Asset Management Plan

The Municipality of Mattawan

2025

This Asset Management Plan was prepared by:

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

Key Statistics

Replacement cost of asset portfolio - $6.1 million

Percentage of assets in fair or better condition – 96%

Target Reinvestment Rate – 2.24%

Actual Reinvestment Rate – 1.81%

Annual Capital Infrastructure Deficit - $26,000

Replacement Cost of Infrastructure per Household (2021) - $60,254

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

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

This AMP include the following asset categories:

Asset Categories

- Road Network
- Bridges & Culverts
- Vehicles
- Facilities
- Machinery & Equipment

With the development of this AMP the Municipality has achieved compliance with O. Reg. 588/17 to the extent of the requirements that must be completed by July 1, 2025.

Findings

The overall replacement cost of the asset categories included in this AMP totals $6.1 million. 96% of all assets analysed in this AMP are in fair or better condition and assessed condition data was available for 83% of assets. For the remaining 17% of assets, assessed condition data was unavailable, and asset age was used to approximate condition – a data gap that persists in most municipalities. Generally, age misstates the true condition of assets, making assessments essential to accurate asset management planning, and a recurring recommendation in this AMP. The development of a long-term, sustainable financial plan requires an analysis of whole lifecycle costs. This AMP uses a combination of proactive lifecycle strategies (where applicable) and replacement only strategies to determine the lowest cost option to maintain the current/proposed levels of service.

To meet capital replacement and rehabilitation needs for existing infrastructure, prevent infrastructure backlogs, and achieve long-term sustainability, the Municipality's average annual capital requirement totals $137,000. Based on a historical analysis of sustainable capital funding sources, the Municipality is committing $111,000 towards capital projects per year. As a result, there is currently an annual funding gap of approximately $26,000.

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

Recommendations

A financial strategy was developed to address the annual capital funding gap. To maintain its current tax rate, the Municipality should dedicate 137,000 annually, for capital asset management going forward.

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

- Continue to refine and update asset information as made available.
- Undergo CityWide inventory and asset management training
- Operationalize existing database and develop/improve short- and long-term capital projections
- Evaluate the efficacy of the Municipality's lifecycle management strategies at regular intervals to determine the impact on cost, condition, and risk

1 Introduction & Context

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
- Ontario Regulation 588/17 outlines several key milestones and requirements for asset management plans in Ontario by July 1, 2025

1.1 Mattawan Community Profile

Census Characteristic	Municipality of Mattawan	Ontario
Population 2021	153	14,223,942
Population Change 2016-2021	-5.0%	5.8%
Total Private Dwellings	102	5,929,250
Population Density	0.8/km^2	15.9/km^2
Land Area	200.12 km^2	892,411.76 km^2

The Municipality of Mattawan is a single tier Municipality in the Nipissing District located within Northeastern Ontario. The Municipality is situated east of Lake Nipissing, and on the south side of Ottawa River.

Mattawan is a relatively small municipality in terms of population. The Municipality has no named communities within its boundaries and covers a rural and forested area. Like other municipalities within the area, residents are multi-cultural, having strong roots to First Nations, French, and English heritage.

The region is characterized by its natural landscapes which include forests, lakes, and rivers. It is part of the Canadian Shield, a vast geological region known for its rocky terrain, forests, and abundant freshwater resources. The Municipality's natural beauty and outdoor recreational opportunities make it an attractive destination for outdoor enthusiasts.

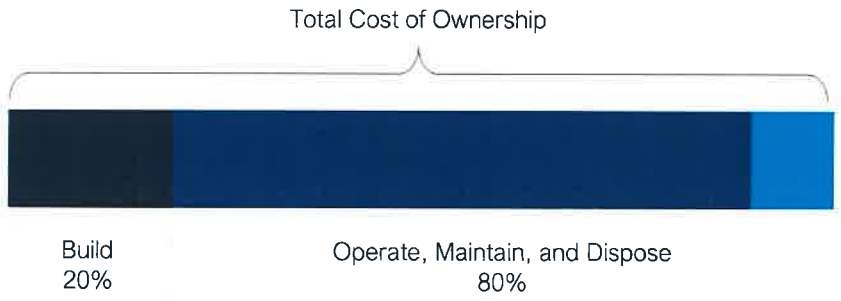
The economy of Mattawan is primarily based on natural resources, including forestry, mining, and outdoor tourism. Tourism is also an important industry, with visitors coming for activities such as fishing, hunting, camping, skiing, and hiking. Mattawan, along with four other municipalities, have cooperated to create the Mattawa Voyageur Country tourist region to promote the area.

The Municipality has prioritized maintenance of its current infrastructure allocating resources to ensure the ongoing functionality and resilience of its assets. This dedication highlights the Municipality's commitment to maintaining the effectiveness and integrity of its essential infrastructure.

1.2 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 their total cost of ownership. The remaining 80-90% derives from operations and maintenance. This AMP focuses 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.

1.2.1 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 organizational strategic plan and provides clear direction to municipal staff on their roles and responsibilities as part of the asset management program.

The Municipality adopted By-law No. 2019-11 which included a "Strategic Asset Management Policy" and "State of Maturity Report" on June 13th, 2019, in accordance with Ontario Regulation 588/17.

The asset management plan satisfies the policy statement 4 section 4:

> *"The Municipality will develop an asset management plan that incorporates all infrastructure categories and municipal infrastructure assets that meet the capitalization threshold outlined in the organization's Tangible Capital Asset Policy. It will be updated at least every five years following 2024 in accordance with O. Reg. 588/17 requirements, to promote, document and communicate continuous improvement of the asset management program."*

1.2.2 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.

1.2.3 Asset Management Plan

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

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

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

1.3 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.

1.3.1 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 outlined in this AMP. 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.

1.3.2 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.

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

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

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 (roads and bridges) the province, through O. Reg. 588/17, has provided qualitative descriptions that are required to be included in this AMP. For non-core asset categories, the Municipality has determined the qualitative descriptions that will be used to determine the community level of service provided. 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 (roads and bridges) the province, through O. Reg. 588/17, has provided technical metrics that are required to be included in this AMP. For non-core asset categories, the Municipality has determined the technical metrics that will be used to determine the technical level of service provided. These metrics can be found in the Levels of Service subsection within each asset category.

Current and Proposed Levels of Service

This AMP focuses on both the current and proposed level of service, provided to the community, 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.

As per O. Reg. 588/17, the Municipality's proposed levels of service must:

i. Explain why the proposed levels of service are appropriate:
    a. Discuss associated risks
    b. How they differ from current levels of service
    c. Whether proposed levels of service are achievable
    d. Discuss the Municipality's ability to afford the proposed level of service
ii. Have a proposed performance metric
iii. Have a lifecycle management and financial strategy
iv. Discuss how assumptions regarding future changes in population and economic activity, informed the preparation of the lifecycle management and financial strategy

Community Engagement Survey

An important step in developing an AMP is gathering the community's feedback to ensure that the AMP reflects the desires, needs, and values of the community. To gather this feedback, a survey was developed to help understand how to manage infrastructure assets that meet the current and future needs of Mattawan. The survey gathered feedback on the following:

- Overall satisfaction with municipal services
- Suggestions for service improvements
- Expectations for levels of municipal services
- Willingness to pay to maintain or increase services and
- Service priorities for funding allocation

The survey was distributed to households from January to April, of 2024. A summary of the survey results, including detailed responses, charts, and an analysis, is provided in Appendix F.

1.4 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.

1.4.1 Mattawan Climate Profile

The Municipality of Mattawan is in Northeastern Ontario within the Nipissing district. 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 Mattawan may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 4.0 °C
- Under a high emissions scenario, the annual average temperatures are projected to increase by 2.7 °C by the year 2050 and over 6.6 °C by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Mattawan is projected to experience a 13% increase in precipitation by the year 2051 and an 18% 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.

1.4.2 Integrating Climate Change and Asset Management

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

To achieve the sustainable delivery of services, climate change considerations should be incorporated into asset management practices. The integration of asset

management and climate change adaptation observes industry best practices and enables the development of a holistic approach to risk management.

1.5 Ontario Regulation 588/17

As part of the *Infrastructure for Jobs and Prosperity Act, 2015*, the Ontario government introduced Regulation 588/17 - Asset Management Planning for Municipal Infrastructure (O. Reg 588/17). 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 strategies

1.5.1 O. Reg. 588/17 Compliance Review

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

Requirement	O. Reg. Section	AMP Section Reference	Status
Summary of assets in each category	S.5(2), 3(i)	4-8	Complete
Replacement cost of assets in each category	S.5(2), 3(ii)	4-8	Complete
Average age of assets in each category	S.5(2), 3(iii)	4-8	Complete
Condition of core assets in each category	S.5(2), 3(iv)	4-8	Complete
Description of municipality's approach to assessing the condition of assets in each category	S.5(2), 3(v)	4-8	Complete
Current levels of service in each category	S.5(2), 1(i-ii)	4-8	Complete
Current performance measures in each category	S.5(2), 2	4-8	Complete
Proposed levels of service in each category	S.6	4 Appendix D	Complete
Lifecycle activities needed to maintain levels of service for 10 years	S.5(2), 4	4-8	Complete
Costs of providing lifecycle activities for 10 years	S.5(2), 4	Appendix A	Complete
Growth assumptions	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	9 Appendix D	Complete

2 Scope and Methodology

Key Insights

- This asset management plan includes 5 tax-funded asset 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

2.1 Asset Categories Included in this AMP

This asset management plan for is produced in compliance with Ontario Regulation 588/17. The July 2025 iteration of the AMP requires analysis of both core and non-core assets.

The AMP summarizes the state of the infrastructure for the Municipality's asset portfolio, establishes current levels of service, proposed 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	Sustainable Grant Funding[1] Tax Levy
Bridges	
Facilities	
Vehicles	
Machinery & Equipment	

2.2 Deriving Replacement Costs

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

- **User-Defined Cost and Cost/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

[1] CCBF, OCIF, NORD. Refer to section 10.

costs that the Municipality incurred. As assets age, and new products and technologies become available, cost inflation becomes a less reliable method.

2.3 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 in this AMP was assigned according to the knowledge and expertise of municipal staff and supplemented by existing industry standards when necessary.

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

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

2.4 Reinvestment Rate

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

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

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

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

2.5 Deriving Asset Condition

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

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

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

The analysis in this AMP is based on assessed condition data only as available. In the absence of assessed condition data, asset age is used as a proxy to determine asset condition. Appendix C includes additional information on the role of asset condition data and provides basic guidelines for the development of a condition assessment program.

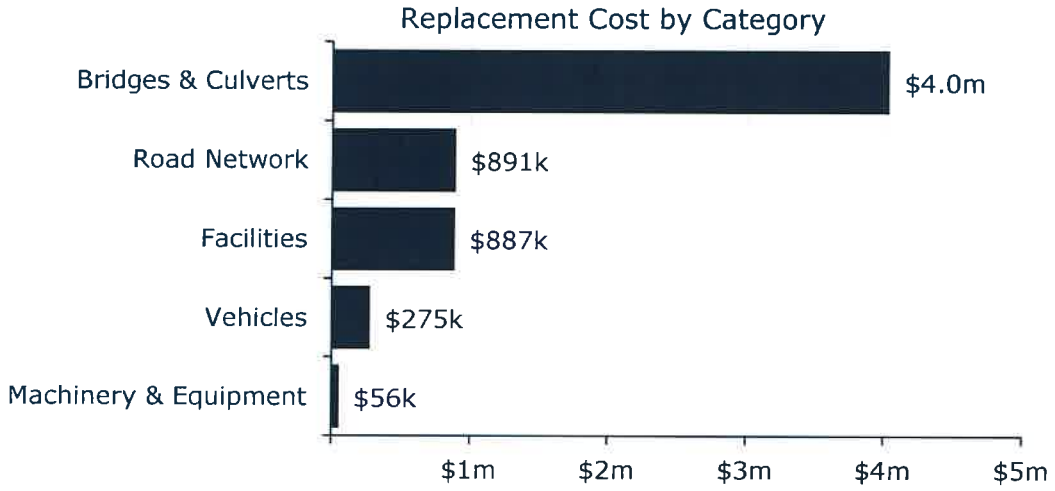
3 Portfolio Overview

Key Insights

- The total replacement cost of the Municipality's asset portfolio is $6.1 million
- The Municipality's target re-investment rate is 2.24%, and the actual re-investment rate is 1.81%, contributing to an expanding infrastructure deficit
- 96% of all assets are in fair or better condition
- Average annual capital requirements total $137,000 per year across all asset classes

3.1 Total Replacement Cost of Asset Portfolio

The asset categories analyzed in this AMP have a total replacement cost of $6.1 million based on inventory data from 2023 (year-end). 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.

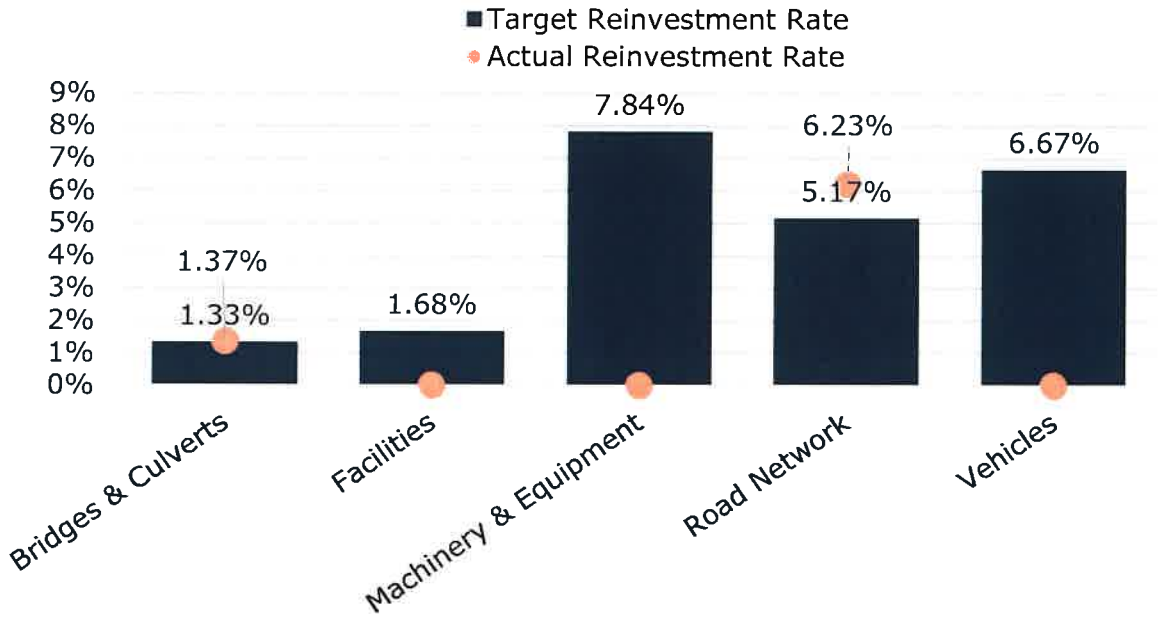


The following table identifies the methods employed to determine replacement costs across each asset category:

Asset Category	Replacement Cost Method	
	User-Defined	Notes
Road Network	64%	Cost/unit CPI Third party assessments
Bridges	100%	OSIM report Third party assessments
Facilities	100%	CPI
Machinery & Equipment	100%	Internal staff
Vehicles	100%	Internal staff
Overall	**95%**	

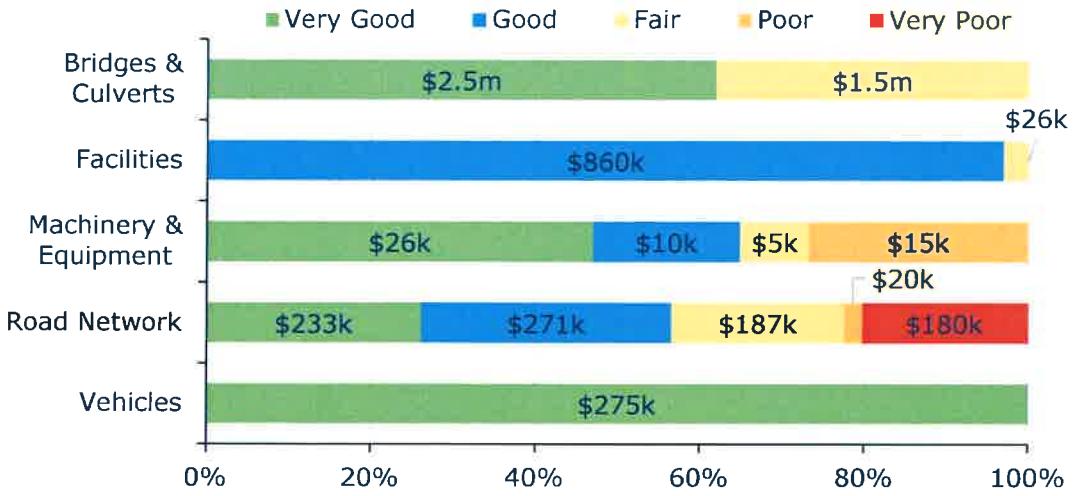
3.2 Target vs. Actual Reinvestment Rate

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 $137 thousand annually, for a target reinvestment rate of 2.24%. Actual annual spending on infrastructure totals $111 for an actual reinvestment rate of 1.81%.



3.3 Condition of Asset Portfolio

The current condition of the assets is central to all asset management planning. Collectively, 96% of assets in Mattawan are in fair or better condition. This estimate relies on both age-based and field condition data.



Value and Percentage of Asset Segments by Replacement Cost

This AMP relies on assessed condition data for 83% 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 used throughout this AMP.

Asset Category	Asset Segment	% of Assets with Assessed Condition	Source of Condition Data
Road Network	LCB		
	Unpaved Roads	100%	Staff Assessments
	Roadside Culverts	0%	N/A
Bridges	All	100%	OSIM Report
Facilities	All	97%	Staff Assessments
Machinery & Equipment	All	100%	Staff Assessments
Vehicles	All	0%	N/A

3.4 Forecasted Capital Requirements

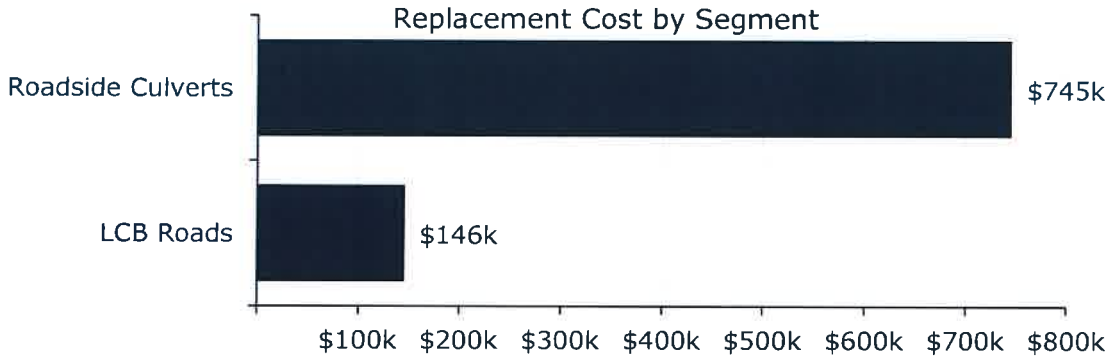
The development of a long-term capital forecast should include both asset rehabilitation and replacement requirements. With the development of asset-specific lifecycle strategies that include the timing and cost of future capital events, the Municipality can produce an accurate long-term capital forecast. The following graph identifies capital requirements over the next 75 years. This ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins.

4 Road Network

4.1 Asset Inventory & Costs

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

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Roadside Culverts	129	$745,430	$33,904
Unpaved Roads	21.2 km	Not Planned for Replacement[2]	
LCB Roads	4.2 km	$145,781	$12,148
Total		**$891,211**	**$46,052**



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

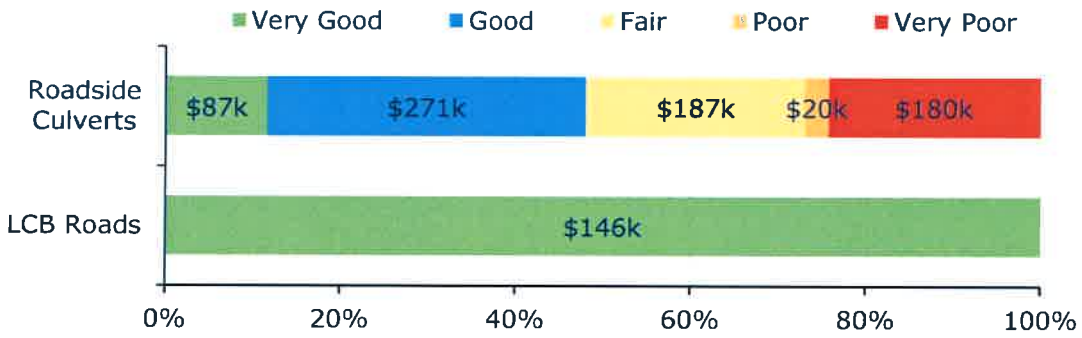
[2] Gravel roads undergo perpetual operating and maintenance activities. If maintained properly, they can theoretically have a limitless service life.

4.2 Asset Condition & Age

The table below identifies the current average condition, the average age, and the estimated useful life for each asset segment. The average condition (%) is a weighted value based on replacement cost.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Condition
Roadside Culverts	20 – 50	12.7	49% (Fair)
LCB Roads	12	1[3]	99% (Very Good)
Average		**26**	**49% (Fair)**

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



Value and Percentage of Asset Segments by Replacement Cost

To ensure that the Municipality's Road 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 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.

[3] 4.2 km of unpaved roads were recently upgraded to LCB roads.

4.2.1 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 more confidently. The following describes the Municipality's current approach:

- Road patrols are completed weekly for all roads by the road supervisor
- Older roadside culvert (under 3m span) pipes are inspected on an annual basis
- While roadside culverts are checked less often, they are expected to be part of an inspection program

4.3 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.

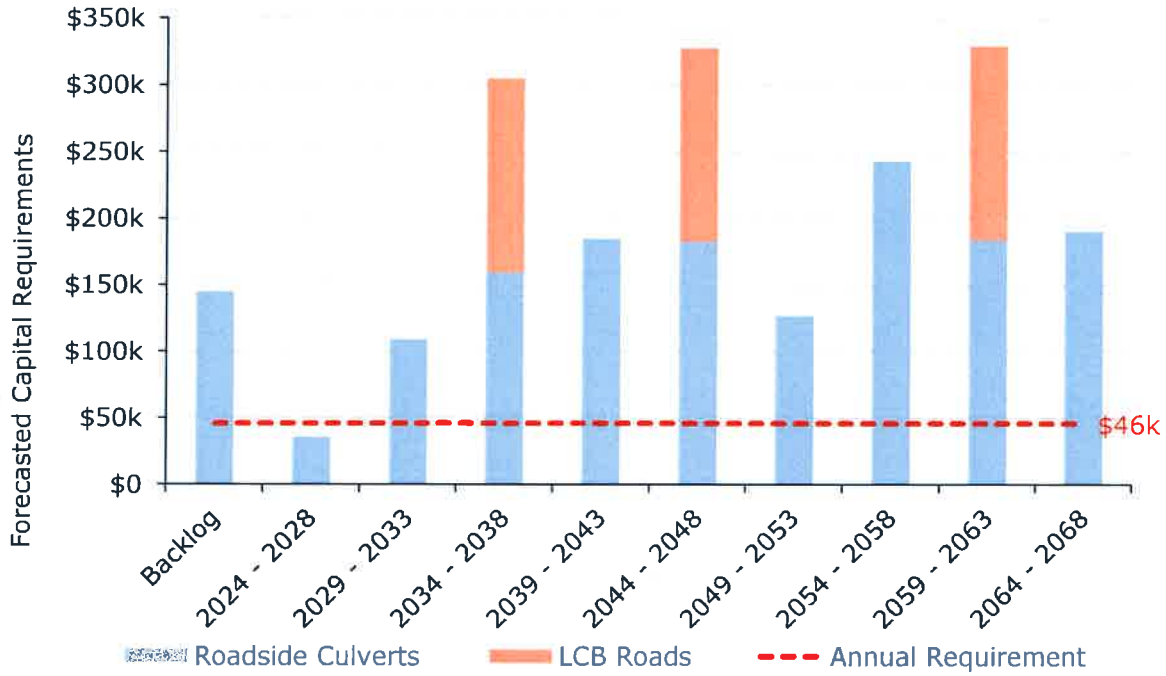
The following lifecycle strategies have been developed as a proactive approach to managing the lifecycle of gravel roads.

Activity Type	Description of Current Strategy
Maintenance, Rehabilitation and Replacement	Grading is completed throughout the year to maintain the roads Gravel is reapplied to the roads on an as-needed basis according to Road Supervisor recommendations based on field observations Ditching is completed periodically A backhoe and gravel application are utilized to level and remedy roadside culverts that have lost cover due to erosion; staff prioritize based on criticality and condition of culverts Gravel roads are perpetually maintained and are generally not replaced unless there is an underlying structural issue

4.3.1 Forecasted Capital Requirements

Based on the lifecycle strategies identified previously, 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 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 45 years. This projection ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins.



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 A.

4.4 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Municipality is currently facing:

Climate Change & Extreme Weather Events
An increase in freeze/thaw cycles causes roads to heave and settle. This can cause accelerated deterioration. When the ditches are filled with water, freeze/thaw makes the terrain conditions more difficult to maintain. Additional sanding is required. The uncertainty surrounding the impact of extreme weather events can make changing conditions difficult to plan for.

Capital Funding Strategies
There is some uncertainty on the ability to adequately fund lifecycle requirements from available revenues. Given the small tax base of the Municipality, additional tax revenue can mean a larger tax increase for a single household compared to that of larger municipalities.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of assets are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost

The overall risk breakdown for Road Network assets is illustrated in the figure below.

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
Very Low	Low	Moderate	High	Very High
$296,495	$97,347	$148,249	$261,680	$87,440
(33%)	(11%)	(17%)	(29%)	(10%)

4.5 Current Levels of Service

The following tables identify the Municipality's current level of service for the road network. 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 for this AMP.

4.5.1 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 B
Quality	Description or images that illustrate the different levels of road class pavement condition	Routine road patrols identify 8 different types of deficiencies including potholes, soft shoulders, debris on the road, drainage, warning/hazard on road, regulatory issue for signs, road on bridge issue, and information signs. Roads that do not exhibit any of these deficiencies are in Very Good condition. Depending on the severity and extent of the 8 deficiency types, roads will receive a Good, Fair, Poor, or Very Poor rating.

4.5.2 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)	N/A
	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km^2)	N/A
	Lane-km of local roads (MMS classes 5 and 6) per land area (km/km^2)	0.25[4]
Quality	Average pavement condition index for LCB roads in the municipality	99
	Average surface condition for unpaved roads in the municipality (e.g. excellent, good, fair, poor)	Good

[4] Where the number of lanes was not specified, it was assumed that the road had 2 lanes.

4.6 Proposed Levels of Service

As per O. Reg. 588/17, the Municipality of Mattawan is mandated to document its proposed levels of service for its road network. Refer to appendix D for the Municipality's proposed level of service for the road network, for the following 10 years.

4.7 Recommendations

Asset Inventory

- Review road inventory and update attribute information (e.g. quantity, unit of measure, diameter, and material) to ensure standardization of all asset segments.
- Newly hired staff should undertake CityWide inventory training to gain knowledge on uploading and updating assets and utilize tools available to run capital projections.
- Collect and track inventory of roadside ditches, capturing important attribute information so that it can be included in the asset management program.

Condition Assessment Strategies

- Develop an internal condition assessment for road and culvert assets to capture consistent and reliable information.
- Capture internal condition ratings on assets and input this information into the inventory on a regular basis (e.g. yearly). Currently, there is a backlog of $145,000, regarding the Municipality's roadside culverts. A formal condition assessment strategy will allow for more accurate data and can potentially decrease the Municipality's backlog, as there would be assessed condition scores, as opposed to an age-based approach.

Lifecycle Management Strategies

- With the upgrade of gravel roads to LCB, the Municipality should develop appropriate lifecycle management strategies to determine the impact on cost, condition, and risk.

Risk Management Strategies

- Consider procuring extra supplies (e.g. sand) when there are deals for emergency preparedness, subject to budgetary and space constraints.

Levels of Service

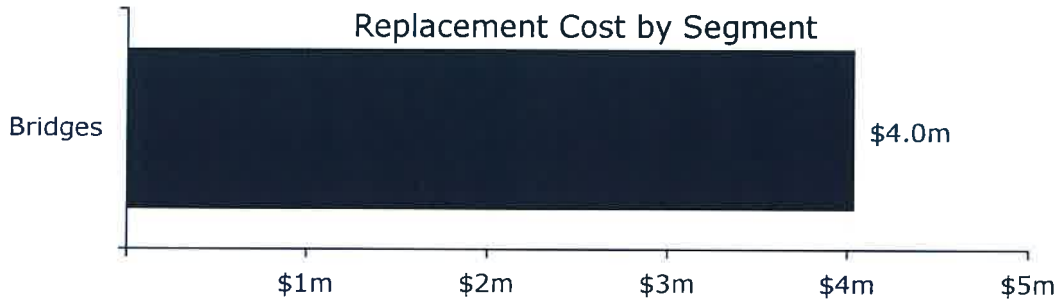
- Ensure that proposed levels of service metrics are reported on an annual basis.

5 Bridges

5.1 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 inventory.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Bridges	2	$4,036,563	$53,821
Total		**$4,036,563**	**$53,821**



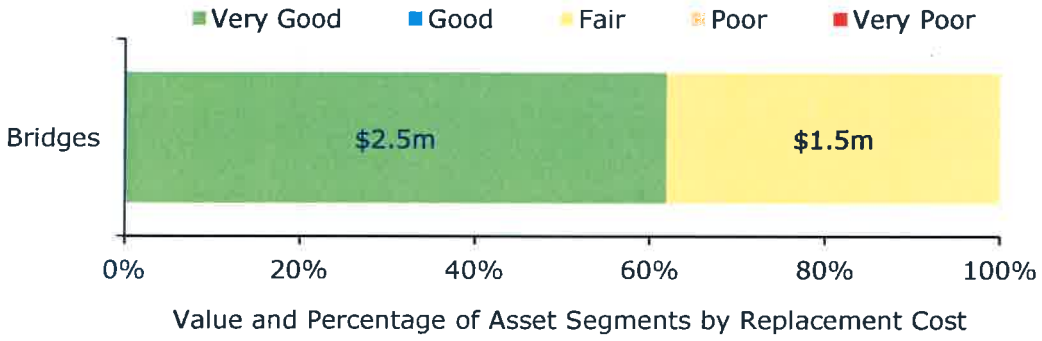
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

5.2 Asset Condition & Age

The table below identifies the current average condition, the average age, and the estimated useful life for each asset segment. The average condition (%) is a weighted value based on replacement cost.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Condition
Bridges	75	5	80% (Very Good)
Average	**75**	**5**	**80% (Very Good)**

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



Value and Percentage of Asset Segments by Replacement Cost

To ensure that the Municipality's bridges 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 bridges.

5.2.1 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 more confidently. The following describes the Municipality's current approach:

- Condition assessments of all bridges are completed every 2 years per the Ontario Structure Inspection Manual (OSIM). The most recent inspection report was completed in 2023 by K. Smart Associates Ltd.
- These findings are verified by Public Works Staff through visual inspections, such as looking at the bridges' underside for cracking or any other indicators of issues

5.3 Lifecycle Management Strategy

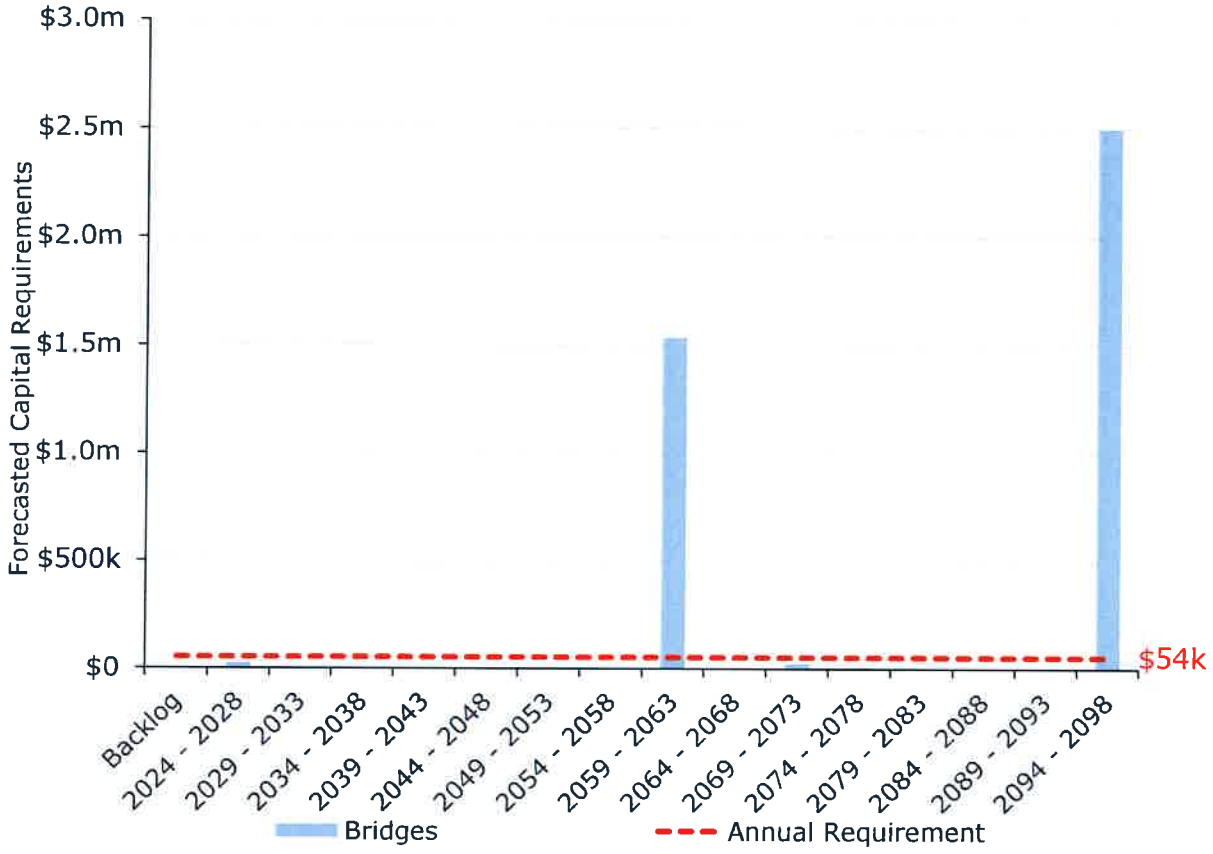
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

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 mandated structural inspections completed according to the Ontario Structure Inspection Manual In-house maintenance activities are completed periodically such as regular cleaning, maintaining guide rails, applying sealant, etc.

5.3.1 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 75 years. This projection ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins.



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 A.

5.4 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Municipality is currently facing:

Climate Change & Extreme Weather Events
The changing climate can lead to more rain and freezing temperature events, increasing freeze/thaw cycles. Moisture seeps into the depths of the foundation and freezing temperatures have heaved parts of the structure e.g. guide rails. This can cause accelerated deterioration and increase the level of maintenance required.

Capital Funding Strategies
The rehabilitation and/or replacement of bridges is heavily dependent on the availability of grant funding for capital projects. Capital costs for bridges can be substantial, and when grant funding is unavailable it can be challenging to fund necessary capital works through sustainable revenue sources. Necessary repairs can be deferred, but this affects the Levels of Service provided.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of assets are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost (Financial)

The overall risk breakdown for Bridge assets is illustrated in the figure below.

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
Very Low	Low	Moderate	High	Very High
-	$2,500,000	-	$1,536,563	-
(0%)	(62%)	(0%)	(38%)	(0%)

5.5 Current Levels of Service

The following tables identify the Municipality's current level of service for bridges. 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 for this AMP.

5.5.1 Community Levels of Service

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

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)	The bridges support regular vehicular and truck traffic. Snowplows traverse over them during snowfall. With the logging operations in the area, transport trucks are common and may carry excavators.
Quality	Description or images of the condition of bridges & culverts and how this would affect use of the bridges & culverts	See Appendix B

5.5.2 Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS
Scope	% of bridges in the Municipality with loading or dimensional restrictions	0
Quality	Average bridge condition index value for bridges in the Municipality	80
	Average bridge condition index value for structural culverts in the Municipality	N/A[5]

[5] The Municipality of Mattawan does not currently own any structural (greater than 3 meters) culverts.

5.6 Proposed Levels of Service

As per O. Reg. 588/17, the Municipality of Mattawan is mandated to document its proposed levels of service for bridges. Refer to appendix D for the Municipality's proposed level of service for bridges, for the following 10 years.

5.7 Recommendations

Data Review/Validation

- Continue to review and validate inventory data, assessed condition data, and replacement costs for all bridges upon the completion of OSIM inspections every 2 years.
- Newly hired staff should undertake CityWide inventory training to gain knowledge on uploading and updating assets and utilize tools available to run capital projections.

Lifecycle Management Strategies

- This AMP only includes capital costs associated with the reconstruction of bridges. The Municipality should work towards identifying projected capital rehabilitation and renewal costs for bridges and integrating these costs into long-term planning.

Levels of Service

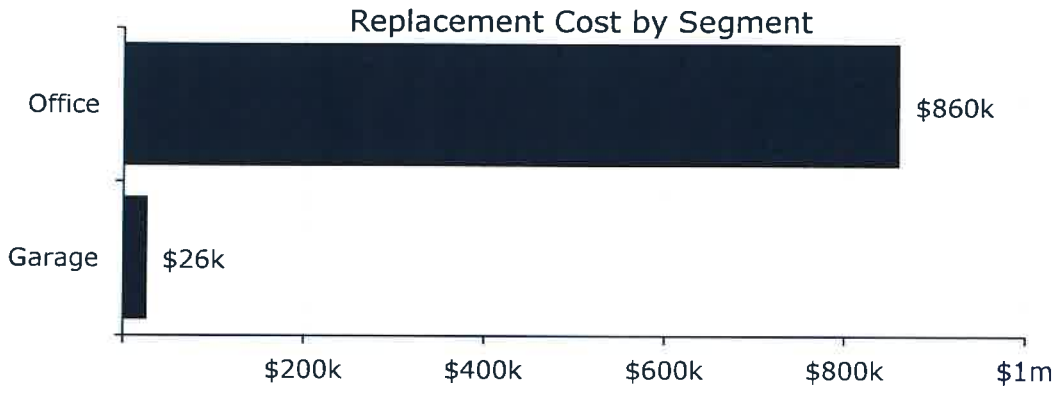
- Continue to measure current levels of service in accordance with the metrics identified in O. Reg. 588/17.
- Ensure that proposed levels of service metrics are reported on an annual basis.

6 Facilities

6.1 Asset Inventory & Costs

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

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Garage	1	$26,470	$529
Office	1	$860,152	$14,336
Total		**$886,622**	**$14,865**



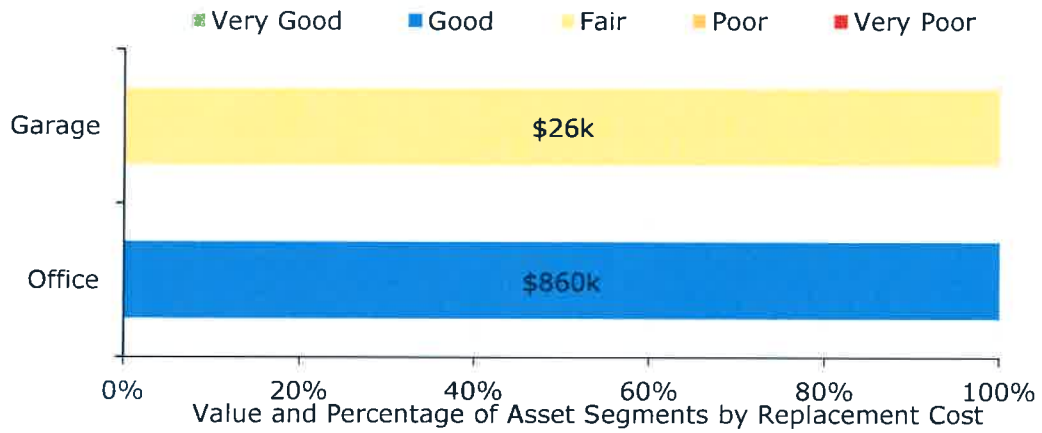
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

6.2 Asset Condition & Age

The table below identifies the current average condition, the average age, and the estimated useful life for each asset segment. The average condition (%) is a weighted value based on replacement cost.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Condition
Garage	50	22	54% (Fair)
Office	60	56	63% (Good)
Average			**63% (Good)**

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 facilities 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 facilities and facilities.

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.

6.2.1 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 more confidently. The following describes the Municipality's current approach:

- Internal staff conduct visual inspections and general safety inspections as part of the Municipality's approach to building condition assessments

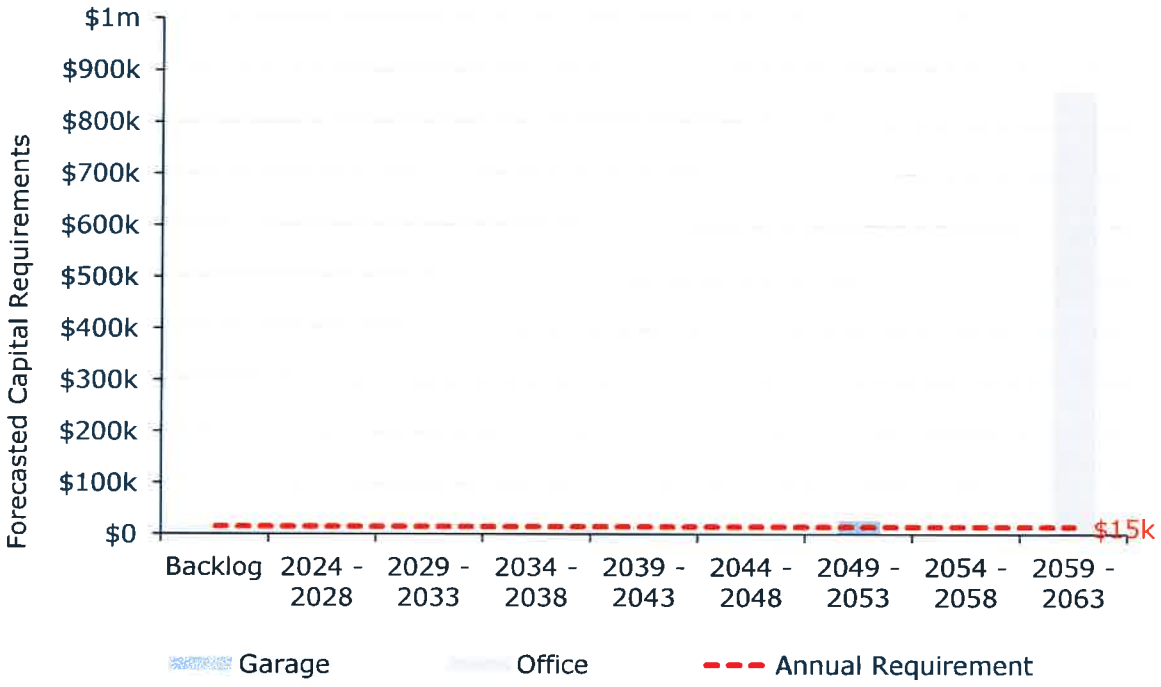
6.3 Lifecycle Management Strategy

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	HVAC systems, including air conditioning, furnace, and hot water systems are inspected every spring and fall Septic tanks are scheduled to be assessed every 5 years The decision to prioritize components of a building for rehabilitation is influenced by input from insurance companies, consultations with contractors, and guidance from the building inspector
Replacement	The replacement strategies for facilities entail a top-down approach focused primarily on the Municipality's office The Municipality is dependent on a grant to construct a new garage for storing the plow truck, which involves the demolition of the old garage and the subsequent construction of a new one

6.3.1 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 40 years. This projection ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins.



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 A.

6.4 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Municipality is currently facing:

Organizational Capacity

Limited staff capacity poses a significant risk to the Municipality's facilities, as it can lead to delays in maintenance, inspections, and repairs, potentially compromising safety and structural integrity. Moreover, a lack of personnel can impede proactive planning and strategic asset management, hindering the municipality's ability to allocate resources effectively and prioritize critical rehabilitation and maintenance projects. A comprehensive Building Condition Assessment (BCA) would provide valuable insights to the Municipality, allowing a clearer understanding of the necessary maintenance and rehabilitation measures needed to maintain the facilities in optimal condition.

Aging Infrastructure and Capital Funding Strategies

Aging infrastructure, infrastructure re-investment, and reliance on grants pose a substantial risk to the Municipality's facilities. As infrastructure components naturally deteriorate over time, the absence of sufficient reinvestment and grant dependency exacerbates this process, leaving facilities vulnerable to accelerated decay. This not only jeopardizes structural integrity but also increases the likelihood of safety hazards and more costly repairs down the line. To mitigate these risks, it is imperative for municipalities to allocate adequate resources, reduce reliance on grants, and establish a strategic reinvestment plan to ensure the longevity and functionality of their facilities and infrastructure.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of assets are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost

The overall risk breakdown for Facilities assets is illustrated in the figure below.

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
Very Low	**Low**	**Moderate**	**High**	**Very High**
$150,714	$97,347	$148,249	$261,680	$87,440
(20%)	(13%)	(20%)	(35%)	(12%)

6.5 Current Levels of Service

The following tables identify the Municipality's current level of service for facilities. These metrics include the community and technical level of service metrics that the Municipality has selected for this AMP.

Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS
Quality	Description of the current condition of municipal facilities and the plans that are in place to maintain or improve the provided level of service	Refer to sections 6.2 & 6.3

Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS
Quality	Overall condition rating	Good – 63

6.6 Proposed Levels of service

As per O. Reg. 588/17, the Municipality of Mattawan is mandated to document its proposed levels of service for facilities. Refer to appendix D for the Municipality's proposed level of service for facilities, for the following 10 years.

6.7 Recommendations

Asset Inventory

- The Municipality's asset inventory contains a single record for all facilities. Facilities consist of several separate capital components that have unique estimated useful lives and require asset-specific lifecycle strategies.
- The Municipality should consider conducting a third-party building condition assessment (BCA), which would componentize its facilities, while implementing a UNIFORMAT II hierarchy.

Replacement Costs

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

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.
- 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

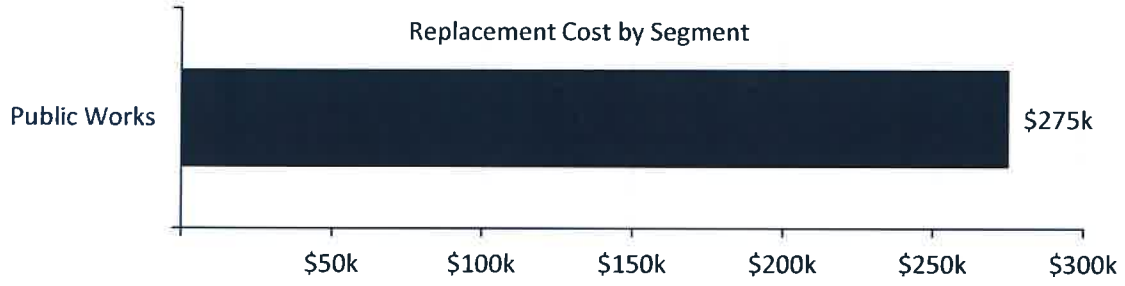
- Begin measuring current levels of service in accordance with the metrics that the Municipality has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Ensure that proposed levels of service metrics are reported on an annual basis.

7 Vehicles

7.1 Asset Inventory & Costs

The table below includes the quantity, replacement cost method and total replacement cost of each asset segment in the Municipality's vehicles.

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
Public Works	1	$275,268	$18,351
Total		**$275,268**	**$18,351**



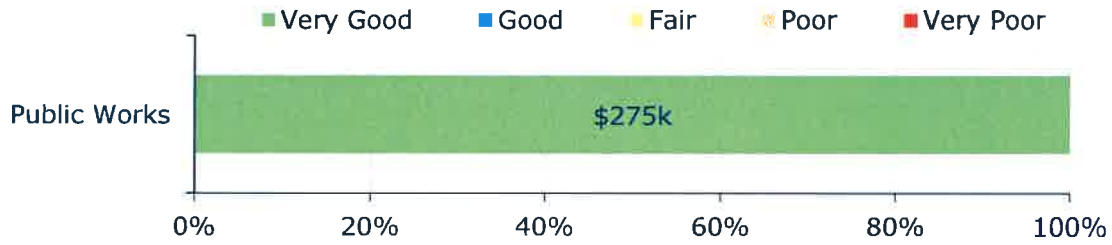
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

7.2 Asset Condition & Age

The table below identifies the current average condition and source of available condition data for each asset segment. The average condition (%) is a weighted value based on replacement cost.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Condition
Public Works	15	2	87% (Very Good)
Average			**87% (Very Good)**

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



Value and Percentage of Asset Segments by Replacement Cost

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.

7.2.1 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 more confidently. The following describes the Municipality's current approach:

- Internal staff conduct circle checks prior to use and perform informal assessments, ensuring thorough and timely evaluations
- Vehicles also receive routine maintenance by certified mechanics

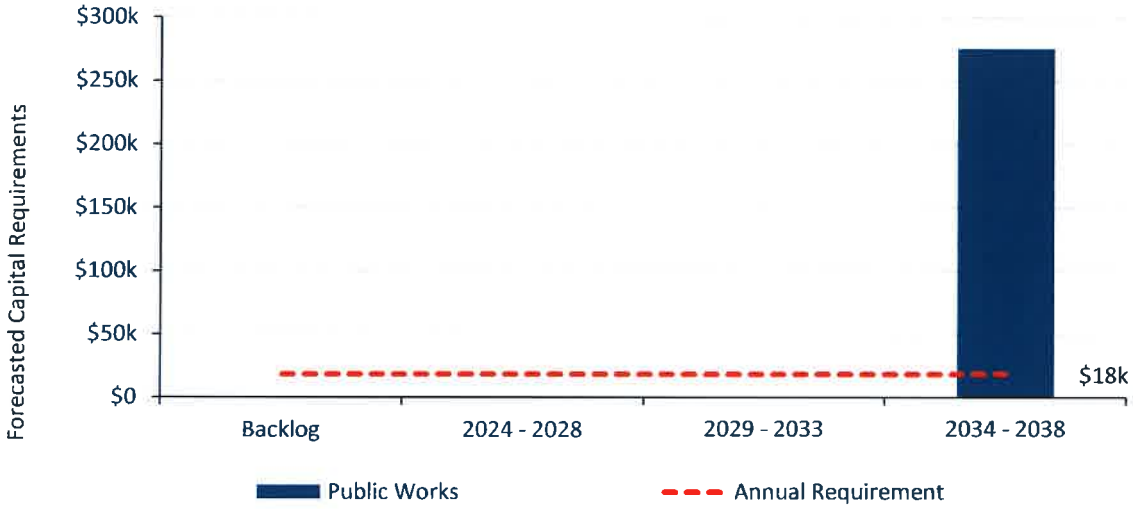
7.3 Lifecycle Management Strategy

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	Tire replacements and oil changes are conducted according to the mileage accumulated by a vehicle The safety of the vehicle is ensured through compliance with CVOR (Commercial Vehicle Operator's Registration) standards Vehicles are serviced externally by a local mechanic for all necessary repairs During the winter season, a garage is rented for the truck to be stored.
Replacement	Vehicle age, kilometres and annual repair costs are taken into consideration when determining appropriate treatment options

7.3.1 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 15 years. This projection ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins.



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 A.

7.4 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Municipality is currently facing:

Organizational Capacity

The Municipality is experiencing limitations in staff capacity which poses several qualitative risks to the community. Limited staff results in time constraints, impacting the Municipality's ability to efficiently manage key responsibilities such as road maintenance and emergency services. This situation can lead to reduced service quality and inconsistencies in operations. The lack of capacity also impedes the development of essential departmental standards and policies.

Capital Funding Strategies

The lack of infrastructure re-investment for vehicles in a Municipality poses considerable risks. If a vehicle needs extensive repairs, the lack of an alternative means essential services like emergency response and public safety can be disrupted. This can lead to decreased service efficiency and risks to public safety. Additionally, the Municipality might incur extra costs for temporary vehicle rentals, straining its budget. Over time, this lack of investment can lead to higher operational costs and challenges in meeting community service commitments effectively.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of assets are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost

The overall risk breakdown for Vehicles assets is illustrated in the figure below.

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
Very Low	**Low**	**Moderate**	**High**	**Very High**
$150,714	$97,347	$148,249	$261,680	$87,440
(20%)	(13%)	(20%)	(35%)	(12%)

7.5 Current Levels of Service

The following tables identify the Municipality's current level of service for vehicles. These metrics include the community and technical level of service metrics that the Municipality has selected for this AMP.

Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS
Scope	Description of the current condition of municipal vehicles and the plans that are in place to maintain or improve the provided level of service	Refer to sections 7.2 & 7.3

Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS
Quality	Overall condition rating	Very Good – 87

7.6 Proposed Levels of Service

As per O. Reg. 588/17, the Municipality of Mattawan is mandated to document its proposed levels of service for vehicles. Refer to appendix D for the Municipality's proposed level of service for vehicles, for the following 10 years.

7.7 Recommendations

Replacement Costs

- Gather updated replacement costs on an annual basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- Create a formal internal rating criteria, utilizing industry standards and best asset management practices.

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

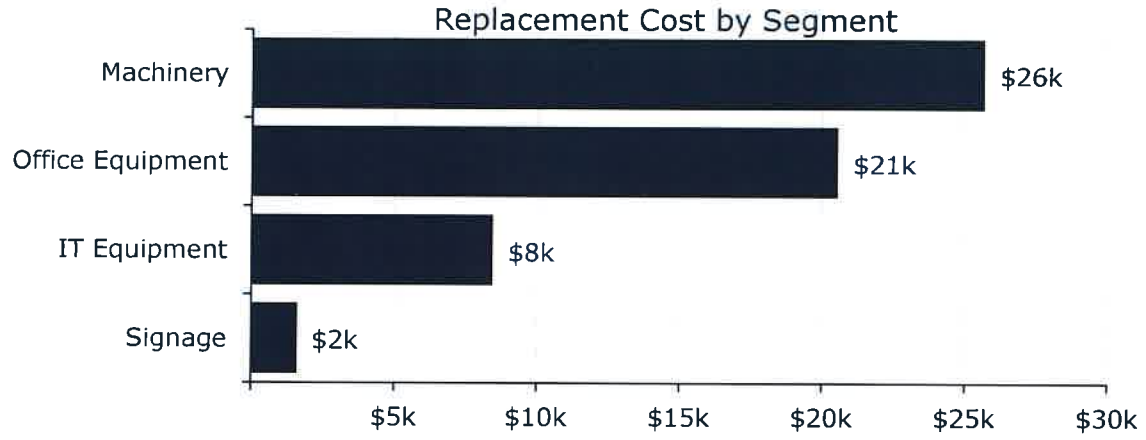
- Begin measuring current levels of service in accordance with the metrics that the Municipality has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Ensure that proposed levels of service metrics are reported on an annual basis.

8 Machinery & Equipment

8.1 Asset Inventory & Costs

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

Asset Segment	Quantity	Replacement Cost	Annual Capital Requirement
IT Equipment	4	$8,470	$847
Machinery	6	$25,678	$1,933
Office Equipment	2	$20,546	$1,525
Signage	1	$1,588	$106
Total		**$56,282**	**$4,411**



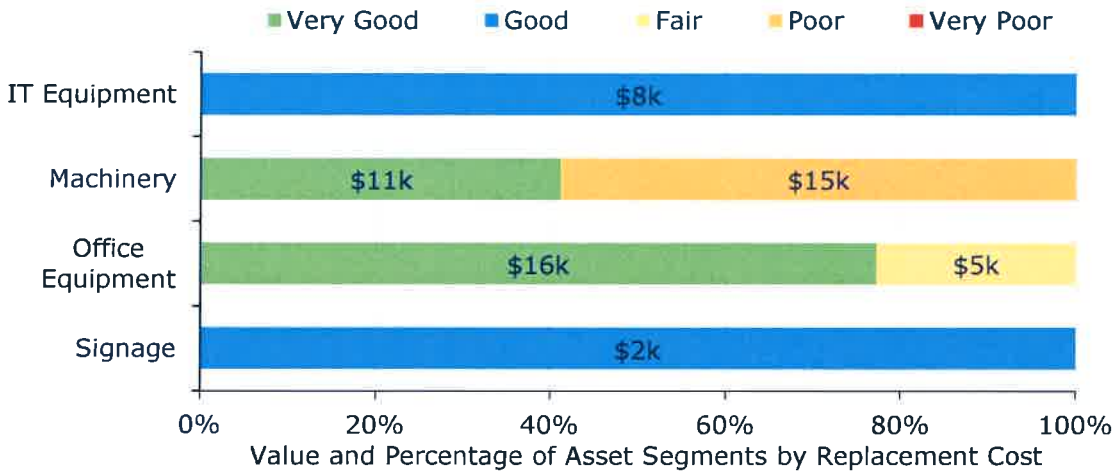
Each asset's replacement cost should be reviewed periodically to determine whether adjustments are needed to more accurate represent realistic capital requirements.

8.2 Asset Condition & Age

The table below identifies the current average condition and source of available condition data for each asset segment. The average condition (%) is a weighted value based on replacement cost.

Asset Segment	Estimated Useful Life (Years)	Average Age (Years)	Average Condition
IT Equipment	10.0	4.0	Good (79%)
Machinery	16.2	15.7	Fair (58%)
Office Equipment	13.9	6.7	Good (77%)
Signage	15.0	5.0	Good (63%)
Average			**Good (68%)**

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



Value and Percentage of Asset Segments by Replacement Cost

To ensure that the Municipality's machinery and equipment 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 of maintenance, rehabilitation and replacement activities is required to increase the overall condition of the machinery and equipment.

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.

8.2.1 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 more confidently. The following describes the Municipality's current approach:

- Internal staff conduct visual inspections prior to use and perform informal assessments on an as-needed basis

8.3 Lifecycle Management Strategy

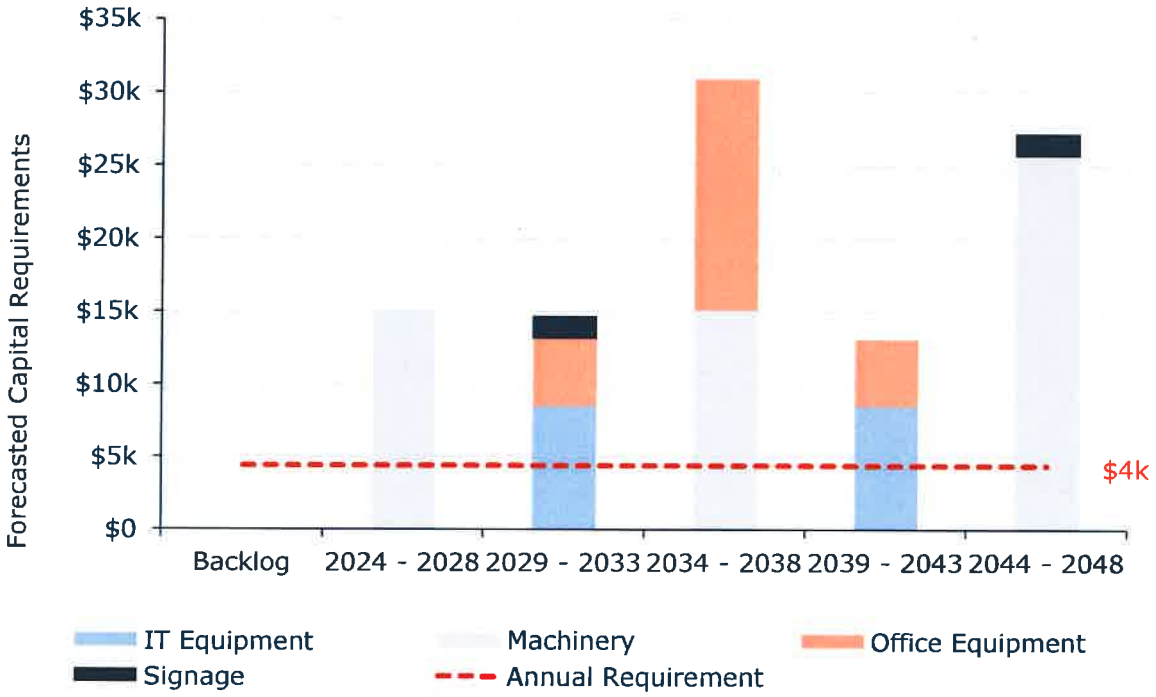
The condition or performance of most assets will deteriorate over time. To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

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

Activity Type	Description of Current Strategy
Maintenance/ Rehabilitation	Machinery and equipment are maintained annually, ensuring their upkeep. This regular maintenance schedule prevents breakdowns and prolongs the lifespan of assets
Replacement	The replacement of machinery and equipment depends on deficiencies identified by operators that may impact their ability to complete required tasks

8.3.1 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 25 years. This projection ensures that every asset has gone through one full iteration of replacement. The forecasted requirements are aggregated into 5-year bins.



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 A.

8.4 Risks to Current Asset Management Strategies

The following section summarizes key trends, challenges, and risks to service delivery that the Municipality is currently facing:

Organizational Capacity

The Municipality's limited staff capacity is notably impacting its ability to manage key responsibilities and expected levels of service. This staff shortage results in time constraints, which adversely affects the efficiency of machinery upkeep and operations in areas like public works. Consequently, the quality and consistency of services provided by these departments may be hindered.

The asset-specific attributes that internal staff utilize to define and prioritize the criticality of assets are documented below:

Probability of Failure (POF)	Consequence of Failure (COF)
Condition	Replacement Cost

The overall risk breakdown for Machinery and Equipment assets is illustrated in the figure below.

1 - 4	5 - 7	8 - 9	10 - 14	15 - 25
Very Low	**Low**	**Moderate**	**High**	**Very High**
$150,714	$97,347	$148,249	$261,680	$87,440
(20%)	(13%)	(20%)	(35%)	(12%)

8.5 Current Levels of Service

The following tables identify the Municipality's current level of service for machinery and equipment. These metrics include the community and technical level of service metrics that the Municipality has selected for this AMP.

Community Levels of Service

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

Service Attribute	Qualitative Description	Current LOS
Quality	Description of the current condition of machinery & equipment assets and the plans that are in place to maintain or improve the provided level of service	Refer to sections 8.2 & 8.3

Technical Levels of Service

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

Service Attribute	Technical Metric	Current LOS
Quality	Overall condition rating	Good – 69

8.6 Proposed Levels of Service

As per O. Reg. 588/17, the Municipality of Mattawan is mandated to document its proposed levels of service for machinery & equipment. Refer to appendix D for the Municipality's proposed level of service for machinery & equipment, for the following 10 years.

8.7 Recommendations

Replacement Costs

- Gather updated replacement costs on an annual basis to ensure the accuracy of capital projections.

Condition Assessment Strategies

- Create a formal internal rating criteria, utilizing industry standards and best asset management practices.

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

- Begin measuring current levels of service in accordance with the metrics that the Municipality has established in this AMP. Additional metrics can be established as they are determined to provide meaningful and reliable inputs into asset management planning.
- Ensure that proposed levels of service metrics are reported on an annual basis.

9 Impacts of Growth

Key Insights

- Understanding the key drivers of growth and demand will allow the Municipality to more effectively plan for new infrastructure, and the upgrade or disposal of existing infrastructure

- Minimal changes to population and employment are expected

- The costs of growth should be considered in long-term funding strategies that are designed to maintain the current level of service

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

9.1.1 East Nipissing Official Plan (June 2021)

The East Nipissing Planning Board covers the various areas including Mattawan.

The Official Plan has been approved with modifications as of June 26th, 2021. The Official Plan spans a 25-year time horizon (2021-2046) and will be revised no less frequently than 10 years after it has come into effect and every five years thereafter. The Official Plan has been prepared based on four key components including community development, environmental stewardship, community health and safety, and resource management. The overall goal is to attain a healthy economic base that supports sustainable and orderly community development while conserving the attributes and resources of the rural area.

The Rural Lands include about two-thirds of Mattawan which is endowed with natural resources whose extraction or development, including value-added land-use activities, support the economic base of East Nipissing. Resource-based uses include mineral aggregate extraction, forestry, and agriculture.

Servicing of development will be principally through individual on-site water and sewage systems. No new municipal water or sewer services are anticipated over the life of the Official Plan (2021-2046).

The Municipality will be receiving assistance from the Northern Ontario Resource Development Support (NORDS) program to help build infrastructure and promote economic development. The Municipality will also be receiving municipal infrastructure support through the Ontario Community Infrastructure Fund (OCIF), which provides funding for communities to renew and rehabilitate critical infrastructure.

The following table summarizes the historical population and household statistics for the Municipality of Mattawan from the StatsCan Census.

Historical Figures	1996	2001	2006	2011	2016	2021
Population	115	114	147	162	161	153
Population Change	N/A	-0.9%	28.9%	10.2%	-0.6%	-5.0%
Private Dwellings	N/A	90	120	99	104	102

9.1.2 Growth Plan for Northern Ontario (March 2011)

The Growth Plan for Northern Ontario was prepared under Ontario's Places to Grow Act and authorizes the province to identify and designate growth planning areas. The Growth Plan also authorizes the province to develop strategic growth plans for the defined planning areas. The six theme areas which the Growth Plan is structured around include economy, people, communities, infrastructure, environment, and Aboriginal Peoples.

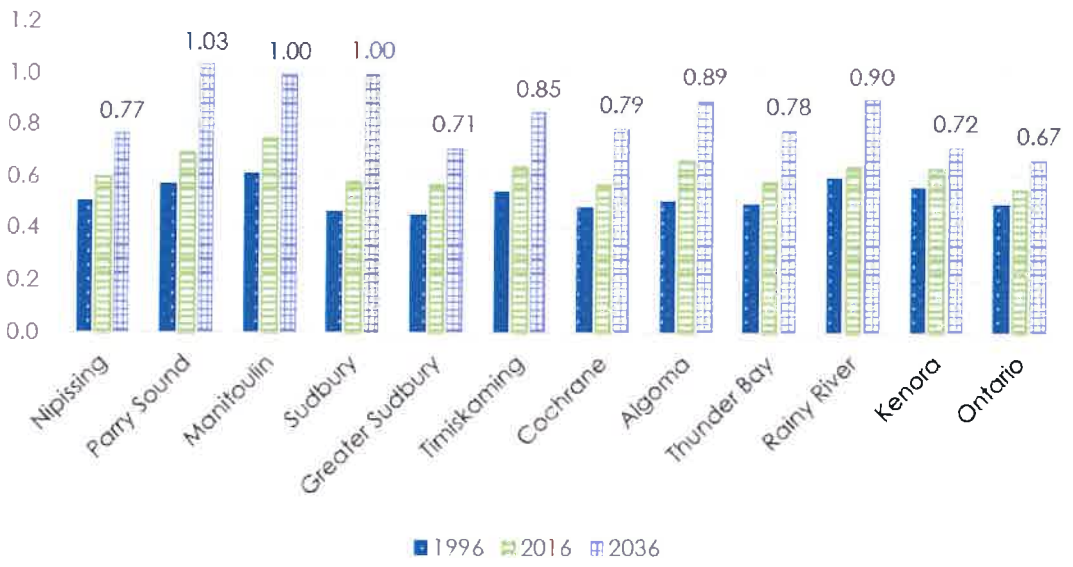
The Mattawan Official Plan addresses these themes in a variety of ways. The key factors addressed by the Mattawan Official Plan relating to the growth of the community, in compliance with the Growth Plan for Northern Ontario, include designating areas within Mattawan for economic and residential growth, protecting key environmental resources, and providing a local framework to assist in the implementation of regional economic plans.

9.1.3 Regional Growth

In 2021 the Come North Conference Report was produced by FedNor and Government of Canada. The document describes short, medium, and long-term objectives for all communities in Northern Ontario as it relates to population growth.

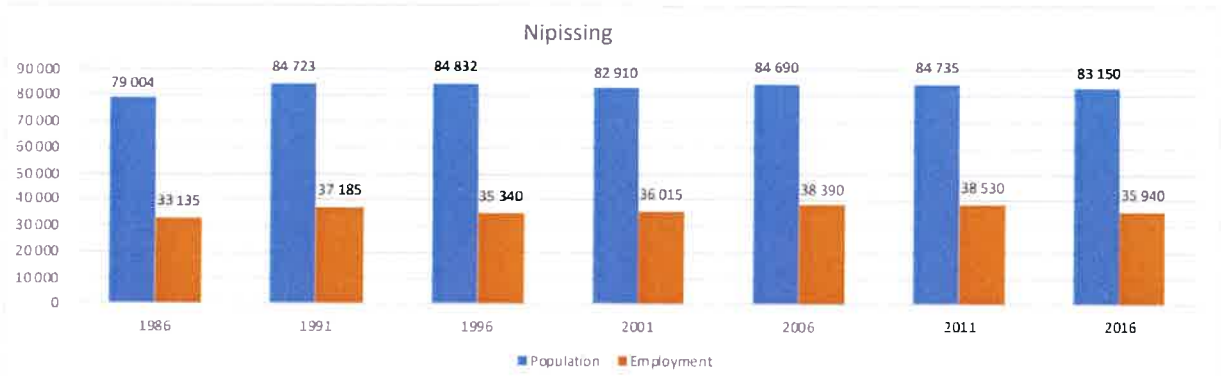
According to the report all 11 Census Districts in Northern Ontario (Nipissing, Parry Sound, Manitoulin, Sudbury, Greater Sudbury, Timiskaming, Cochrane, Algoma, Thunder Bay, Rainy River, Kenora) are currently experiencing the following trends: population decline, population aging, or labour shortages. The report highlights a risk of these communities becoming economically unsustainable unless population retention and attraction numbers improve. The risk is the result of the dependency ratio increasing. The dependency ratio is the ratio of people unable to support themselves without assistance; people between the ages of 0 and 14 and 64 and older.

The goal is to achieve a dependency ratio of 0.5. In 1996, every Census District was at or near the goal by 2016; there were no districts that were below and more than half had a ratio more than 0.6. The following graph displays the dependency ratio for each Census District in 1996 and 2016 along with a projected ratio for the year 2036.



The Municipality of Mattawan is found in the Nipissing District, which is expected to reach a dependency ratio of 0.77.

The population trends within the Nipissing District have been fluctuating as seen in the graph below. The following graph from the 2019 Northern Projections Nipissing District Human Capital Series report by the Northern Policy Institute, displays the population trends from 1991 to 2016.



The following table, found in the same report, shows population projections in the Nipissing District for the years 2021 to 2041.

Year	Ages 0-19	Ages 20-64	Ages 65+	Total
2021	16,879	51,301	20,048	88,228
2026	16,780	48,399	23,159	88,338
2031	16,370	46,061	25,876	88,307
2036	16,006	45,516	26,681	88,203
2041	15,727	45,585	26,814	88,126

The most recent census data from 2021, shows a slight increase in the population, reaching a total of 84,716, which is significantly lower than the projected population. According to census data, a significant population increase is seen in the population of 65 and older and a slight decline in the 0 to 19 and 20 to 64 age ranges: thus, further increasing the dependency ratio.

10 Financial Strategy

Key Insights

- The municipality is committing $111,000 towards capital projects per year from sustainable revenue sources
- Given the annual capital requirement of $137,000, there is currently a funding gap of $26,000
- Recommendation: maintain current tax rate

10.1 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 Mattawan to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements.

This report develops such a financial plan by presenting several scenarios for consideration and culminating with final recommendations. As outlined below, the scenarios presented model different combinations of the following components:

1. The financial requirements for:
    a. Existing assets
    b. Existing service levels
    c. Requirements of contemplated changes in service levels
    d. Requirements of anticipated growth
2. Use of traditional sources of municipal funds:
    a. Tax levies
    b. User fees
    c. Reserves
    d. Debt
    e. Development charges
3. Use of non-traditional sources of municipal funds:
    a. Reallocated budgets
    b. Partnerships
    c. Procurement methods
4. Use of Senior Government Funds:
    a. Canada Community-Building Fund (CCBF)
    b. Annual grants

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

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

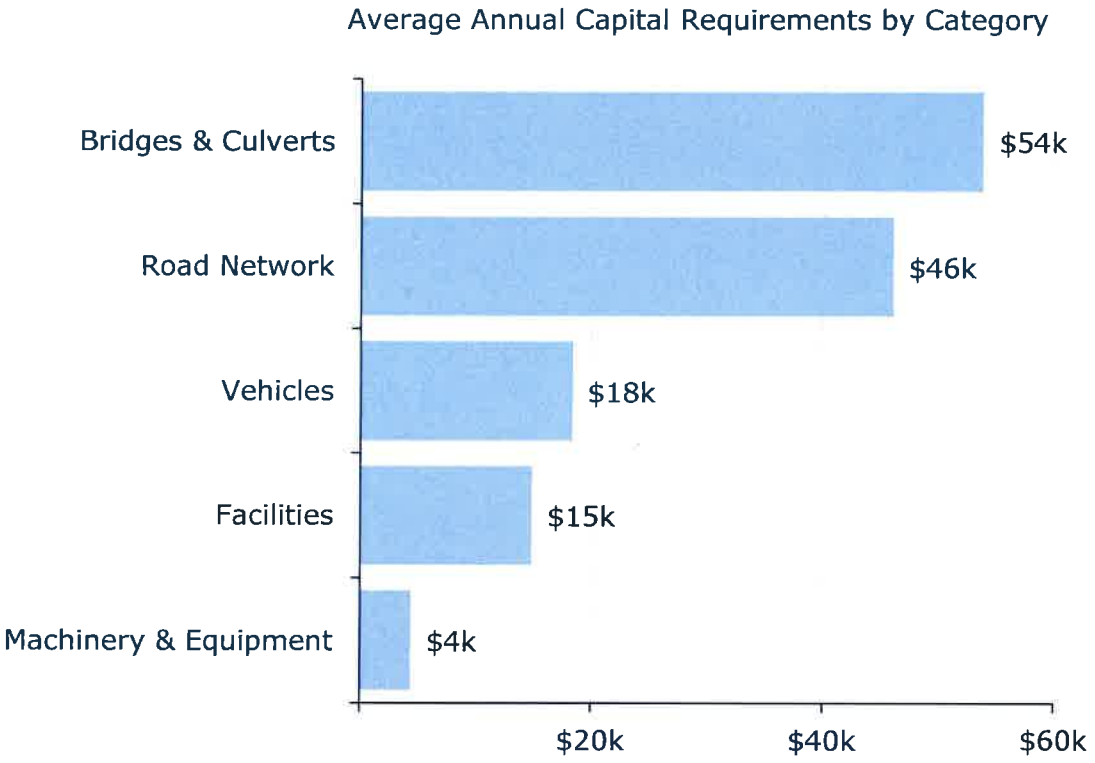
1. To reduce financial requirements, consideration has been given to revising service levels downward.
2. All asset management and financial strategies have been considered. For example:
    a. If a zero-debt policy is in place, is it warranted? If not the use of debt should be considered.

b. Do user fees reflect the cost of the applicable service? If not, increased user fees should be considered.

10.1.1 Annual Requirements & Capital Funding

Annual Requirements

The annual requirements represent the amount the Municipality should allocate annually to each asset category to meet replacement needs as they arise, prevent infrastructure backlogs, and achieve long-term sustainability. In total, the Municipality must allocate approximately $137 thousand annually to address capital requirements for the assets included in this AMP.



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

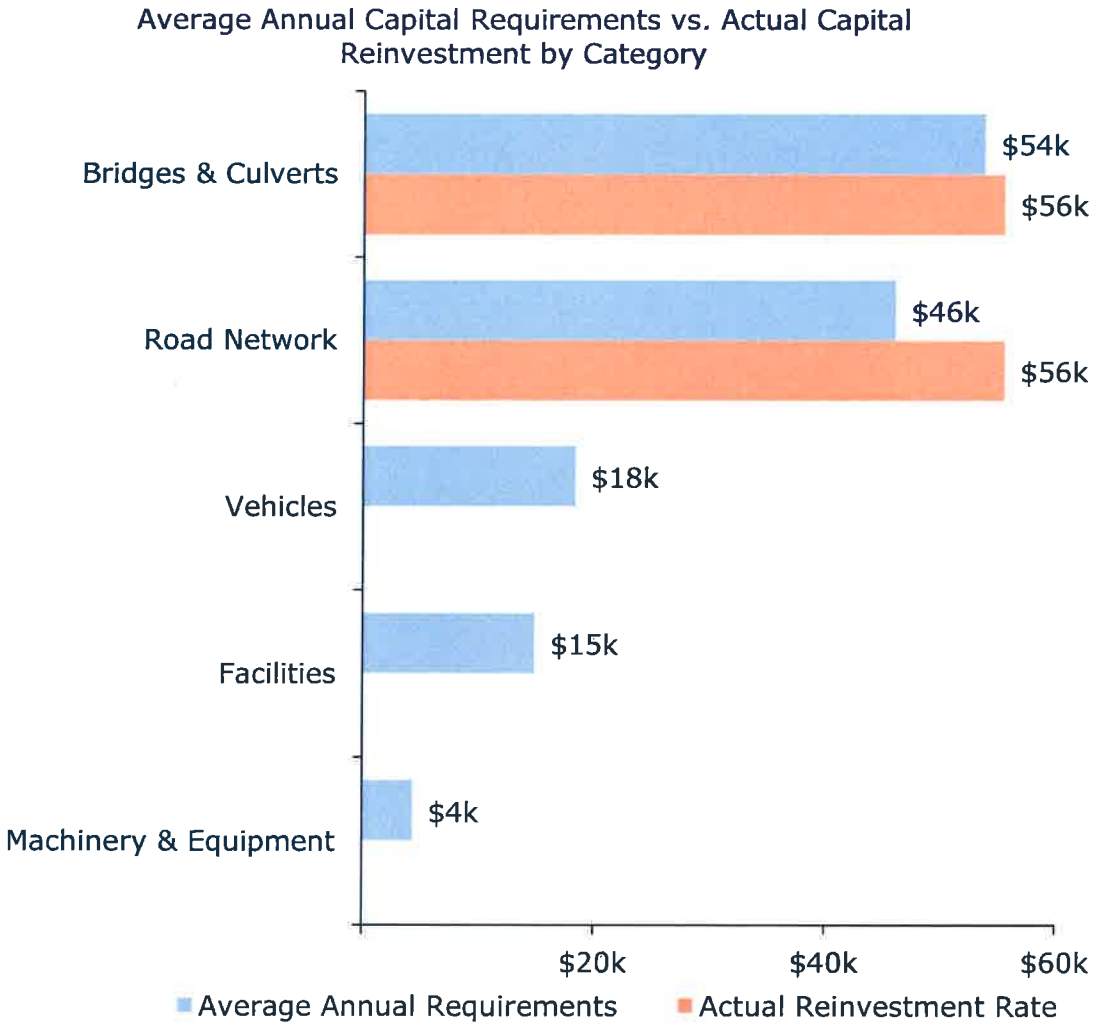
1. **Replacement Only Scenario**: Based on the assumption that assets deteriorate and – without regularly scheduled maintenance and rehabilitation – are replaced at the end of their service life.

2. **Lifecycle Strategy Scenario**: Based on the assumption that lifecycle activities are performed at strategic intervals to extend the service life of assets until replacement is required.

The implementation of a proactive lifecycle strategy for assets can lead to potential annual cost avoidance. As the Replacement scenario represents the most cost-effective option available to the Municipality, we have used these annual requirements in the development of the financial strategy.

Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Municipality is committing approximately $111,000 towards capital projects per year. Given the annual capital requirement of $137,000, there is currently a funding gap of $26,000 annually.



10.2 Funding Objective

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

- **Tax Funded Assets:** Road Network, Bridges, Facilities, Vehicles, and Machinery & Equipment

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

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

10.3 Financial Profile: Tax Funded Assets

10.3.1 Current Funding Position

The following tables show, by asset category, Mattawan'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 Available	
Bridges	$54,000	$0	$5,500	$50,000	$55,500	($1,500)
Facilities	$15,000	$0	$0	$0	$0	$15,000
Machinery & Equipment	$4,000	$0	$0	$0	$0	$4,000
Road Network	$46,000	$0	$5,500	$50,000	$55,500	($9,500)
Vehicles	$18,000	$0	$0	$0	$0	$18,000
	$137,000	**$0**	**$11,000**	**$100,000**	**$111,000**	**$26,000**

The average annual investment requirement for the above categories is $137,000. Annual revenue currently allocated to these assets for capital purposes is $111,000 leaving an annual deficit of $26,000. Put differently, these infrastructure categories are currently funded at 81.0% of their long-term requirements.

10.3.2 Full Funding Requirements

In 2023, Mattawan's annual tax revenues were $416,189. As illustrated in the following table, without consideration of any other sources of revenue or cost containment strategies, full funding would require the following tax change over time:

Asset Category	Tax Change Required for Full Funding
Bridges & Culverts	-0.4%
Facilities	3.6%
Machinery & Equipment	1.0%
Road Network	-2.3%
Vehicles	4.3%
	6.2%

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	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Infrastructure Deficit	$26,000	$26,000	$26,000	$26,000	$26,000	$26,000	$26,000	$26,000
Change in Debt Costs	N/A	N/A	N/A	N/A	-$40,000	-$40,000	-$40,000	-$40,000
Resulting Infrastructure Deficit:	$26,000	$26,000	$26,000	$26,000	-$14,000	-$14,000	-$14,000	-$14,000
Tax Increase Required	6.2%	6.2%	6.2%	6.2%	-3.4%	-3.4%	-3.4%	-3.4%
Annually:	**1.3%**	**0.7%**	**0.5%**	**0.4%**	**-0.7%**	**-0.4%**	**-0.3%**	**-0.2%**

10.3.3 Financial Strategy Recommendations

Mattawan has not historically had a static contribution to capital from property taxation. However, the Municipality has effectively utilized both CCBF and OCIF funding to ensure its assets remain in good working condition. The following recommendations should be considered:

a) Maintain the current tax rate but dedicate at least $137,000 per year to capital asset management. The capital contributions should be allocated proportionality to the asset class based on the average annual requirement. Any excess contributions for that asset class each year should be allocated to the appropriate reserve account for future year expenditures
b) Reallocating appropriate revenue from categories in a surplus position to those in a deficit position
c) when realized, reallocating the debt cost reductions of $40,000 to the infrastructure deficit as outlined above
d) Allocating the current OCIF revenue as outlined previously
e) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in

Notes:

1. As in the past, periodic senior government infrastructure funding will most likely be available during the phase-in period. By Provincial AMP rules, this periodic funding cannot be incorporated into an AMP unless there are firm commitments in place. We have included OCIF formula-based funding, if applicable since this funding is a multi-year commitment[6].
2. Although the above model shows that a decrease in taxes should be required, a review of Municipality's historical capital expenditure compared to the recommended capital contribution of $137,000 shows that no excess taxation was taken.
3. Furthermore, the debt repayment will not be fully realized in 2027. The Municipality will renew/refinance the remaining $70,557 for its plow truck.
4. The financial strategy within this AMP was developed with the most up to date verified information and data available. There are two potential large-scale projects, which have not been accounted for within the capital projections and financial strategy of this AMP:
    a. Renewal of Burke Drive bridge and the realignment of the road approach
    b. New garage facility to house the Municipality's plow truck along with various other equipment

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

Additionally, 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.

10.4 Use of Debt

The following tables outline how Mattawan has historically used debt for investing in the asset categories as listed. There is currently $194,000 of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of $40,000, well within its provincially prescribed maximum of $90,481.

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2019	2020	2021	2022	2023
Bridges						
Facilities						
Machinery & Equipment						
Road Network						
Vehicles	$194,000				$222,000	
Total Tax Funded:	**$194,000**	**$0**	**$0**	**$0**	**222,000**	**$0**

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2024	2025	2026	2027[7]	2028	2029	2034
Bridges							
Facilities							
Machinery & Equipment							
Road Network							
Vehicles	$40,000	$40,000	$40,000	$34,000			
Total Tax Funded:	**$40,000**	**$40,000**	**$40,000**	**$34,000**			

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

[7] The current loan will expire in 2027 with a balance still outstanding of approximately $71,000.

10.5 Use of Reserves

10.5.1 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 requirement

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

Asset Category	Balance on December 31, 2023
Bridges	$4,000
Facilities	$4,000
Machinery & Equipment	$4,000
Road Network	$4,000
Vehicles	$4,000
Total Tax Funded:	**$20,000**

11 Appendices

Key Insights

- Appendix A identifies projected 10-year capital requirements for each asset category
- Appendix B includes several maps that have been used to visualize the current level of service
- Appendix C provides additional guidance on the development of a condition assessment program
- Appendix D includes the Municipality's proposed LOS metrics for the following ten (10) year period.
- Appendix E describes the risk models and criteria used for each category
- Appendix F summarizes the public engagement survey results

Appendix A: 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.

Road Network

Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Roadside Culverts	$145k	$7k	$19k	$10k	-	-	$14k	$4k	$2k	$2k	$87k
LCB roads	-	-	-	-	-	-	-	-	-	-	-
	$145k	**$7k**	**$19k**	**$10k**	**$0**	**$0**	**$14k**	**$4k**	**$2k**	**$2k**	**$87k**

Bridges & Culverts

Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Bridges	-	$6k	$6k	$6k	$6k	-	-	-	-	-	-
	$0	**$6k**	**$6k**	**$6k**	**$6k**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Facilities

Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Garage	-	-	-	-	-	-	-	-	-	-	-
Office	-	-	-	-	-	-	-	-	-	-	-
	$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Vehicles

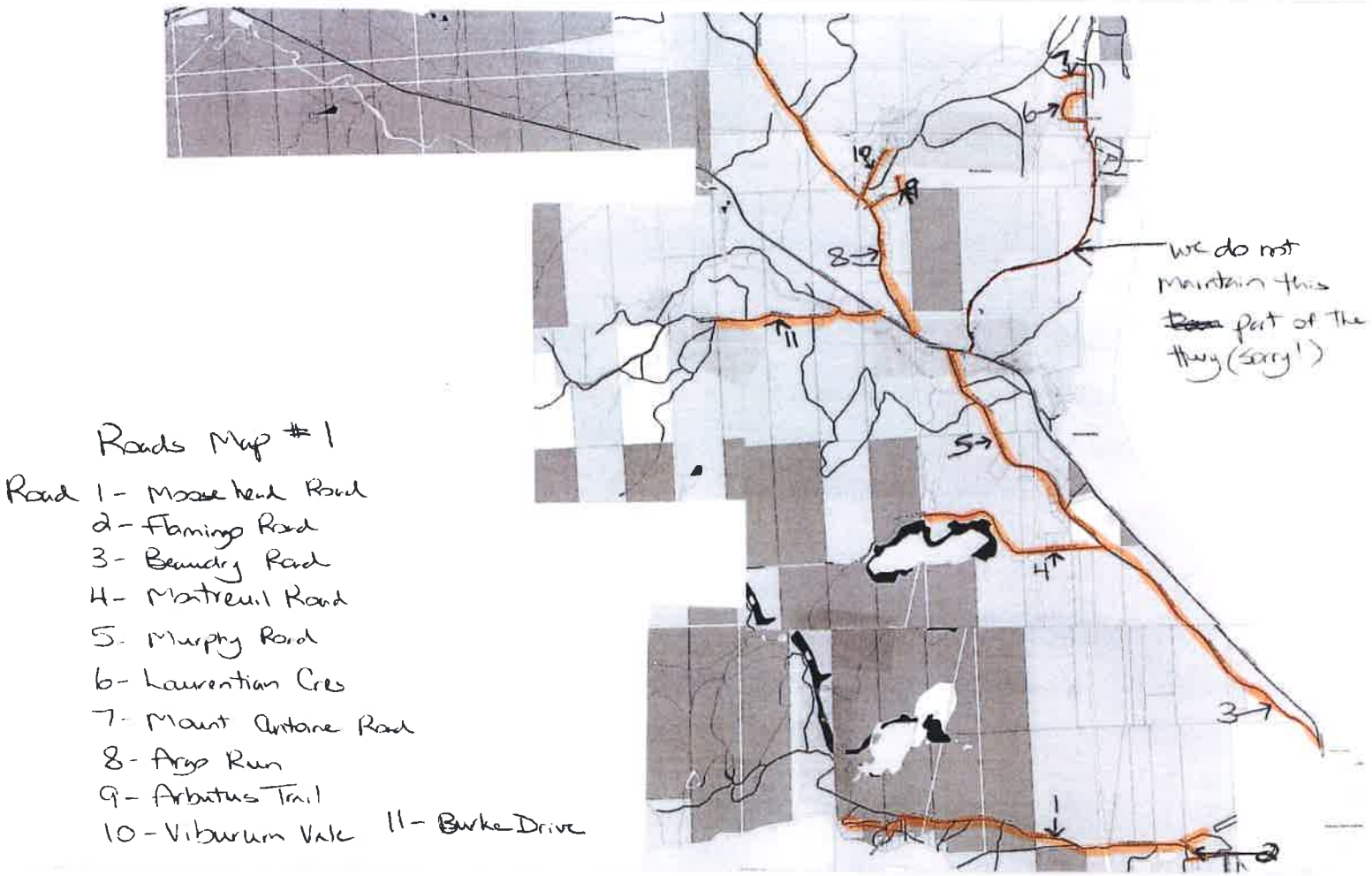
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Public Works	-	-	-	-	-	-	-	-	-	-	-
	$0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Machinery & Equipment

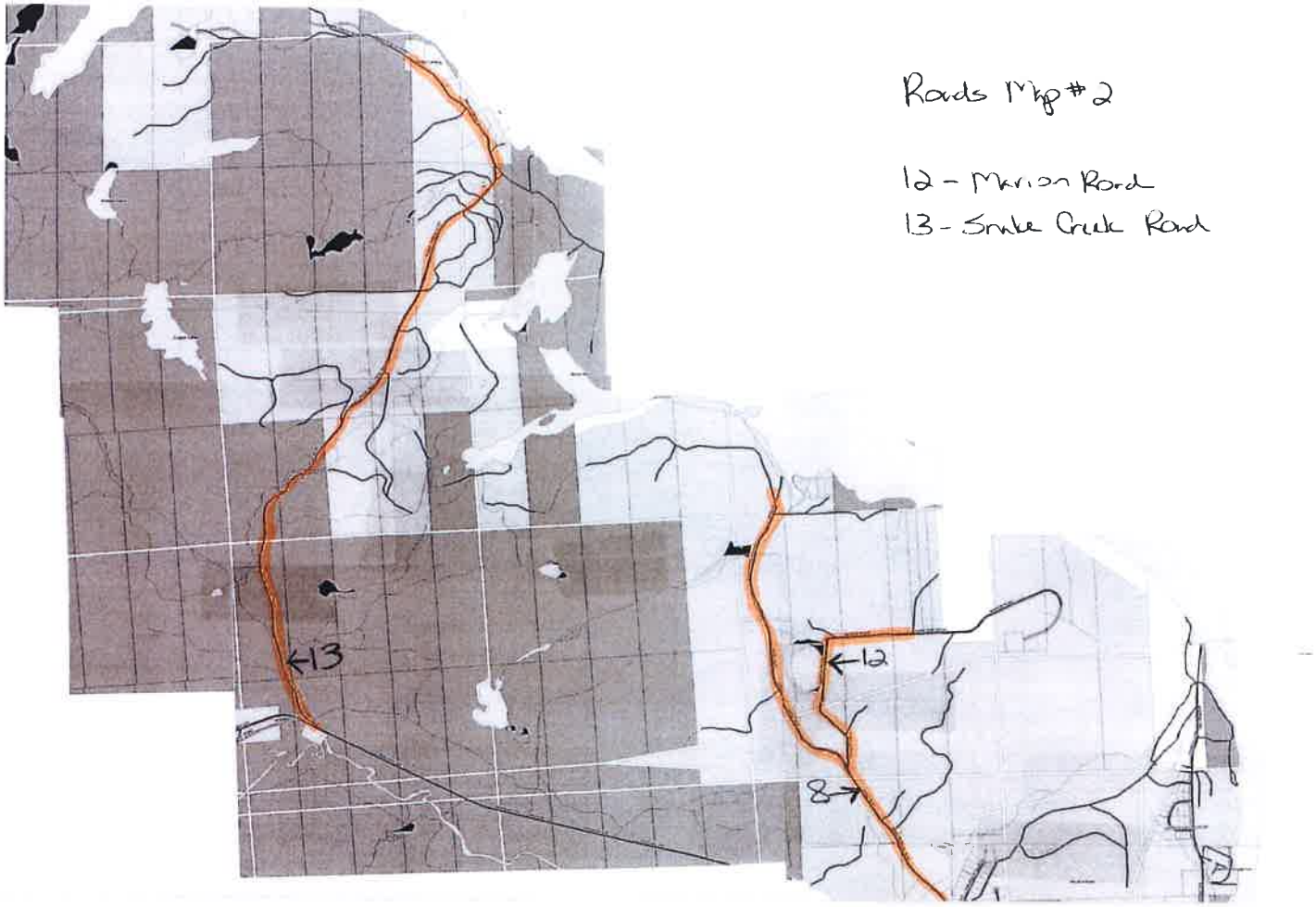
Asset Segment	Backlog	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
IT Equipment	-	-	-	-	-	-	-	-	$8k	-	-
Machinery	-	-	-	-	$15k	-	-	-	-	-	-
Office Equipment	-	-	-	-	-	-	$5k	-	-	-	-
Signage	-	-	-	-	-	-	-	-	-	-	$2k
	$0	**$0**	**$0**	**$0**	**$15k**	**$0**	**$5k**	**$0**	**$8k**	**$0**	**$2k**

Appendix B: Level of Service Maps

Road Network Map 1



Road Network Map 2



Bridges Map


BURKE DRIVE BRIDGE
MURPHY ROAD BRIDGE
Duck Lake
MATTAWA RIVER
MATTAWA RIVER
Mattawa

Images of Bridge in Good Condition
Burke Drive Bridge
Inspected: October, 2023


South Approach Looking North


Deck Looking South


South Abutment


West Elevation


Undermining at Southwest Corner


North Abutment

Images of Bridge in Good Condition
Murphy Road Bridge
Inspected: October, 2023


South Approach Looking North


Bridge Deck Looking South


West Barrier Looking South


East Elevation


North Abutment


Underside of Bridge Looking North

Appendix C: 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

Appendix D: Proposed Levels of Service Metrics

Asset Category	Service Attribute	LOS Metric	Current LOS	Target LOS	Background	Achievability	Affordability	Public feedback	Growth	Risks
Road Network	Quality	PCI	Very Good 99	Fair/ Good 40-60	Mattawan's LCB road network consists of 4.2 kms. While there is no established, documented lifecycle management strategy, the projected condition of the assets will remain in sufficient condition (40-60).	The proposed LOS metric is achievable as road assets will be rehabilitated, as funding becomes available, and as the Municipality enforces a lifecycle management strategy.	The municipality is contributing $111,000 towards capital projects, from both OCIF and CCBF funding streams. Refer to section 10.3, 10.4, & 10.5, for funding, debt, and reserve details.	Roads are the highest valued asset class (Q7). Many are satisfied with current road conditions (Q11), with some concerns about deterioration. Most prefer reallocating funds rather than increasing taxes (Q8).	Refer to section 9	Potential increase to O&M costs Deferred capital costs Potential decrease in public satisfaction in later years
Bridges	Quality	BCI	Very Good 80	Good 65-70	Mattawan's bridges are in good (BCI>60) condition. Rehabilitation and replacement events for bridges are expensive. The Municipality's target LOS reflects the fact that Mattawan has a small taxpayer base, along with there currently being no alternative sustainable funding streams to conduct major rehabilitation events.	Bridges & culverts have long (75 years) EULs. With the asset class deteriorating at an acceptable rate, Mattawan should achieve its target LOS.	There are currently no *scheduled,* major capital requirements in the next 10 years. Refer to section 10.3, 10.4, & 10.5, for funding, debt, and reserve details.	Bridges were ranked as third in importance (Q7), and most residents found them meeting expectations (Q11). The planned decrease in condition may not be a concern to the public but continued monitoring is needed to avoid future issues.	Refer to section 9	Potential increase to O&M costs Accelerated deterioration Detour (impact to critical services)
	Scope	% of bridges with loading or dimensional restrictions	0	0						

Asset Category	Service Attribute	LOS Metric	Current LOS	Target LOS	Background	Achievability	Affordability	Public feedback	Growth	Risks
Facilities	Quality	Overall Condition Rating	Good 63	Fair 45-55	The Municipality's garage has a condition score of BCI of 54, while the office is at 63. Rehabilitation and replacement events for municipal buildings are expensive. The Municipality's target LOS reflects the fact that Mattawan has a small taxpayer base, along with there currently being no alternative sustainable funding streams to conduct major rehabilitation events.	Facilities have long (50+ years) EULs. The Municipality may exceed its target LOS metric, however, to do so, Mattawan would be utilizing one-time grants. In lieu of that, facilities will deteriorate at an acceptable rate.	There are currently no *scheduled,* major capital requirements in the next 10 years. Refer to section 10.3, 10.4, & 10.5, for funding, debt, and reserve details.	Municipal facilities were ranked the lowest, in terms of terms of priority (Q7), and most respondents rated them meeting expectations (Q11).	Refer to section 9	Potential increase to O&M costs Decreased energy efficiency Non-compliance risks (AODA)
Vehicles	Quality	Overall Condition Rating	Very Good 87	Poor 25-35	Mattawan's plow truck is in very good condition. The Municipality is not expected to add another vehicle. While the Municipality ensures good working order of its vehicle, due to its high usage and its expected EUL, it will degrade in the latter years.	The Municipality will ensure that the vehicle is maintained in good working order (circle checks, scheduled maintenance, etc.).	Refer to section 10.3, 10.4, & 10.5, for funding, debt, and reserve details.	Emergency vehicles/snowplows ranked as second in priority (Q7), indicating the high importance to residents. Generally, the public is showing satisfaction towards the fleet services with very few saying otherwise (Q5 & Q11). The drop in LOS (condition) over the years needs to be monitored to minimize any potential service disruptions	Refer to section 9	Increased O&M costs Increased downtime Public safety and liability Deferred capital costs

Asset Category	Service Attribute	LOS Metric	Current LOS	Target LOS	Background	Achievability	Affordability	Public feedback	Growth	Risks
Machinery & Equipment	Quality	Overall Condition Rating	Good 69	Fair 45-55	Mattawan's machinery & equipment assets are in good to fair condition.	With the asset class deteriorating at an acceptable rate, Mattawan should achieve its target LOS.	Refer to section 10.3, 10.4, & 10.5, for funding, debt, and reserve details.	Most residents find service levels meeting expectations (Q11). A decline in condition could reduce service efficiency over time, potentially impacting public satisfaction.	Refer to section 9	Increased O&M costs Increased downtime

Appendix E: Risk Rating Criteria

Probability of Failure

Asset Category	Risk Criteria	Criteria Weighting	Value/Range	Probability of Failure Score
Bridges, Facilities, Machinery and Equipment, Road Network, Vehicles	Condition	100%	80-100	1- Rare
			60-79	2- Unlikely
			40-59	3 – Possible
			20-39	4 – Likely
			0-19	5 – Almost Certain

Consequence of Failure

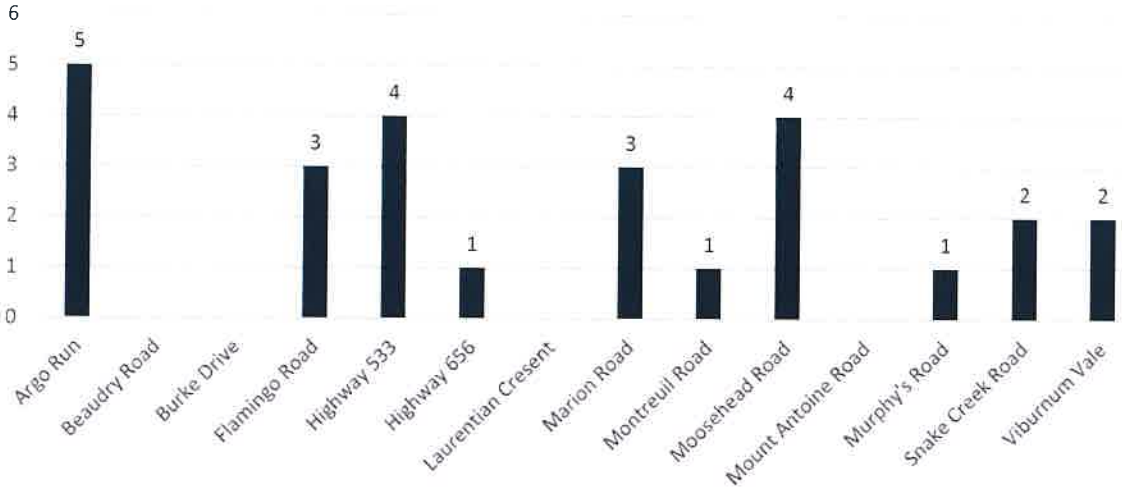
Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Bridges	Economic (100%)	Replacement Cost (100%)	$0-$50,000	1-Insignificant
			$50,000-$150,000	2- Minor
			$150,000-$250,000	3- Moderate
			$250,000-$5,000,000	4- Major
			$5,000,000+	5- Severe
Facilities	Economic (100%)	Replacement Cost (100%)	$0-$10,000	1-Insignificant
			$10,000-$25,000	2- Minor
			$25,000-$100,000	3- Moderate
			$100,000-$250,000	4- Major
			$250,000+	5- Severe
Machinery and Equipment	Economic (100%)	Replacement Cost (100%)	$0-$2,000	1-Insignificant
			$2,000-$5,000	2- Minor
			$5,000-$10,000	3- Moderate
			$10,000-$25,000	4- Major
			$25,000+	5- Severe
Road Network	Economic (100%)	Replacement Cost (100%)	$0-$7,500	1-Insignificant
			$7,500-$15,000	2- Minor
			$15,000-$30,000	3- Moderate
			$30,000-$50,000	4- Major

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
			$50,000+	5- Severe
Vehicles	Economic (100%)	Replacement Cost (100%)	$0-$5,000	1-Insignificant
			$5,000-$10,000	2- Minor
			$10,000-$20,000	3- Moderate
			$20,000-$50,000	4- Major
			$50,000+	5- Severe

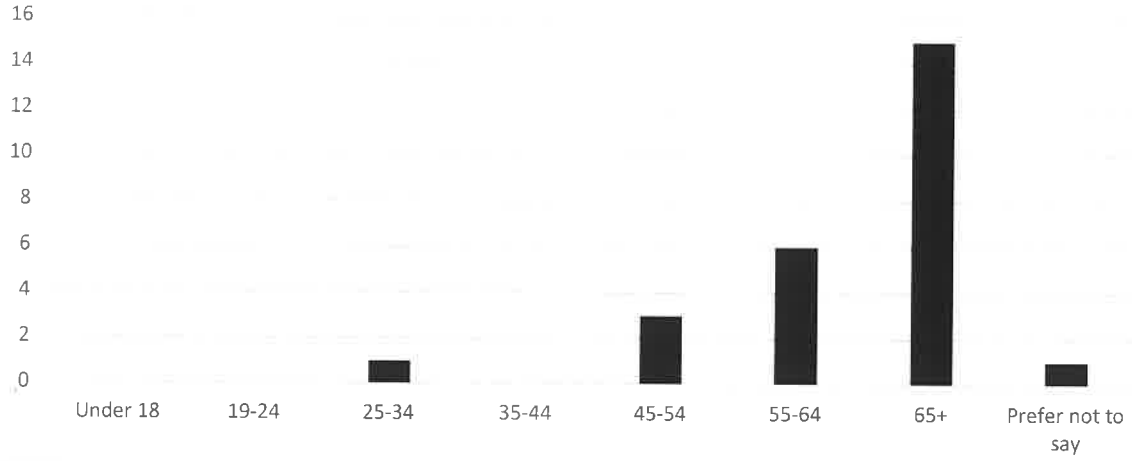
Appendix F: Community Survey Results

Q1: Are you a full-time resident of Mattawan or do you own property in Mattawan and reside elsewhere?

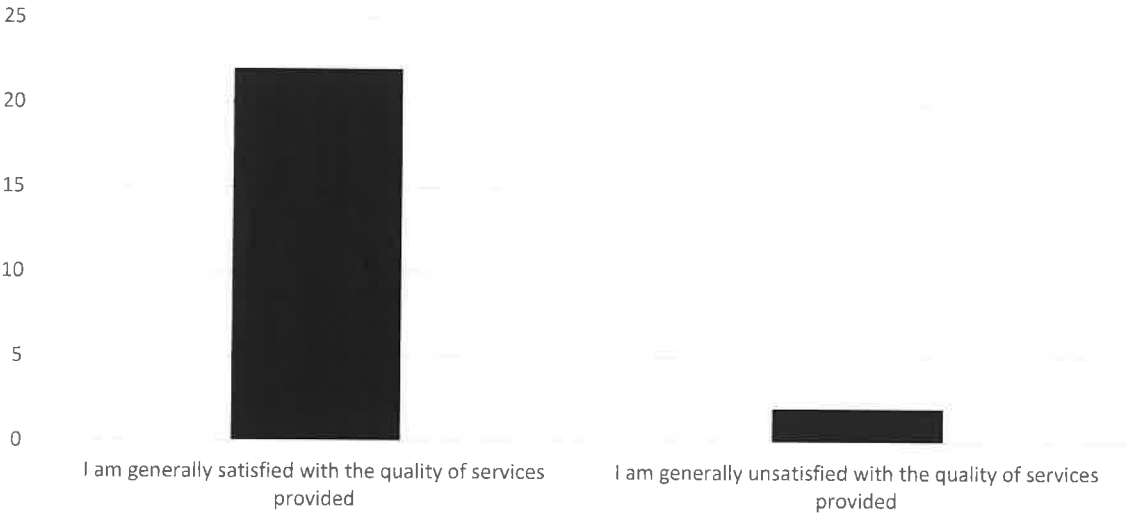
Q2: Please select the street you live/own property:



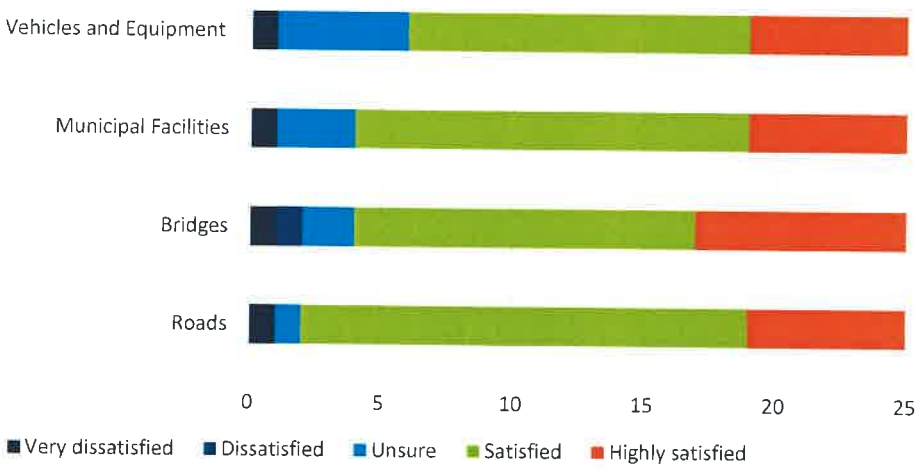
Q3: Please select your age range:



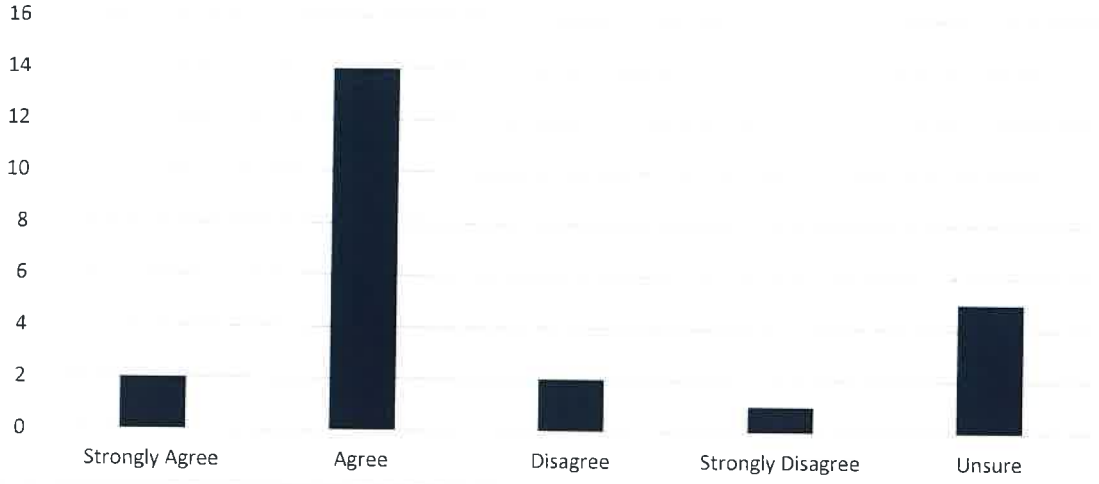
Q4: Which of the following statements best describes your daily experiences with different infrastructure services such as roads, bridges, facilities, etc.?



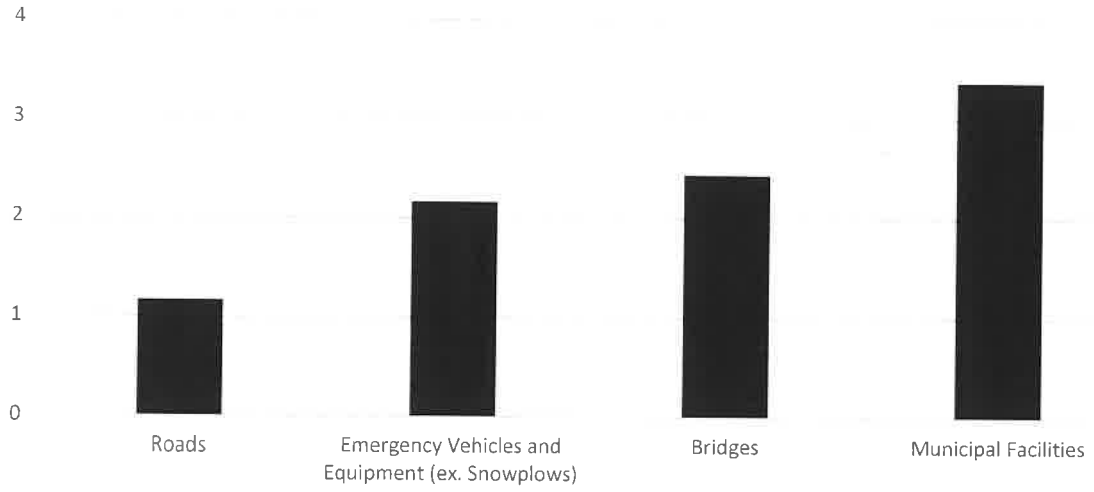
Q5: How would you describe your experience with different infrastructure:



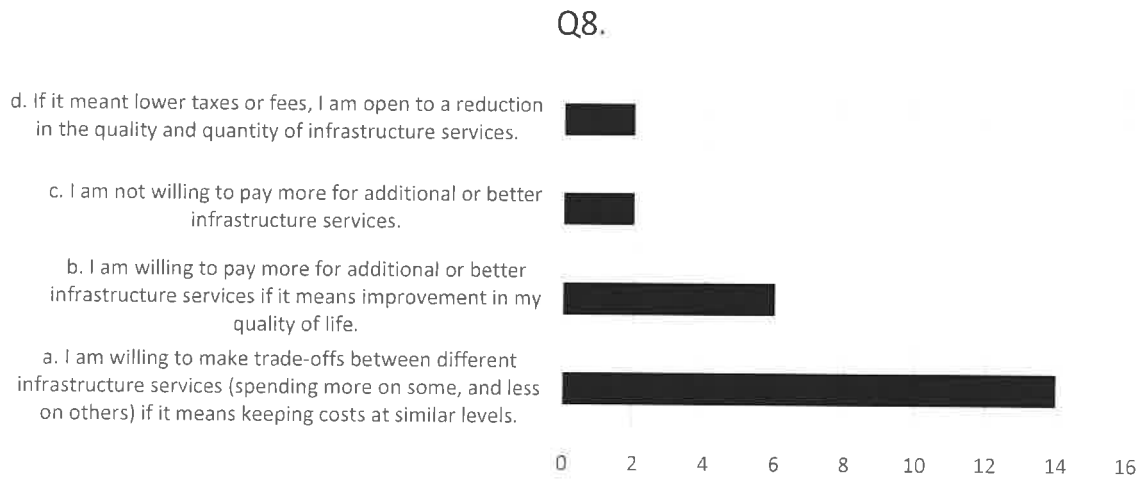
Q6: In my opinion, Mattawan is making the right investments in infrastructure for its current residents:



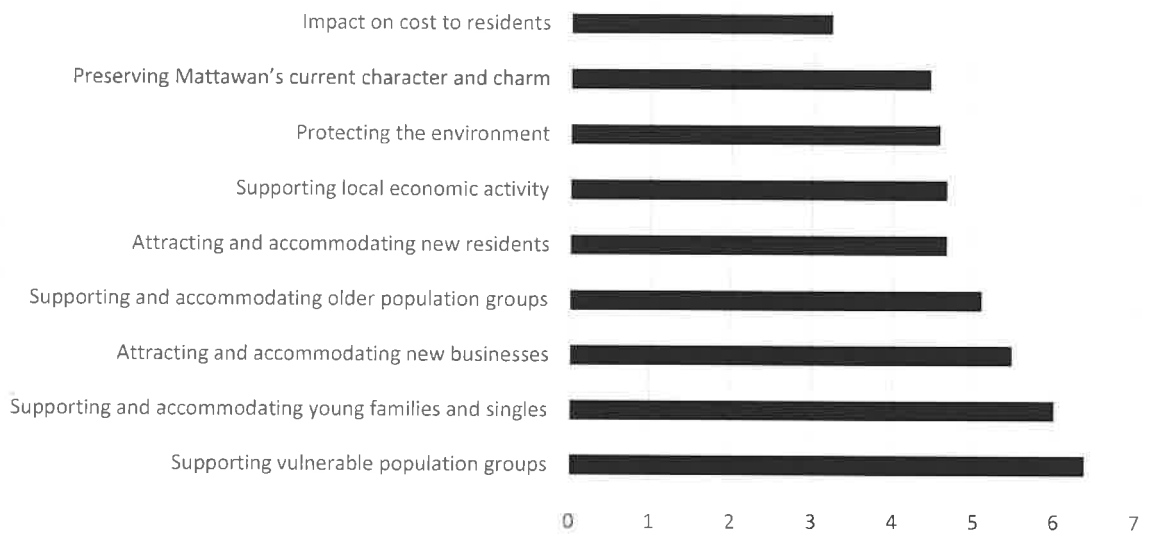
Q7: Which infrastructure services do you value the most? Please rank in the order of importance (1 = most, 4 = least):



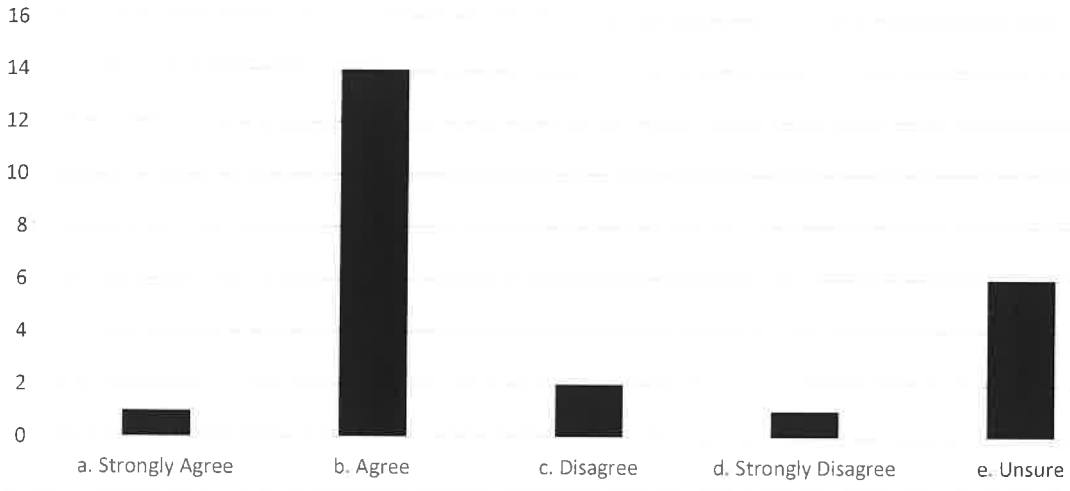
Q8: Since funds are limited, it is often necessary to make trade-offs between different infrastructure services and programs. This could mean reducing spending on some services while increasing expenditure on others. For example, prioritizing road projects over facilities due to their respective importance to our community. Which of the following statements best represents your opinion on changing services:



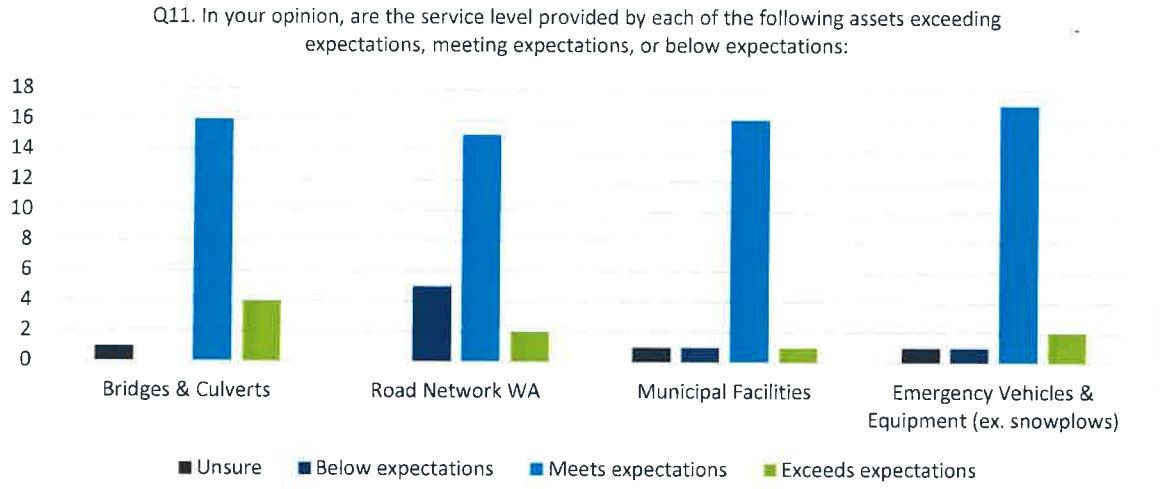
Q9: Spending on infrastructure services may need to change over time to meet the needs of the community. Which factors are most important to you in deciding if Mattawan's spending on infrastructure is best for the community? Please rank the following in order of importance (1 = most, 9 = least):



Q10: In my opinion, Mattawan is making the right investments in infrastructure for its future:



Q11: In your opinion, are the service levels provided by each of the following assets exceeding expectations, meeting expectations, or below expectations: (Assets: Bridges & Culverts, Road Network WA, Municipal Facilities, Emergency Vehicles & Equipment [ex. Snowplows])



Survey Analysis & Key Findings

Demographics & Satisfaction Trends

- Age Distribution: Most respondents were aged 55-64 and 65+, meaning older residents' opinions dominate the feedback. There were no responses from younger age groups under 25.
- General Satisfaction (Q4 & Q5): Most respondents are satisfied with the current infrastructure services, which suggest maintaining or slightly adjusting service levels rather than making drastic changes.
- Perceived Investment (Q6 & Q10): A majority believes Mattawan is making the right investments in infrastructure, both for current and future needs, reinforcing a status quo approach with minor adjustments.

Spending Priorities & Trade-offs

- Trade-offs (Q8): The majority support reallocating funds between services rather than increasing spending. A smaller group is willing to pay more for better infrastructure, while very few prefer reduced spending and lower taxes.
- Priority Ranking (Q7): Roads ranked as the top priority, followed by emergency vehicles and equipment, and bridges, while municipal facilities were least prioritized by residents.
- Growth & Financial Considerations (Q9): data shows that cost to residents and preserving Mattawan's character were top concerns.

General Resident Comments & Key Themes

- Roads & Fire Protection: Residents emphasized the importance of maintaining and improving roads for safety and functionality. Fire protection improvements were highlighted as a priority, particularly due to potential impacts on insurance costs and property safety.
- Balanced Fiscal Management & Sustainable Growth: There is a push for balanced financial investments in services without overburdening taxpayers.
- Environmental & Community Character: Residents want sustainable development that preserves Mattawan's natural beauty while supporting reasonable growth.
- Municipal Transparency & Communication: Many respondents stress the need for clear, realistic communication from the Municipality, ensuring both full-time and seasonal residents feel informed and engaged.