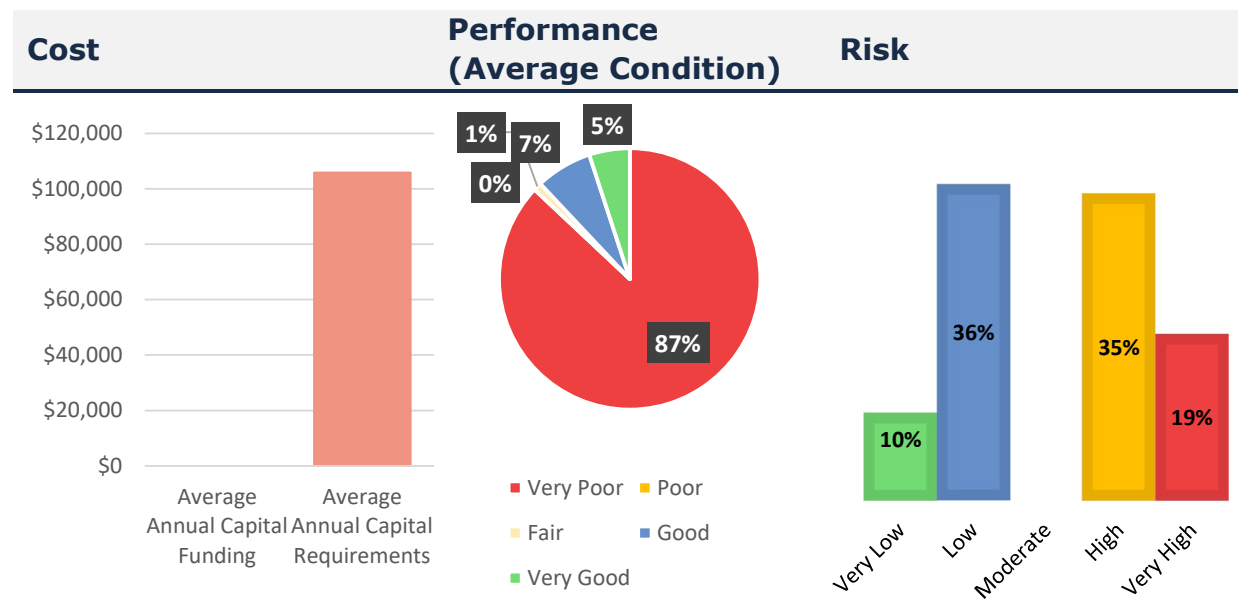
The identification of critical assets allows the Municipality to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

9.6 Levels of Service

Equipment is considered a non-core asset category and as such, the Municipality has until July 1, 2024, to determine the qualitative descriptions and technical metrics that measure the current level of service provided.

The following tables identify the Municipality’s metrics to identify their current level of service for the equipment assets as a starting point for determining the technical and community level of service metrics that are required as part of O. Reg. 588/17.

By comparing the cost, performance (average condition) and risk year over year the Municipality will be able to evaluate how their services/assets are trending. The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.



9.7 Recommendations

Replacement Costs

- All replacement costs are based on the inflation of historical cost. These costs should be evaluated to determine their accuracy and reliability. Replacement costs should be updated according to the best available information on the cost to replace the asset in today's value.

Condition Assessment Strategies

- Review assets that have surpassed their estimated useful life to determine if immediate replacement is required or whether these assets are expected to remain in-service. Adjust the service life and/or condition ratings for these assets accordingly.

Levels of Service

- Establish current levels of service in accordance with O. Reg. 588/17 as well as additional metrics as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

10 Water Network

10.1 Key Insights

The water services provided by the Municipality are contracted to the Ontario Clean Water Agency (OCWA). The public works department works with OCWA to ensure the responsible management for the following:

- Water Treatment Plant
- Distribution System
- Pumping Stations

The state of the infrastructure for the water network is summarized in the following table:

Replacement Cost	Condition	Financial Capacity	
\$17,890,715	Good (68%)	Annual Requirement:	\$367,932
		Funding Available:	\$0
		Annual Deficit:	\$367,932

10.2 Asset Inventory & Costs

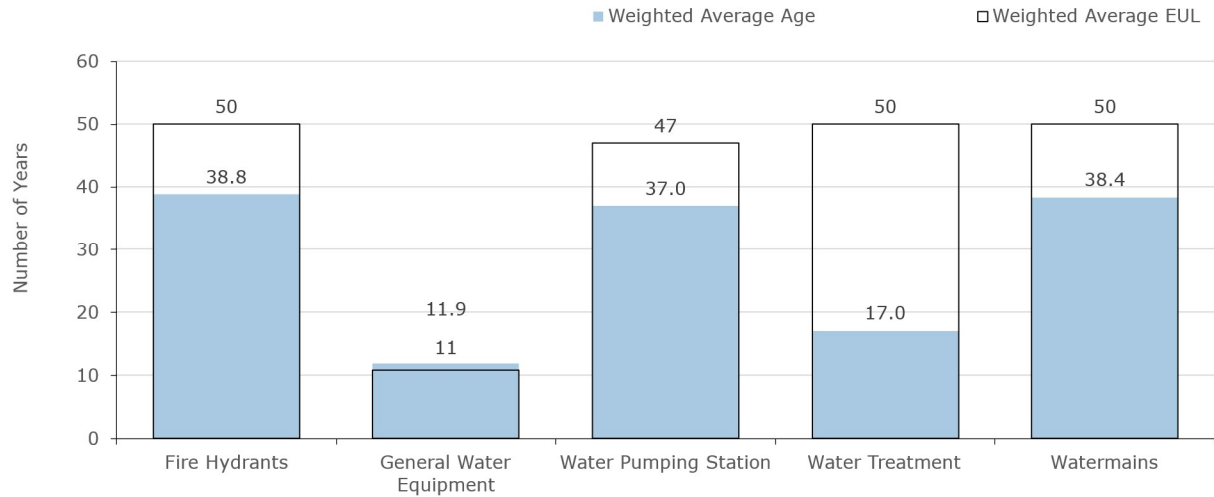
The table below includes the quantity, replacement cost method, and annual capital requirements of each asset segment in the Municipality's water network inventory.

Asset Segment	Quantity (Component)	Replacement Cost	Annual Capital Requirement
Fire Hydrants	26	\$177,996	\$3,560
General Equipment	Water 22	\$121,392	\$11,717
Water Pumping Station	2	\$192,115	\$4,671
Water Treatment Plant	1	\$3,946,857	\$78,937
Watermains	4,250m	\$13,452,355	\$269,047
Total		\$17,890,715	\$367,932

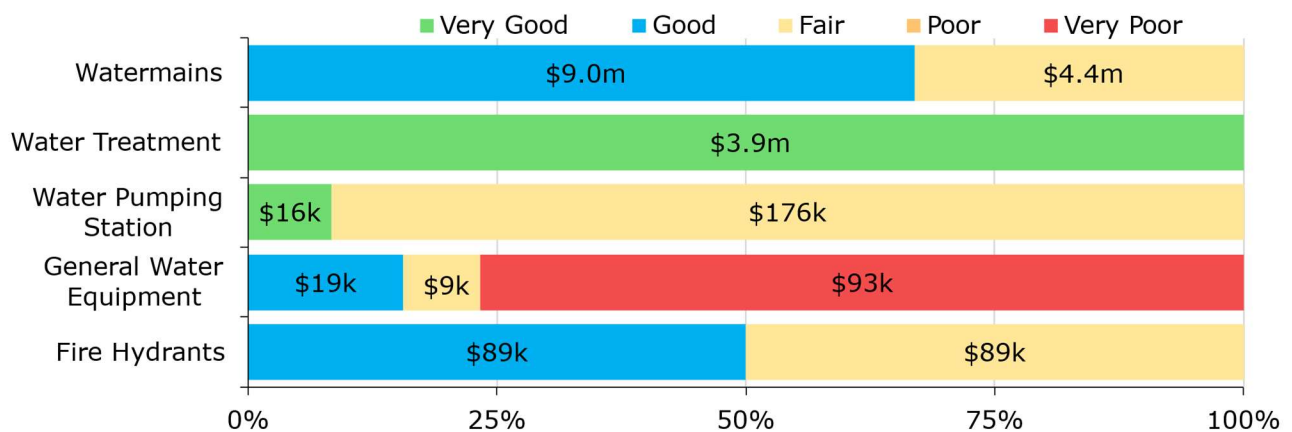
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

10.3 Asset Condition & Age

The graph below identifies the average age, and the estimated useful life for each asset segment. The values are weighted based on replacement cost.



The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Municipality’s water network continues to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate the lifecycle management strategy to determine what combination of activities is required to increase the overall condition of the water network.

Each asset’s Estimated Useful Life should also be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

10.3.1 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The following describes the Municipality’s current approach:

- For watermains staff rely on the age, material, and break history to estimate the condition of water mains
- There is a condition assessment program in place is for hydrants.
- OCWA reviews all infrastructure and makes annual recommendation to the Municipality

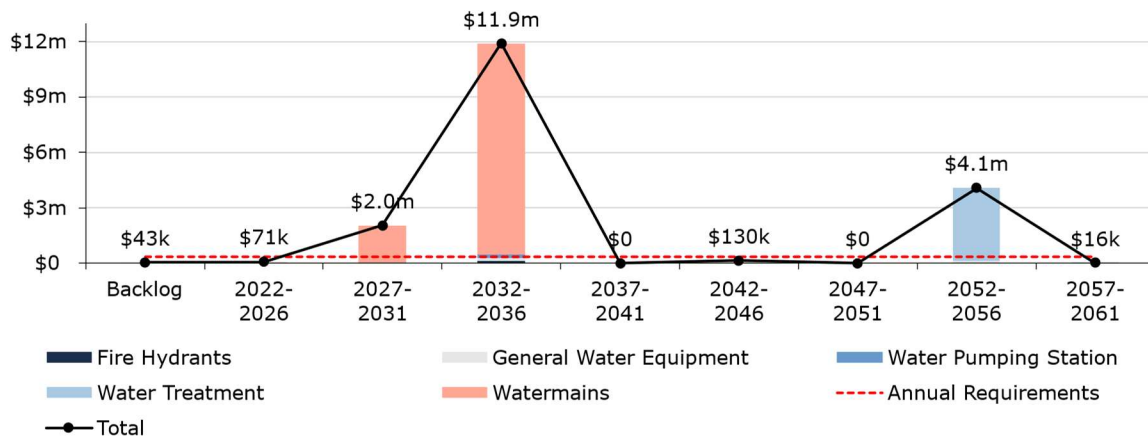
10.4 Lifecycle Management Strategy

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

Activity Type	Description of Current Strategy
Maintenance	OCWA is responsible for organizing and completing the maintenance on the system components
Replacement	Replacement activities are identified based on an analysis of the main break rate as well as any issues identified during regular maintenance activities

10.4.1 Forecasted Capital Requirements

The following graph forecasts long-term capital requirements, and identifies capital requirements over the next 40 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average annual capital requirements at \$367,932.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

10.5 Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix D for the criteria used to determine the risk rating of each asset.



This is a high-level model developed by municipal staff and should be reviewed and adjusted to reflect an evolving understanding of both the probability and consequences of asset failure.

The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the water network are documented below:

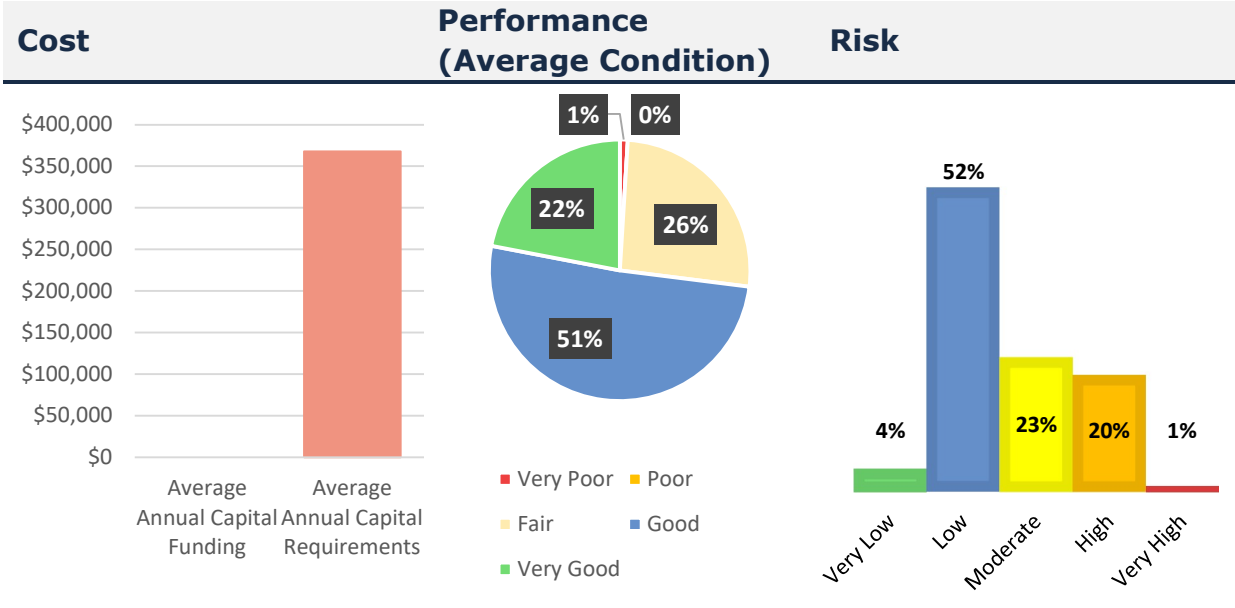
Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
Service Life Remaining	Pipe Size(mm) (Operational for pipes only)
	Surface Type (Operational for pipes only)

The identification of critical assets allows the Municipality to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

10.6 Levels of Service

The following tables identify the Municipality’s metrics to identify their current level of service for the water network. By comparing the cost, performance (average condition) and risk year over year the Municipality will be able to evaluate how their services/assets are trending.

The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.



These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17 as well as any additional performance measures that the Town has selected.

10.6.1 Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by water network.

Service Attribute	Qualitative Description	Current LOS
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal water system	See Appendix C
	Description, which may include maps, of the user groups or areas of the municipality that have fire flow	See Appendix C
Reliability	Description of boil water advisories and service interruptions	In 2021 1 watermain break fixed in 1 day had a boil water advisory for 4 days affecting 227 customers

10.6.2 Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the water network.

Service Attribute	Technical Metric	Current LOS
Scope	% of properties connected to the municipal water system	36%
	% of properties where fire flow is available	36%
Reliability	# of connection-days per year where a boil water advisory notice is in place compared to the total number of properties connected to the municipal water system	0.0176
	# of connection-days per year where water is not available due to water main breaks compared to the total number of properties connected to the municipal water system	0.0022

10.7 Recommendations

Replacement Costs

- Gather accurate replacement costs and update on a regular basis to ensure the accuracy of capital projections.

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.

Levels of Service

- Continue to measure current levels of service. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of se

11 Sanitary Network

11.1 Key Insights

The Sanitary Network services provided by the Municipality are contracted to OCWA (Ontario Clean Water Agency). The department is responsible for the following:

- 2 lagoons (1 in Mattice and 1 in Val Côté)
- Wastewater pumping stations
- Sanitary collection system

The state of the infrastructure for the sanitary network is summarized in the following table.

Replacement Cost	Condition	Financial Capacity	
\$13,990,166	Good (62%)	Annual Requirement:	\$283,181
		Funding Available:	\$0
		Annual Deficit:	\$283,181

11.2 Asset Inventory & Costs

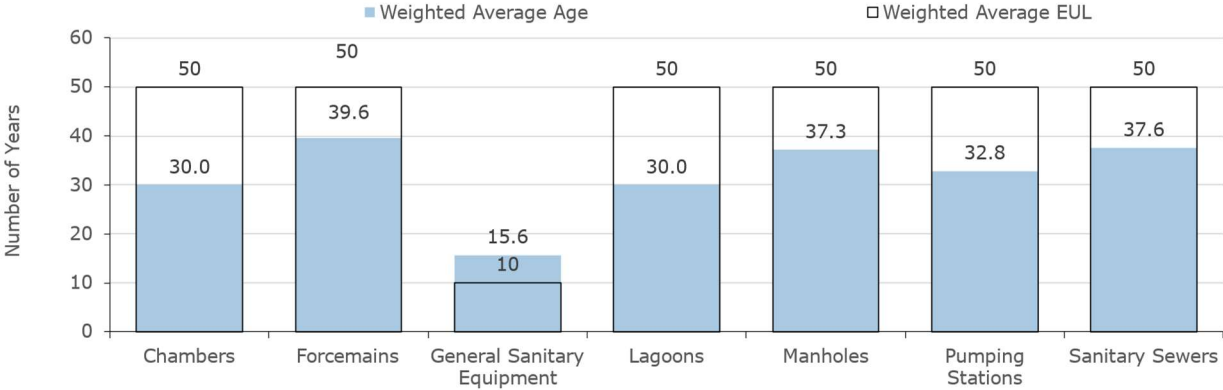
The table below includes the quantity, replacement cost and annual capital requirement for each asset segment in the Municipality’s sanitary network inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Chambers	12	\$94,788	\$1,896
Forcemains	1,512m	\$673,759	\$13,475
General Sanitary Equipment	17	\$42,218	\$4,222
Lagoons	2	\$4,276	\$86
Manholes	60	\$473,940	\$9,479
Pumping Stations	11	\$583,393	\$11,668
Sanitary Sewers	4,558m	\$12,117,792	\$242,356
Total		\$13,990,166	\$283,181

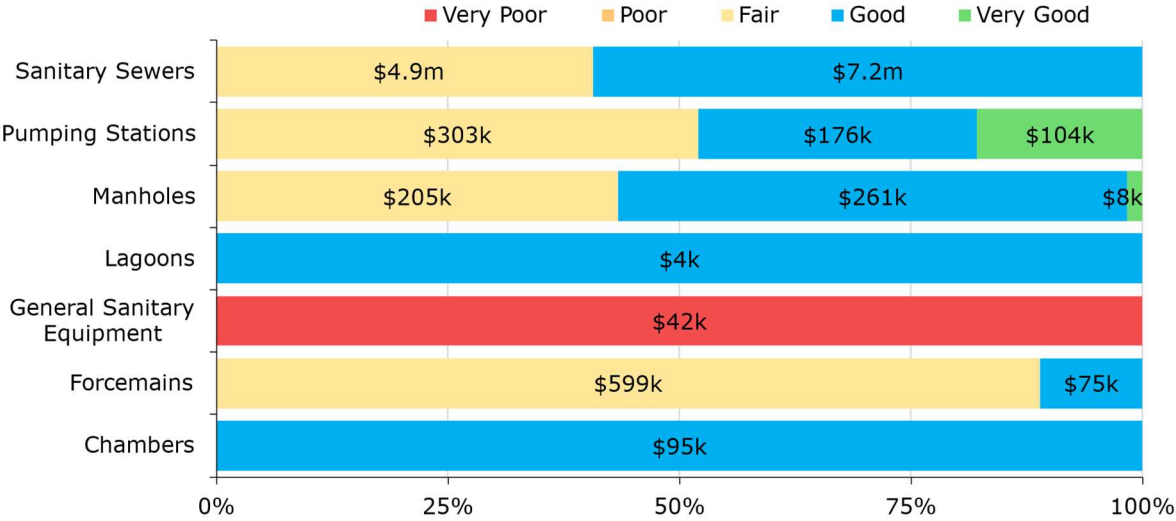
Each asset’s replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurately represent realistic capital requirements.

11.3 Asset Condition & Age

The graph below identifies the average age, and the estimated useful life for each asset segment. The values are weighted based on replacement cost.



The graph below visually illustrates the average condition for each asset segment on a very good to very poor scale.



To ensure that the Municipality’s sanitary network continues to provide an acceptable level of service, the Municipality should monitor the average condition of all assets. If the average condition declines, staff should re-evaluate their lifecycle management strategy to determine what combination activities is required to increase the overall condition of the sanitary network.

Each asset’s Estimated Useful Life should also be reviewed periodically to determine whether adjustments need to be made to better align with the observed length of service life for each asset type.

11.3.1 Current Approach to Condition Assessment

Accurate and reliable condition data allows staff to determine the remaining service life of assets and identify the most cost-effective approach to managing assets. The Municipality’s current approach is to have OCWA manage all condition assessments and make recommendations annually. The rating criteria used to determine the current condition of sewer network assets and forecast future capital requirements is the same as other categories 0-100.

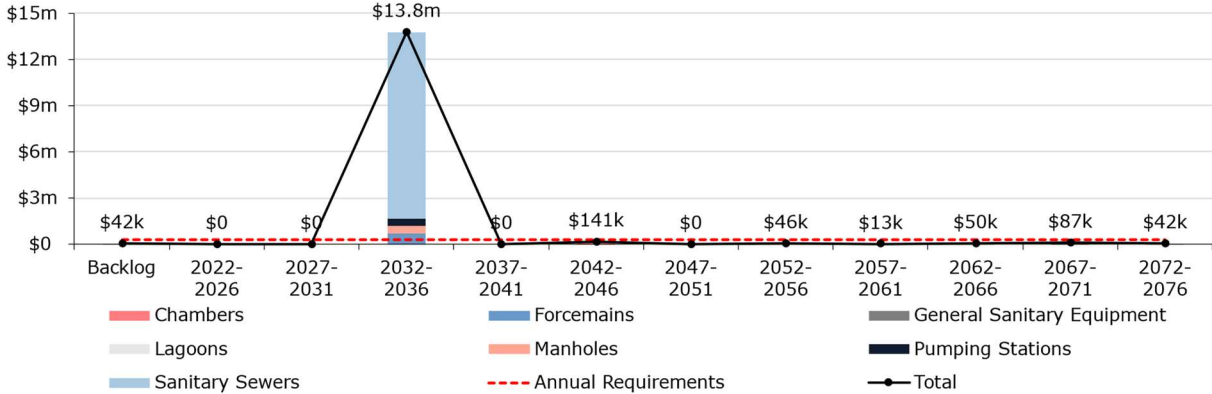
11.4 Lifecycle Management Strategy

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

Activity Type	Description of Current Strategy
Maintenance	Main flushing is completed every 5 years or as needed
Replacement	In the absence of mid-lifecycle rehabilitative events, assets are simply maintained with the goal of full replacement once it reaches its end-of-life.

11.4.1 Forecasted Capital Requirements

The annual capital requirement represents the average amount per year that the Municipality should allocate towards funding rehabilitation and replacement needs. The following graph identifies capital requirements over the next 55 years. This projection is used as it ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins and the trend line represents the average annual capital requirements at \$283,181.



The projected cost of lifecycle activities that will need to be undertaken over the next 10 years to maintain the current level of service can be found in Appendix B.

11.5 Risk & Criticality

The following risk matrix provides a visual representation of the relationship between the probability of failure and the consequence of failure for the assets within this asset category based on 2022 inventory data. See Appendix D for the criteria used to determine the risk rating of each asset.



This is a high-level model developed by municipal staff and should be reviewed and adjusted to reflect an evolving understanding of both the probability and consequences of asset failure. The asset-specific attributes that municipal staff utilize to define and prioritize the criticality of the sanitary network are documented below:

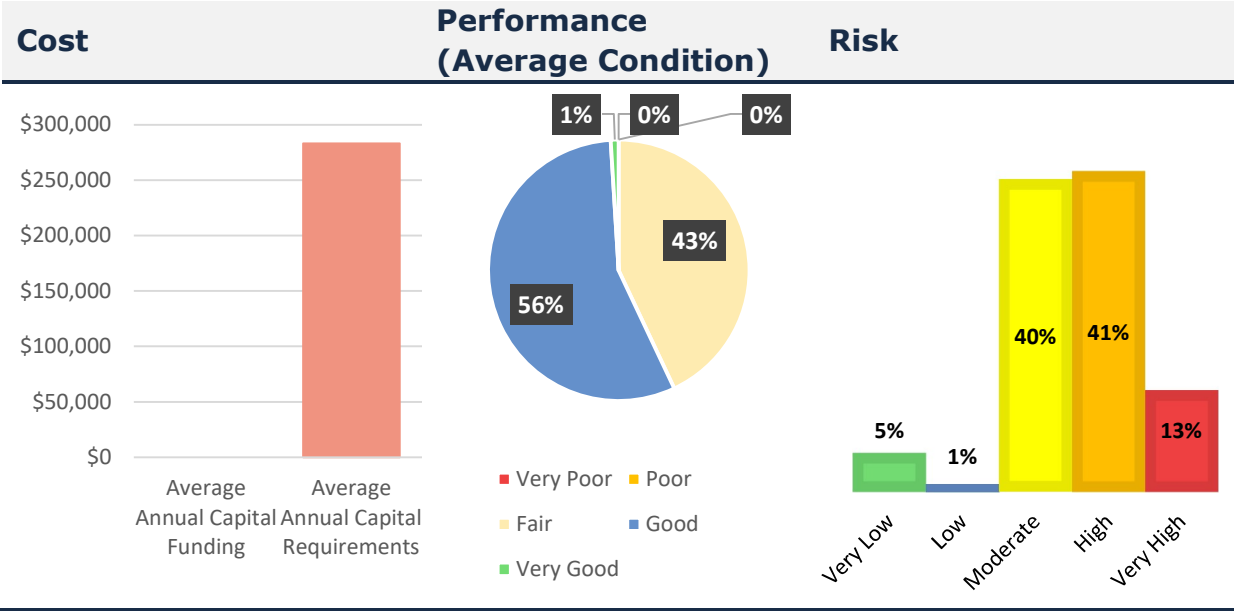
Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Economic)
Service Life Remaining	Pipe Size(mm) (Operational for pipes only)
	Surface Type (Operational for pipes only)

The identification of critical assets allows the Municipality to determine appropriate risk mitigation strategies and treatment options. Risk mitigation may include asset-specific lifecycle strategies, condition assessment strategies, or simply the need to collect better asset data.

11.6 Levels of Service

The following tables identify the Municipality’s metrics to identify their current level of service for the sanitary network. By comparing the cost, performance (average condition) and risk year over year the Municipality will be able to evaluate how their services/assets are trending.

The Municipality will use this data to set a target level of service and determine proposed levels for the regulation by 2025.



These metrics include the technical and community level of service metrics that are required as part of O. Reg. 588/17.

11.6.1 Community Levels of Service

The following table outlines the qualitative descriptions that determine the community levels of service provided by sanitary network.

Service Attribute	Qualitative Description	Current LOS
Scope	Description, which may include maps, of the user groups or areas of the municipality that are connected to the municipal wastewater system	See Appendix C
	Description of how combined sewers in the municipal wastewater system are designed with overflow structures in place which allow overflow during storm events to prevent backups into homes	The Municipality does not own any combined sewers
	Description of the frequency and volume of overflows in combined sewers in the municipal wastewater system that occur in habitable areas or beaches	The Municipality does not own any combined sewers
Reliability	Description of how stormwater can get into sanitary sewers in the municipal wastewater system, causing sewage to overflow into streets or backup into homes	Stormwater can enter into sanitary sewers due to cracks in sanitary mains or through indirect connections (e.g. weeping tiles). In the case of heavy rainfall events, sanitary sewers may experience a volume of water and sewage that exceeds its designed capacity.
	Description of how sanitary sewers in the municipal wastewater system are designed to be resilient to stormwater infiltration	The Municipality follows a series of design standards that integrate servicing requirements and land use considerations when constructing or replacing sanitary sewers.
	Description of the effluent that is discharged from sewage treatment plants in the municipal wastewater system	Effluent refers to water pollution that is discharged from a wastewater treatment plant, and may include suspended solids, total phosphorous and biological oxygen demand. The Environmental Compliance Approval (ECA) identifies the effluent criteria for municipal wastewater treatment plants.

11.6.2 Technical Levels of Service

The following table outlines the quantitative metrics that determine the technical level of service provided by the sanitary network.

Service Attribute	Technical Metric	Current LOS
Scope	% of properties connected to the municipal wastewater system	38%
	# of events per year where combined sewer flow in the municipal wastewater system exceeds system capacity compared to the total number of properties connected to the municipal wastewater system	0
Reliability	# of connection-days per year having wastewater backups compared to the total number of properties connected to the municipal wastewater system	0
	# of effluent violations per year due to wastewater discharge compared to the total number of properties connected to the municipal wastewater system	0

11.7 Recommendations

Condition Assessment Strategies

- Identify condition assessment strategies for high value and high-risk sanitary network assets.

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.
- Review risk models on a regular basis and adjust according to an evolving understanding of the probability and consequences of asset failure.

Levels of Service

- Continue to measure current levels of service. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Work towards identifying proposed levels of service as per O. Reg. 588/17 and identify the strategies that are required to close any gaps between current and proposed levels of service.

12 Impacts of Growth

12.1 Key Insights

- Understanding the key drivers of growth and demand will allow the Municipality to plan for new infrastructure more effectively, and the upgrade or disposal of existing infrastructure
- The Municipality has experienced a very high reduction in population
- The costs of growth should be considered in long-term funding strategies that are designed to maintain the current level of service

12.2 Description of Growth Assumptions

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

12.2.1 Mattice-Val Côté Official Plan (2017)

The Municipality is part of the planning area of the Hearst Planning Board. In 2017 the official plan was updated to ensure conformance with the provincial documents, and address matters of local planning interest through the secondary plan process. This is a planning document for the purpose of guiding the future development in the Village of Mattice.

The population has declined steeply within the Municipality of Mattice-Val Côté e.g., 721 (2006) to 648 (2016) to 542(2021). That is a population decrease of 25% in the last 15 years. The planning document estimates a population target of 609 by 2036.

12.3 Impact of Growth on Lifecycle Activities

By July 1, 2025, the Municipality’s asset management plan must include a discussion of how the assumptions regarding future changes in population and economic activity informed the preparation of the lifecycle management and financial strategy. Planning for the forecasted population growth will not require the expansion of existing infrastructure and services due to the extensive decline.

13 Financial Strategy

13.1 Key Insights

- The Municipality is committing approximately \$130,616 towards capital projects per year from sustainable revenue sources
- Given the annual capital requirement of \$2,003,090, there is currently a funding gap of \$1,872,474 annually
- For tax-funded assets, we recommend increasing tax revenues by 1.6% each year for the next 40 years to achieve a sustainable level of funding and reallocating available debt payments to capital funding
- For the water network, we recommend increasing rate revenues by 2.6% annually for the next 40 years to achieve a sustainable level of funding
- For the sanitary network, we recommend increasing rate revenues by 5.2% annually for the next 40 years to achieve a sustainable level of funding

13.2 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 the Municipality of Mattice-Val Côté to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

As outlined below, the scenarios presented model different combinations of the following components:

1. The financial requirements for:
 - a. Existing assets
 - b. Existing service levels
 - c. Requirements of contemplated changes in service levels (none identified for this plan)
 - d. Requirements of anticipated growth (none identified for this plan)
2. Use of traditional sources of municipal funds:
 - a. Tax levies
 - b. User fees
 - c. Reserves
 - d. Debt
3. Use of non-traditional sources of municipal funds:

- a. Reallocated budgets
- b. Partnerships
- c. Procurement methods
- 4. Use of Senior Government Funds:
 - a. Canada Community Building Fund (CCBF)
 - b. Annual grants

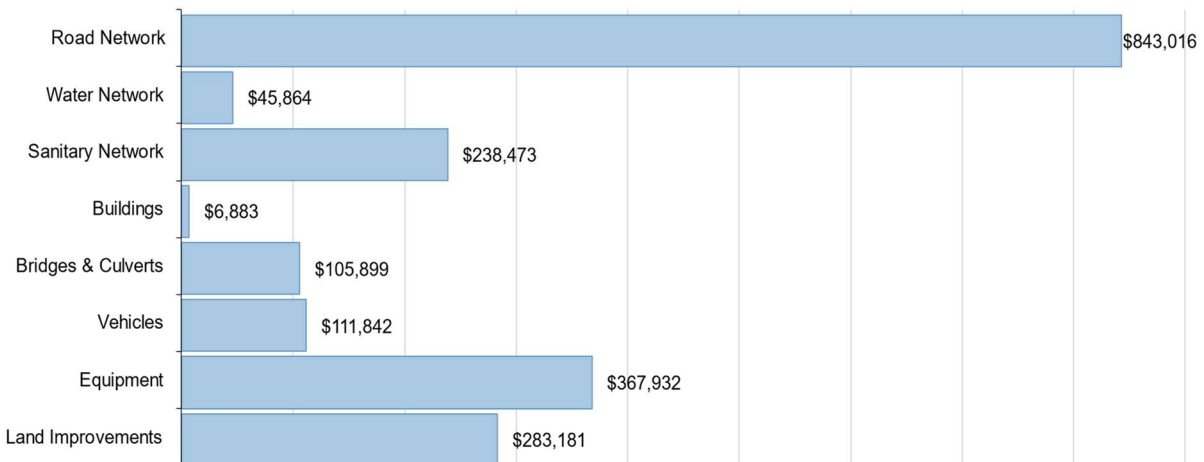
Note: Periodic grants are normally not included due to Provincial requirements for firm commitments. However, if moving a specific project forward is wholly dependent on receiving a one-time grant, the replacement cost included in the financial strategy is the net of such grant being received.

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

13.3 Annual Requirements & Capital Funding

13.3.1 Annual Requirements

The annual requirements represent the amount the Municipality should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs, and achieve long-term sustainability. In total, the Municipality allocation is approximately \$2 million annually.



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

However, for the road network, lifecycle management strategies have been developed to identify capital costs that are realized through strategic rehabilitation and renewal. The development of these strategies allows for a comparison of potential

cost avoidance if the strategies were to be implemented. The following table compares two scenarios for the road network:

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

Asset Category	Annual Requirements (Replacement Only)	Annual Requirements (Lifecycle Strategy)	Difference
Road Network	\$872,616	\$843,016	\$29,600

The implementation of a proactive lifecycle strategy for roads leads to a potential annual cost avoidance of approximately \$29,600 for the road network. This represents an overall reduction of the annual requirements by 3%.

The condition of the road system needs to be evaluated and the cost savings that are available to the Municipality could be higher depending on the updated roads values.

As the lifecycle strategy scenario represents the lowest cost option available to the Municipality, we have used this annual requirement in the development of the financial strategy.

13.3.2 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Municipality is committing approximately \$130,616 towards capital projects per year from sustainable revenue sources. Given the annual capital requirement of \$2,003,090, there is currently a funding gap of \$1,872,474 annually.

13.4 Funding Objective

A scenario has been developed that would enable Mattice-Val Côté to achieve full funding within 1 to 40 years for the following assets:

1. **Tax Funded Assets:** Road Network, Bridges & Culverts, Buildings, Land Improvements, Equipment, & Vehicles
2. **Rate Funded Assets:** Water Network, & Sanitary Network

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

13.5 Financial Profile: Tax Funded Assets

13.5.1 Current Funding Position

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

Asset Category	Avg. Annual Requirement	Annual Funding Available				Annual Deficit
		Taxes	CCBF	OCIF	Total	
Road Network	\$843,016	0	80.6k	50k	130.6k	\$712,400
Bridges & Culverts	\$45,864	0	0	0	0	\$45,864
Buildings	\$238,473	0	0	0	0	\$238,473
Land Improvements	\$6,883	0	0	0	0	\$6,883
Equipment	\$105,899	0	0	0	0	\$105,899
Vehicles	\$111,842	0	0	0	0	\$111,842
	\$2,003,090	0	80.6k	50k	130.6k	1,221,361

The average annual investment requirement for tax funded assets is \$1,351,977. Annual revenue allocated to these assets for capital purposes is \$130,616 leaving an annual deficit of \$1,221,361. Put differently, these infrastructure categories are currently funded at 9.7% of their long-term requirements.

13.5.2 Full Funding Requirements

In 2022, the Municipality of Mattice-Val Côté will have an annual tax revenue of 1,352,137. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Road Network	52.7%
Bridges & Culverts	3.4%
Buildings	17.6%
Land Improvements	0.5%
Equipment	7.8%
Vehicles	8.3%
	90.3%

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

	Without Capturing Changes				With Capturing Changes			
	5 Years	10 Years	20 Years	40 Years	5 Years	10 Years	20 Years	40 Years
Infrastructure Deficit	1,221,361	1,221,361	1,221,361	1,221,361	1,221,361	1,221,361	1,221,361	1,221,361
Change in Debt Costs	n/a	n/a	n/a	n/a	-40,164	-40,164	-40,164	-40,164
Resulting Infrastructure Deficit	1,221,361	1,221,361	1,221,361	1,221,361	1,181,197	1,181,197	1,181,197	1,181,197
Tax Increase Required	90.3%	90.3%	90.3%	90.3%	87.4%	87.4%	87.4%	87.4%
Annually	13.7%	6.6%	3.3%	1.6%	13.4%	6.5%	3.2%	1.6%

13.5.3 Financial Strategy Recommendations

Considering all the above information, we recommend the 40-year option. This involves full funding being achieved over 40 years by:

- a) when realized, reallocating the debt cost reductions to the infrastructure deficit as outlined above.
- b) allocating the current CCBF and OCIF revenue as outlined previously.
- c) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis.

Notes:

- 1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable since this funding is a multi-year commitment¹.
- 2. Raising tax revenues by the amounts recommended above for infrastructure purposes will be very difficult to do. However, considering a longer phase-in window may have even greater consequences in terms of infrastructure failure.

Although this option achieves full capital funding on an annual basis in 40 years and provides financial sustainability over the period modeled, the recommendations do require prioritizing capital projects to fit the resulting annual funding available.

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.

¹ 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.

13.6 Financial Profile: Rate Funded Assets

13.6.1 Current Funding Position

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

Asset Category	Avg. Annual Requirement	Annual Funding Available				Annual Deficit
		Rates	CCBF	OCIF	Total Available	
Water Network	\$367,932	0	0	0	0	367,932
Sanitary Network	\$283,181	0	0	0	0	283,181
	\$651,112	0	0	0	0	651,112

The average annual investment requirement for the above categories is \$651,112. Annual revenue currently allocated to these assets for capital purposes is \$0 leaving an annual deficit of the entire amount. Put differently, these categories are currently unfunded.

13.6.2 Full Funding Requirements

In 2021, the Municipality of Mattice-Val Côté has annual water network and sanitary network revenues of \$343k & \$89k respectively. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding	Total Rates	Annual
Water Network	181.4%	\$202,802	
Sanitary Network	664.9%	\$42,589	

In the following tables, we have expanded the above scenario to present multiple options. Due to the significant increases required, we have provided phase-in options of up to 40 years:

Water Network				
	5 Years	10 Years	20 Years	40 Years
Infrastructure Deficit	367,932	367,932	367,932	367,932
Rate Revenue Increase Required	181.4%	181.4%	181.4%	181.4%
Annually	23.0%	10.9%	5.3%	2.6%

Sanitary Network				
	5 Years	10 Years	20 Years	40 Years
Infrastructure Deficit	283,181	283,181	283,181	283,181
Rate Revenue Increase Required	664.9%	664.9%	664.9%	664.9%
Annually	50.2%	22.6%	10.7%	5.2%

13.6.3 Financial Strategy Recommendations

Considering the above information, we recommend the 40-year option for the water network & the sanitary network. This involves full capital funding being achieved over 40 years by:

- a) increasing rate revenues by 2.6% for the Water Network each year for the next 40 years.
- b) increasing rate revenues by 5.2% for the Sanitary Network each year for the next 40 years.
- c) these rate revenue increases are solely for the purpose of phasing in full funding to the respective rate funded asset categories.
- d) increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

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

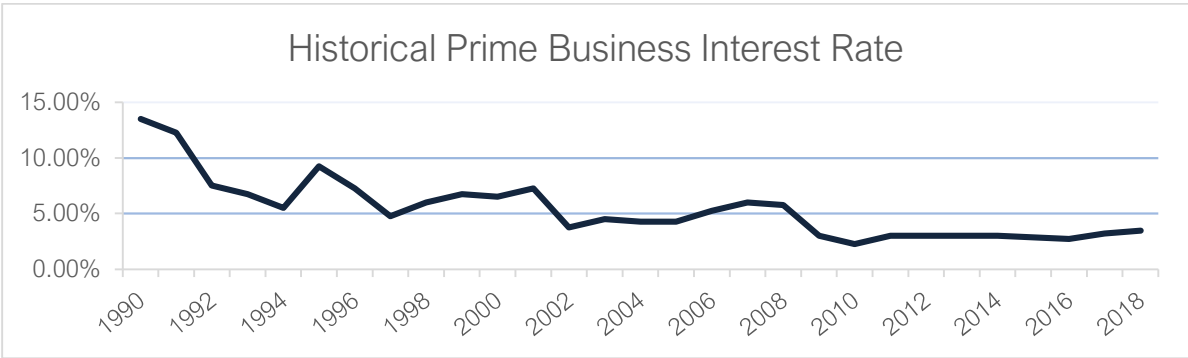
Although this strategy achieves full capital funding for rate-funded assets over 40 years, the recommendation does require prioritizing capital projects to fit the annual funding available. Prioritizing future projects will require the current data to be replaced by condition-based data. The recommendations include no further use of debt, the results of the condition-based analysis may require otherwise.

13.7 Use of Debt

For reference purposes, the following table outlines the premium paid on a project if financed by debt. For example, a \$1M project financed at 3.0%² over 15 years would result in a 26% premium or \$260,000 of increased costs due to interest payments. For simplicity, the table does not consider the time value of money or the effect of inflation on delayed projects.

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

It should be noted that current interest rates are near all-time lows. Sustainable funding models that include debt need to incorporate the risk of rising interest rates. The following graph shows where historical lending rates have been:



² Current municipal Infrastructure Ontario rates for 15-year money is 3.2%.

A change in 15-year rates from 3% to 6% would change the premium from 26% to 54%. Such a change would have a significant impact on a financial plan.

The following tables outline how Mattice-Val Côté has historically used debt for investing in the asset categories as listed.

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2017	2018	2019	2020	2021
Vehicles	105,970	-	-	-	-	-
Total Tax Funded:	105,970	-	-	-	-	-

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2022	2023	2024	2025	2026	2027	2032
Vehicles	40,164	40,164	40,164	-	-	-	-
Total Tax Funded:	40,164	40,164	40,164	-	-	-	-

The revenue options outlined in this plan allows Mattice-Val Côté to fully fund its long-term infrastructure requirements without further use of debt.

13.8 Use of Reserves

13.8.1 Available Reserves

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

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

The table below outlines the details of the reserves currently available to Municipality's asset categories.

Reserve Name	Applicable Category	Balance on December 31, 2021
Sewer	Sanitary Wastewater	\$131,000
Equipment	Equipment	\$75,000
Roads	Road Network	\$100,000
Solid Waste Disposal	Vehicles (Solid Waste if own category)	\$170,609
Gas Tax	Multiple	\$231,737
OCIF	Multiple	\$128,305

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

- breadth of services provided
- age and condition of infrastructure
- use and level of debt
- economic conditions and outlook
- internal reserve and debt policies.

These reserves are available for use by applicable asset categories during the phase-in period to full funding. This coupled with Mattice-Val Côté' 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.

13.9 Recommendation

In 2025, Ontario Regulation 588/17 will require Mattice-Val Côté to integrate proposed levels of service for all asset categories in its asset management plan update. We recommend that future planning should reflect adjustments to service levels and their impacts on the annual requirement.

14 Appendices

14.1 Key Insights

- Appendix A includes a one-page report card with an overview of key data from each asset category
- Appendix B identifies projected 10-year capital requirements for each asset category
- Appendix C includes several maps that have been used to visualize the current level of service
- Appendix D identifies the criteria used to calculate risk for each asset category
- Appendix E provides additional guidance on the development of a condition assessment program

Appendix A: Infrastructure Report Card

Asset Category	Replacement Cost	Asset Condition	Financial Capacity	
Road Network	\$40,018,283	Poor (35%)	Annual Requirement:	\$843,016
			Funding Available:	\$130,616
			Annual Deficit:	\$712,400
Bridges & Culverts	\$1,928,478	Fair (57%)	Annual Requirement:	\$45,864
			Funding Available:	\$0
			Annual Deficit:	\$45,864
Buildings	\$9,570,649	Fair (53%)	Annual Requirement:	\$238,473
			Funding Available:	\$0
			Annual Deficit:	\$238,473
Land Improvements	\$101,785	Good (63%)	Annual Requirement:	\$6,883
			Funding Available:	\$0
			Annual Deficit:	\$6,883
Vehicles	\$1,841,110	Very Poor (10%)	Annual Requirement:	\$111,842
			Funding Available:	\$0
			Annual Deficit:	\$111,842
Equipment	\$1,043,451	Fair (51%)	Annual Requirement:	\$105,899
			Funding Available:	\$0
			Annual Deficit:	\$105,899
Water Network	\$17,890,715	Good (68%)	Annual Requirement:	\$367,932
			Funding Available:	\$0
			Annual Deficit:	\$367,932
Sanitary Network	\$13,990,166	Good (62%)	Annual Requirement:	\$283,181
			Funding Available:	\$0
			Annual Deficit:	\$283,181
Overall	\$86,384,638	Fair (49%)	Annual Requirement:	\$2,003,090
			Funding Available:	\$130,616
			Annual Deficit:	\$1,872,474

Appendix B: 10-Year Capital Requirements

The following tables identify the capital cost requirements for each of the next 10 years to meet projected capital requirements and maintain the current level of service.

Categories	Backlog	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Road Network	\$6.9m	\$189k	\$536k	\$250k	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bridges & Culverts	\$353k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$604k	\$0
Buildings	\$0	\$0	\$0	\$0	\$43k	\$0	\$0	\$2.9m	\$30k	\$6.1m	\$0
Land Improvements	\$17k	\$0	\$0	\$0	\$27k	\$13k	\$0	\$0	\$0	\$0	\$0
Equipment	\$895k	\$14k	\$0	\$0	\$9k	\$22k	\$43k	\$0	\$17k	\$44k	\$61k
Vehicles	\$520k	\$0	\$0	\$372k	\$0	\$16k	\$0	\$103k	\$178k	\$0	\$0
Water Network	\$43k	\$26k	\$23k	\$0	\$9k	\$12k	\$0	\$0	\$2.0m	\$0	\$7k
Sanitary Network	\$42k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total	\$8.8m	\$230k	\$560k	\$622k	\$88k	\$63k	\$43k	\$3.0m	\$2.3m	\$6.8m	\$68k

Road Network											
Segment	Backlog	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Asphalt Roads	\$6.0m	\$189k	\$536k	\$250k	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Gravel Roads	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Road Signs	\$15k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sidewalks	\$732k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Streetlights	\$175k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total:	\$6.9m	\$189k	\$536k	\$250k	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Bridges & Culverts

Segment	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Culverts	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Bridges	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$604k	\$0
Total:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$604k	\$0

Buildings

Segment	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Administration	\$0	\$0	\$0	\$0	\$0	\$0	\$2.3m	\$30k	\$0	\$0
Cemeteries	\$0	\$0	\$0	\$12k	\$0	\$0	\$0	\$0	\$0	\$0
Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$581k	\$0	\$0	\$0
Recreation & Culture	\$0	\$0	\$0	\$31k	\$0	\$0	\$0	\$0	\$6.0m	\$0
Transportation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$119k	\$0
Total:	\$0	\$0	\$0	\$43k	\$0	\$0	\$2.9m	\$30k	\$6.1m	\$0

Land Improvements

Segment	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Parks	\$0	\$0	\$0	\$27k	\$13k	\$0	\$0	\$0	\$0	\$0
Total:	\$0	\$0	\$0	\$27k	\$13k	\$0	\$0	\$0	\$0	\$0

Equipment

Segment	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Administration	\$0	\$0	\$0	\$3k	\$22k	\$38k	\$0	\$0	\$3k	\$38k
Health	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$11k	\$0	\$0
Protection	\$12k	\$0	\$0	\$0	\$0	\$0	\$0	\$6k	\$41k	\$23k
Recreation & Culture	\$3k	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Transportation	\$0	\$0	\$0	\$6k	\$0	\$6k	\$0	\$0	\$0	\$0
Total:	\$14k	\$0	\$0	\$9k	\$22k	\$43k	\$0	\$17k	\$44k	\$61k

Vehicles

Segment	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Health	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Protection	\$0	\$0	\$0	\$0	\$16k	\$0	\$0	\$0	\$0	\$0
Recreation & Culture	\$0	\$0	\$0	\$0	\$0	\$0	\$103k	\$0	\$0	\$0
Transportation	\$0	\$0	\$372k	\$0	\$0	\$0	\$0	\$178k	\$0	\$0
Waste Management	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total:	\$0	\$0	\$372k	\$0	\$16k	\$0	\$103k	\$178k	\$0	\$0

Water Network

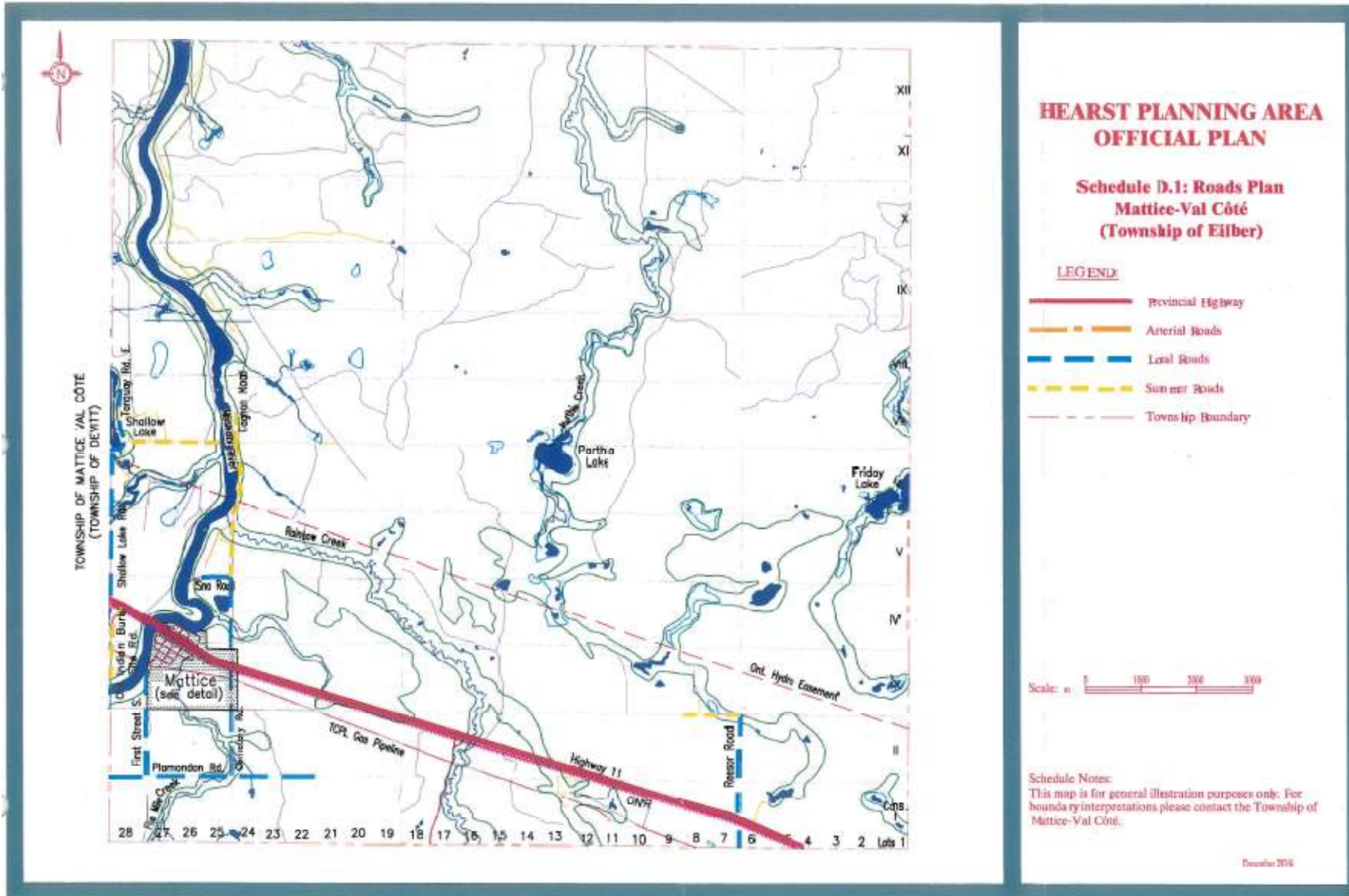
Segment	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
General Water Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$27k	\$0	\$0
Fire Hydrants	\$26k	\$23k	\$0	\$9k	\$12k	\$0	\$0	\$0	\$0	\$7k
Water Pumping Station	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Water Treatment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Watermains	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2.0m	\$0	\$0
Total:	\$0	\$23k	\$0	\$9k	\$12k	\$0	\$0	\$2.0m	\$0	\$7k

Sanitary Network

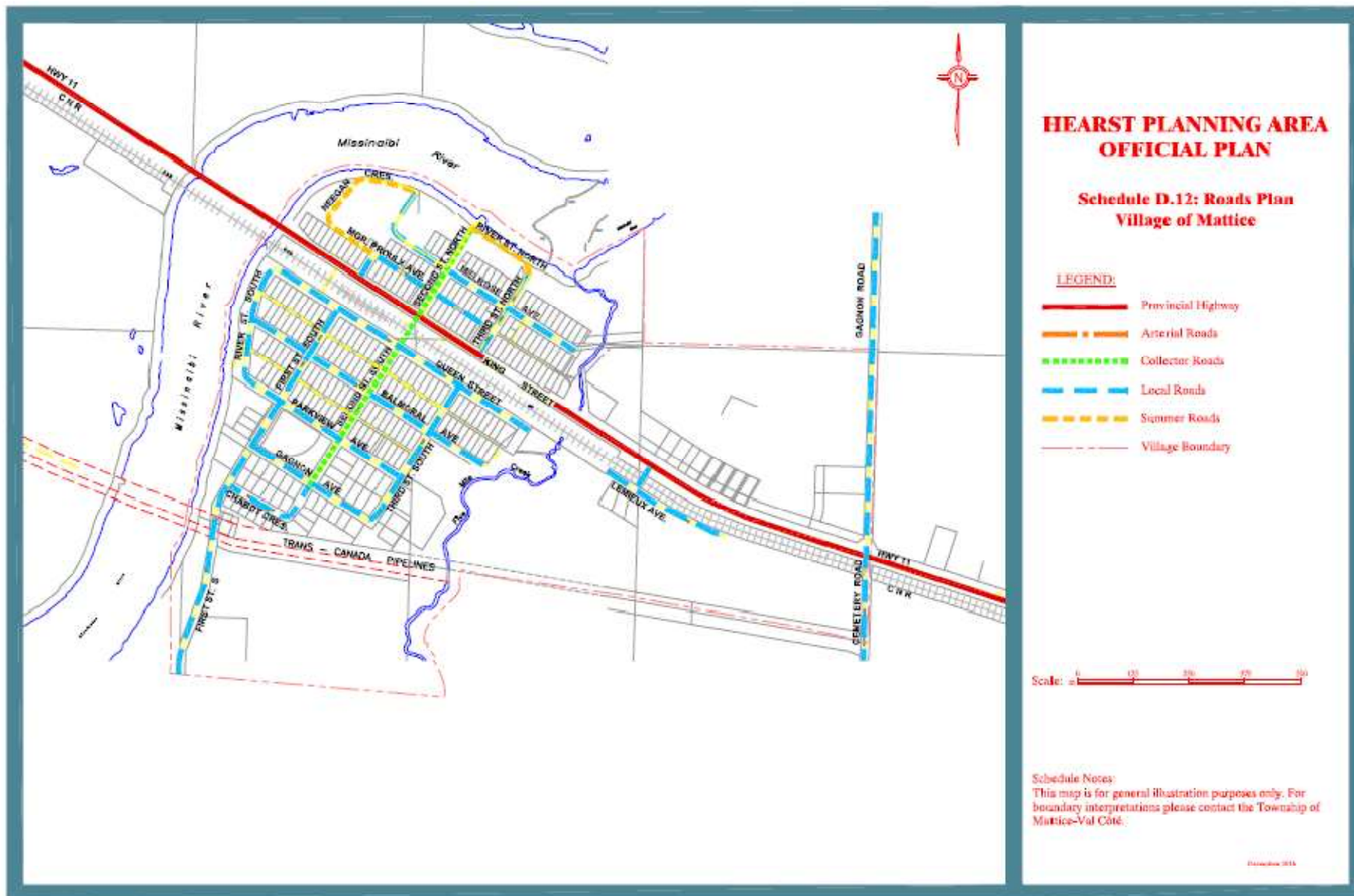
Segment	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Chambers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Forcemains	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
General Sanitary Equipment	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Lagoons	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Manholes	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Pumping Stations	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sanitary Sewers	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

Appendix C: Level of Service Maps

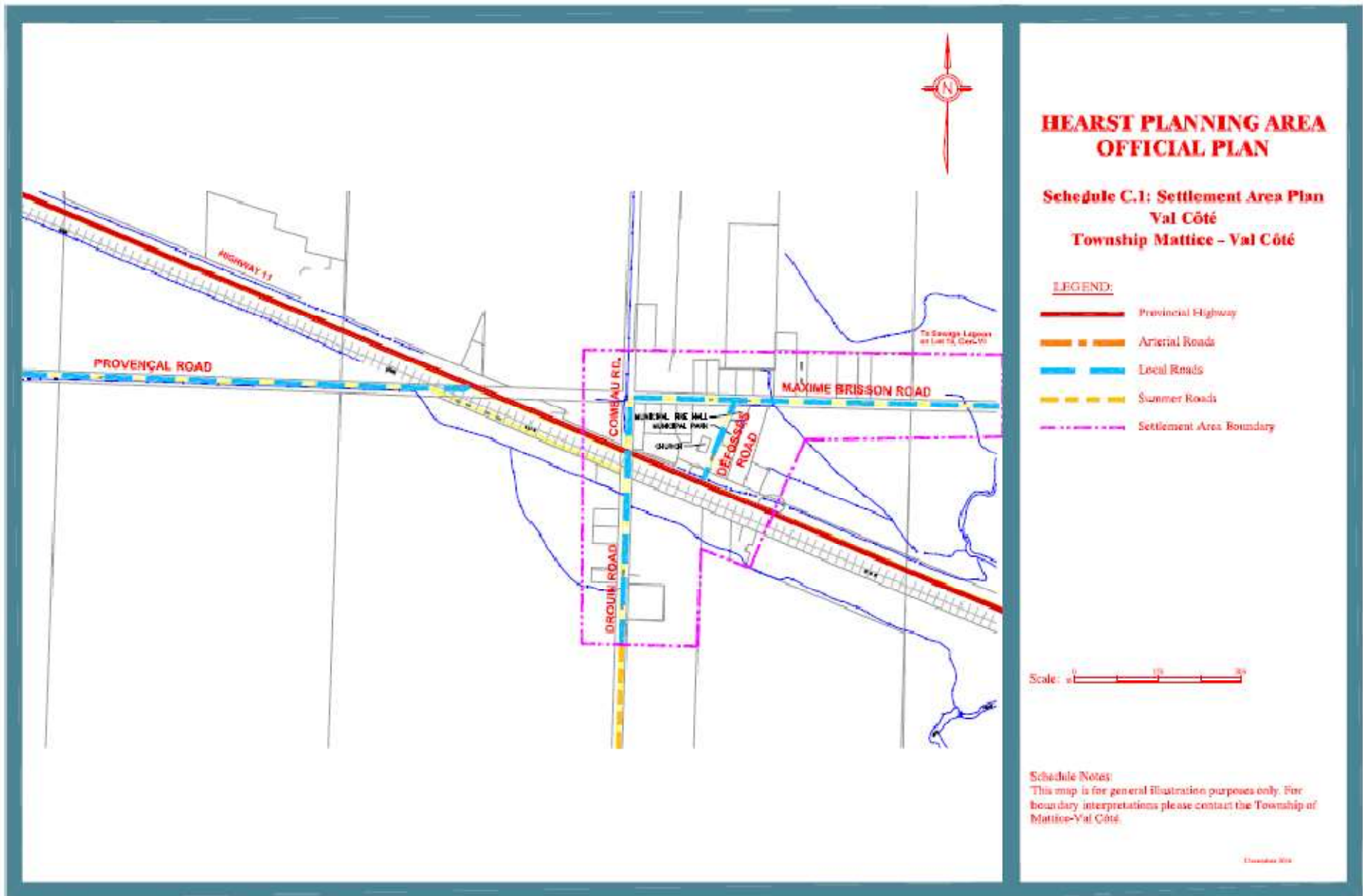
Road Network Map – Township of Eilber



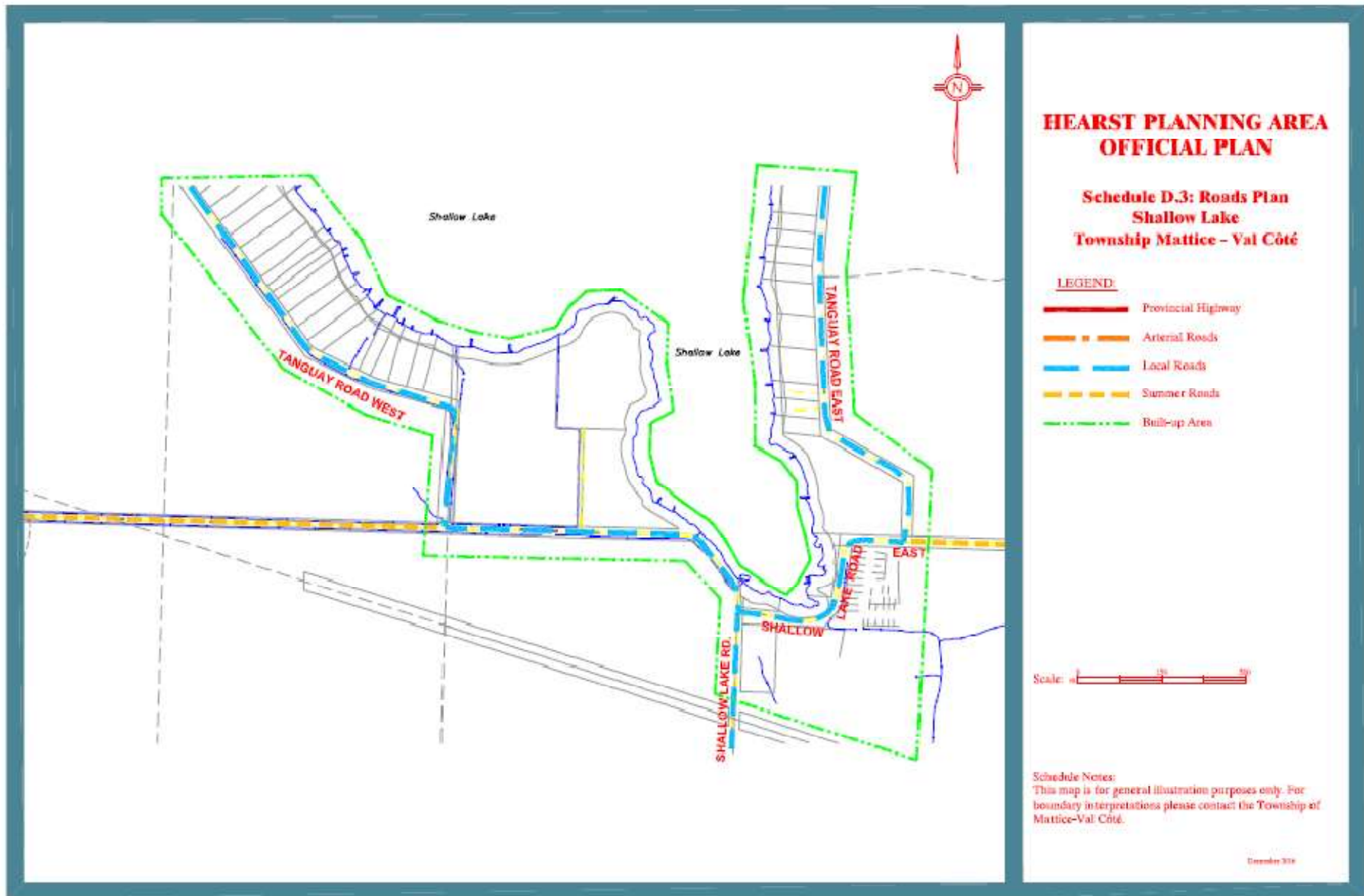
Road Network Map – Mattice



Road Network Map – Val Côté



Road Network Map – Shallow Lake



Images of Bridge in Good Condition

Brisson Road Bridge Inspection – August 11, 2021
UTM Coordinates E327217 N5501641 (NAD 83 - Zone 17)
Township of Mattice – Val Cote
Our reference RE # Matt-005

Page 3 of 18



5- View of south side of bridge



6- View of north side of bridge

Brisson Road Bridge Inspection – August 11, 2021
UTM Coordinates E327217 N5501641 (NAD 83 - Zone 17)
Township of Mattice – Val Cote
Our reference RE # Matt-005

Page 2 of 18

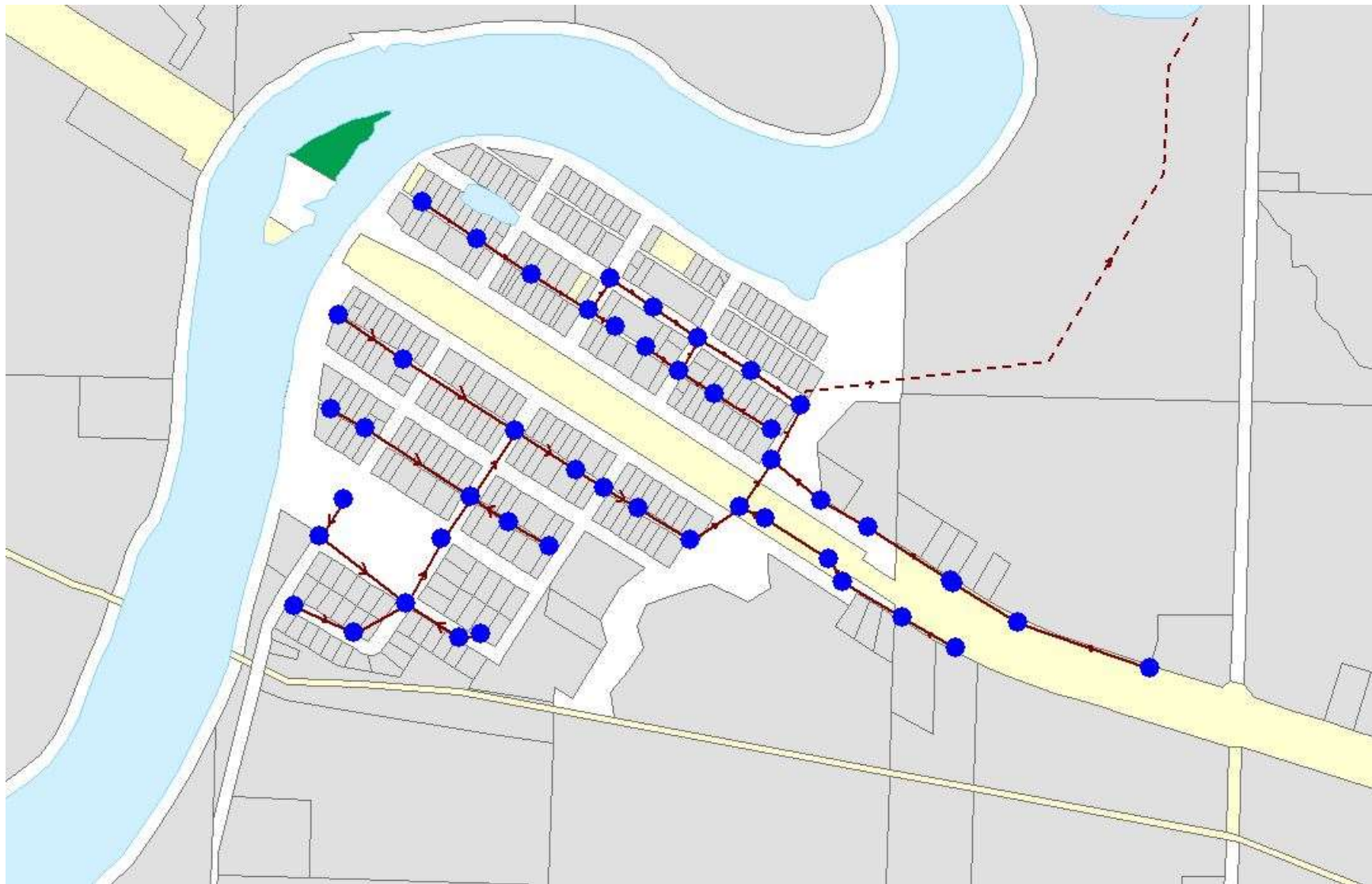


3- View looking upstream



4- View looking downstream

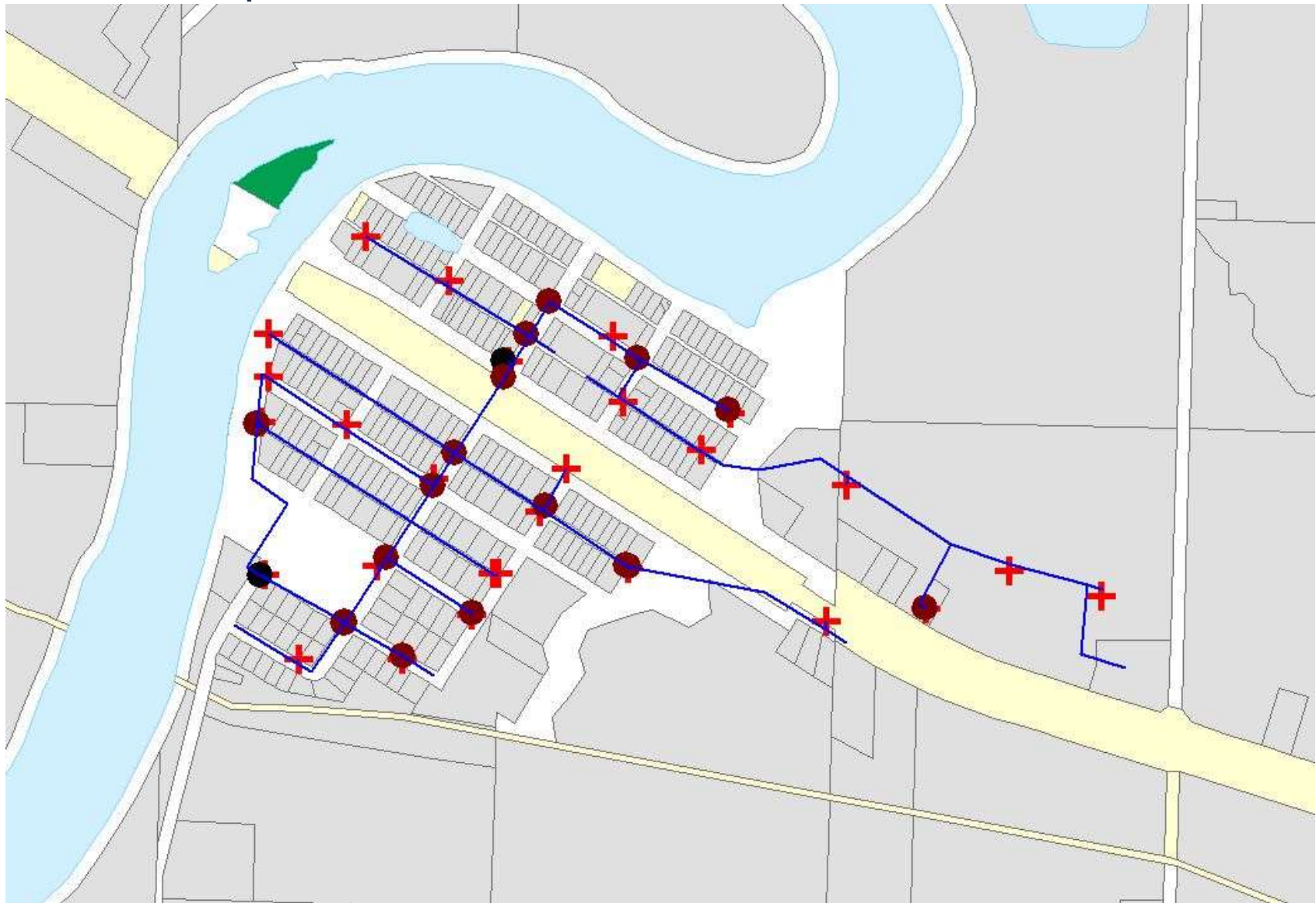
Sanitary Network Map - Mattice



Sanitary Network Map – Val Côté



Water Network Map - Mattice



Appendix D: Risk Rating Criteria

General Risk Definitions

Risk	Integrating a risk management framework into your asset management program requires the translation of risk potential into a quantifiable format. This will allow you to compare and analyze individual assets across your entire asset portfolio. Asset risk is typically defined using the following formula: Risk = Probability of Failure (POF) x Consequence of Failure (COF)
Probability of Failure (POF)	The probability of failure relates to the likelihood that an asset will fail at a given time. The current physical condition and service life remaining are two commonly used risk parameters in determining this likelihood.
POF - Structural	The likelihood of asset failure due to aspects of an asset such as load carrying capacity, condition or breaks
POF - Functional	The likelihood of asset failure due to its performance
POF - Range	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
Consequences of Failure (COF)	The consequence of failure describes the overall effect that an asset's failure will have on an organization's asset management goals. Consequences of failure can range from non-eventful to impactful: a small diameter water main break in a subdivision may cause several rate payers to be without water service for a short time. However, a larger trunk water main may break outside a hospital, leading to significantly higher consequences.
COF - Economic	The monetary consequences of asset failure for the organization and its customers
COF - Social	The consequences of asset failure on the social dimensions of the community
COF - Environmental	The consequence of asset failure on an asset's surrounding environment
COF - Operational	The consequence of asset failure on the Town's day-to-day operations
COF - Health & safety	The consequence of asset failure on the health and well-being of the community
COF - Strategic	The consequence of asset failure on strategic planning
COF - Range	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe

Risk Framework

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
General / Corporate		COF	Economic	100%	Replacement Cost	100%	0 - 10,000 10,000 - 30,000 30,000 - 65,000 65,000 - 100,000 >100,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
		POF	Structural	60%	Age Based Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Life Remaining	100%	> 40 30 - 40 20 - 30 10 - 20 < 10	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Asset Category	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Bridges & Culverts	COF	Economic	70%	Replacement Cost	100%	0 - 10,000 10,000 - 30,000 30,000 - 65,000 65,000 - 100,000 >100,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
		Operational	30%	Surface Type	100%	Gran A Asphalt	2 - Minor 4 - Major
	POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
		Functional	40%	Service Remaining Life	100%	> 40 30 - 40 20 - 30 10 - 20 < 10	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Asset Category	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Road Network	COF	Economic	70%	Replacement Cost	100%	0 - 10,000 10,000 - 30,000 30,000 - 65,000 65,000 - 100,000 >100,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
		Operational	30%	Surface Type	100%	Gran A Asphalt	2 - Minor 4 - Major
	POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
		Functional	40%	Service Remaining Life	100%	> 40 30 - 40 20 - 30 10 - 20 < 10	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Sanitary Network	Sanitary Mains	COF	Economic	20%	Replacement Cost	100%	0 - 10,000 10,000 - 30,000 30,000 - 65,000 65,000 - 100,000 >100,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	80%	Surface Type	50%	Gravel Tar & Chip Asphalt	2 - Minor 3 - Moderate 4 - Major
					Pipe Size (mm)	50%	<100 mm 100 - 150 mm 150 - 200 mm >300 mm	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Remaining	100%	Life > 40 30 - 40 20 - 30 10 - 20 < 10	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Asset Category	Asset Segment	Risk Criteria	Criteria	Weighting (%)	Sub-Criteria	Weighting (%)	Value/Range	Score
Water Network	Water Mains	COF	Economic	20%	Replacement Cost	100%	0 - 10,000 10,000 - 30,000 30,000 - 65,000 65,000 - 100,000 >100,000	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major 5 - Severe
			Operational	80%	Surface Type	50%	Gravel Tar & Chip Asphalt	2 - Minor 3 - Moderate 4 - Major
					Pipe Size (mm)	50%	<100 mm 100 - 150 mm 150 - 200 mm >300 mm	1 - Insignificant 2 - Minor 3 - Moderate 4 - Major
		POF	Structural	60%	Assessed Condition	100%	80 - 100 60 - 79 40 - 59 20 - 39 0 - 19	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain
			Functional	40%	Service Remaining	100%	Life > 40 30 - 40 20 - 30 10 - 20 < 10	1 - Rare 2 - Unlikely 3 - Possible 4 - Likely 5 - Almost Certain

Appendix E: Condition Assessment Guidelines

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

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

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

Role of Asset Condition Data

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

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

Guidelines for Condition Assessment

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

Condition assessments must include a quantitative or qualitative assessment of the current condition of the asset, collected according to specified condition rating

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

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

Developing a Condition Assessment Schedule

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

1. **Relevance:** every data item must have a direct influence on the output that is required
2. **Appropriateness:** the volume of data and the frequency of updating should align with the stage in the assets life and the service being provided
3. **Reliability:** the data should be sufficiently accurate, have sufficient spatial coverage and be appropriately complete and current
4. **Affordability:** the data should be affordable to collect and maintain