



Asset Management Plan 2025

Dorion Township

June 2025



This Asset Management Plan was prepared by:



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

Key Statistics

\$18.5 M 2023 Replacement Cost of Asset Portfolio

\$105 k Replacement Cost of Infrastructure Per Household

46% Percentage of Assets in Fair or Better Condition

90% Percentage of Assets with Assessed Condition Data

\$182 K Annual Capital Infrastructure Deficit (Proposed LOS)

10 Years Recommended Timeframe for Eliminating Annual Infrastructure Deficit

1.8% Proposed Level of Service: Target Investment Rate

0.8% Actual Investment Rate

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1. Executive Summary

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

1.1 Scope

This Asset Management Plan (AMP) identifies the current 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, Dorion Township can ensure that public infrastructure is managed to support the sustainable delivery of municipal services.

This AMP includes the following asset categories:



Figure 1 Core and Non-Core Asset Categories

1.2 Compliance

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

1.3 Findings

The overall replacement cost of the asset categories included in this AMP totals \$18.5 million. 46% of all assets analyzed in this AMP are in fair or better condition and assessed condition data was available for 90% of assets. For the remaining 10% 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 (paved roads) and replacement only strategies (all other assets) to determine the lowest cost option to maintain the current level of service.

To meet the proposed LOS, the Township 's average annual capital requirement totals \$338 thousand. Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately \$156 thousand towards capital projects or reserves per year. As a result, there is currently an annual funding gap of \$182 thousand.

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 Township . Strategic asset management planning is an ongoing and dynamic process that requires continuous improvement and dedicated resources.

1.4 Recommendations

A financial strategy was developed to address the annual capital funding gap based on meeting the proposed LOS. The following graphics shows annual tax change required to fund the proposed LOS for the Township 's infrastructure based on a 10-year plan:

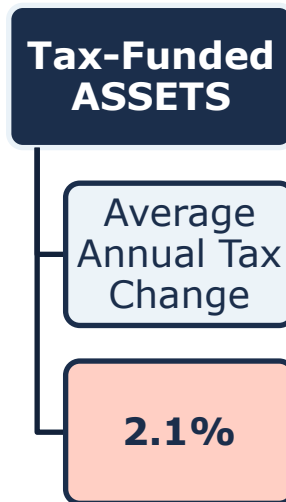


Figure 2 Proposed Tax Changes to meet Proposed LOS

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

- For assets that do not yet have condition assessments, consider a strategy for obtaining them; for assets with condition assessments ensure they are completed on a regular schedule and in a uniform manner.
- To ensure accurate data complete regular data review and updates especially to assessed condition and replacement cost.
- Development and regularly review short- and long-term plans to meet capital requirements

2. Introduction & Context

2.1 Community Profile

Dorion is a rural township located in Northwestern Ontario, approximately 70 km east of Thunder Bay, within the Thunder Bay District. It is situated along Highway 11/17, part of the Trans-Canada Highway. As of the latest census (2021), Dorion has a population of approximately 375 residents, reflecting its small, tight-knit community character.

Census Characteristic	Dorion Township	Ontario
Population 2021	375	14,223,942
Population Change 2016-2021	18.7%	5.8%
Total Private Dwellings	176	5,929,250
Population Density	1.8/km ²	15.9/km ²
Land Area	211.25 km ²	892,411.76 km ²

Table 1 Dorion Township Community Profile

Dorion is known for its scenic natural landscapes, including forests, rivers, and the nearby Ouimet Canyon—a dramatic geological feature that is a popular tourist destination. The township enjoys a boreal climate, with warm summers and cold, snowy winters. The economy of Dorion is primarily resource-based, with forestry, small-scale agriculture, and tourism playing key roles. Many residents also commute to nearby communities such as Thunder Bay for employment.

Outdoor activities are central to life in Dorion, with opportunities for hiking, fishing, hunting, snowmobiling, and camping. Ouimet Canyon Provincial Park is a major attraction, offering panoramic views, walking trails, and interpretive programming.

2.2 Climate Change

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

The report revealed that between 1948 and 2016, the average temperature increase across Canada was 1.7°C; moreover, during this period, Northern Canada experienced a 2.3°C increase. The temperature increase in Canada has doubled that of the global average. If emissions are not significantly reduced, the

temperature could increase by 6.3°C in Canada by the year 2100 compared to 2005 levels. Observed precipitation changes in Canada include an increase of approximately 20% between 1948 and 2012. By the late 21st century, the projected increase could reach an additional 24%. During the summer months, some regions in Southern Canada are expected to experience periods of drought at a higher rate. Extreme weather events and climate conditions are more common across Canada. Recorded events include droughts, flooding, cold extremes, warm extremes, wildfires, and record minimum arctic sea ice extent.

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

2.2.1 Dorion Climate Profile

The Township of Dorion is in Northwestern Ontario within the Thunder Bay District. The Township 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) – Dorion Township may experience the following trends:

Higher Average Annual Temperature:

- Between the years 1971 and 2000 the annual average temperature was 1.8 °C
- Under a high emissions scenario, the annual average temperatures are projected to be 4.6 °C by the year 2050 and 8.9 °C by the end of the century.

Increase in Total Annual Precipitation:

- Under a high emissions scenario, Dorion Township is projected to experience a 9% increase in precipitation by the year 2080 and a 14% 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.

2.2.2 Integration Climate Change and Asset Management

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

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

2.3 Asset Management Overview

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

The acquisition of capital assets accounts for only 10-20% of their total cost of ownership. The remaining 80-90% comes from operations and maintenance. This AMP focuses its analysis on the capital costs to maintain, rehabilitate and replace existing municipal infrastructure assets.

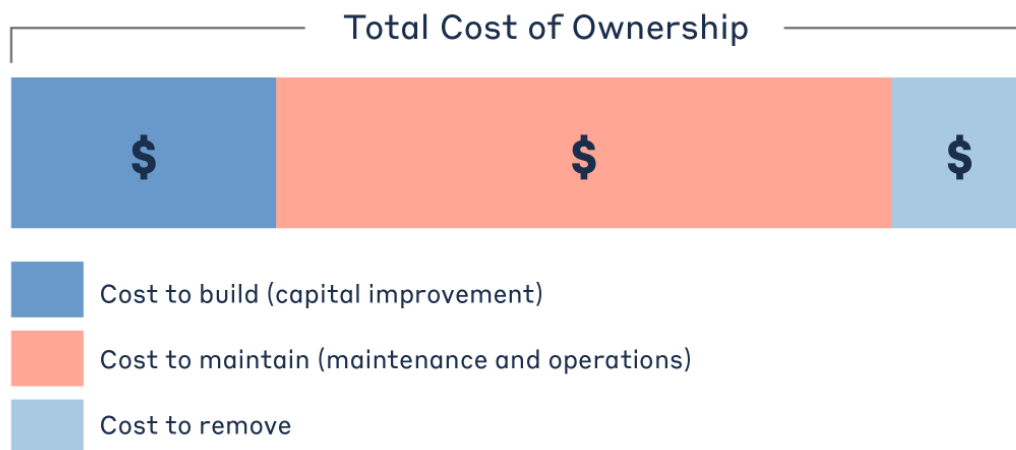


Figure 3 Total Cost of Asset Ownership

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

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

2.3.1 Foundational Asset Management Documentation

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

Management Policy and an Asset Management Strategy, concluding with an Asset Management Plan.

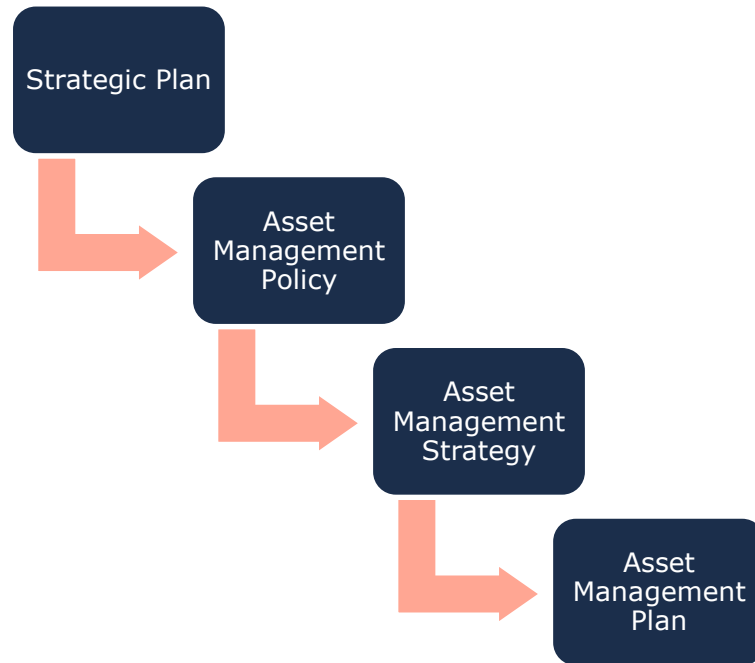


Figure 4 Foundational Asset Management Documents

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

Asset Management Policy

An asset management policy represents a statement of the principles guiding the Township's approach to asset management activities.

The Township adopted its Strategic Asset Management Policy on July 17th, 2018, in accordance with Ontario Regulation 588/17. The Asset Management Policy discusses the purpose and background of Asset Management and how it aligns with the Township's strategic directions. Roles and responsibilities in asset management are also identified and key asset management principles are outlined. These key principles include:

- Forward Looking
- Strategically Aligned
- Evidence-based
- Service Focused

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 Township plans to achieve asset management objectives through planned activities and decision-making criteria.

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

Asset Management Plan

The asset management plan (AMP) presents the outcomes of the Township'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 Township to re-evaluate the state of infrastructure and identify how the organization's asset management and financial strategies are progressing.

2.3.2 Key Concepts in Asset Management

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

Lifecycle Management Strategies

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

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

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

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

Lifecycle Activity	Cost	Typical Associated Risks
<p>Maintenance</p> <p>Activities that prevent defects or deteriorations from occurring</p>	<p>\$</p>	<ul style="list-style-type: none"> ◆ Balancing limited resources between planned maintenance and reactive, emergency repairs and interventions; ◆ Diminishing returns associated with excessive maintenance activities, despite added costs; ◆ Intervention selected may not be optimal and may not extend the useful life as expected, leading to lower payoff and potential premature asset failure;
<p>Rehabilitation/ Renewal</p> <p>Activities that rectify defects or deficiencies that are already present and may be affecting asset performance</p>	<p>\$\$\$</p>	<ul style="list-style-type: none"> ◆ Useful life may not be extended as expected; ◆ May be costlier in the long run when assessed against full reconstruction or replacement; ◆ Loss or disruption of service, particularly for underground assets;
<p>Replacement/ Reconstruction</p> <p>Asset end-of-life activities that often involve the complete replacement of assets</p>	<p>\$\$\$\$ \$</p>	<ul style="list-style-type: none"> ◆ Incorrect or unsafe disposal of existing asset; ◆ Costs associated with asset retirement obligations; ◆ Substantial exposure to high inflation and cost overruns; ◆ Replacements may not meet capacity needs for a larger population; ◆ Loss or disruption of service, particularly for underground assets;

Table 2 Lifecycle Management: Typical Lifecycle Interventions

The Township 's approach to lifecycle management is described within each asset category and can be found in Appendix A to E. Staff will continue to evolve and innovate current practices for developing and implementing proactive lifecycle

strategies to determine which activities to perform on an asset and when they should be performed to maximize useful life at the lowest total cost of ownership.

Risk & Criticality

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

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

Formula to Assess Risk of Assets

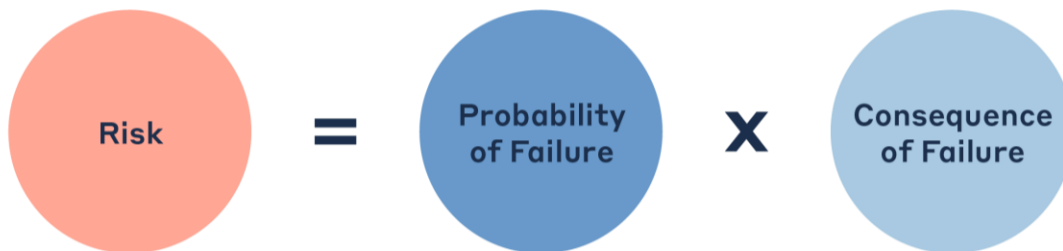


Figure 5 Risk Equations

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

Probability of Failure

Several factors can help decision-makers estimate the probability or likelihood of an asset's failure, including its condition, age, previous performance history, and exposure to extreme weather events, such as flooding and ice jams—both a growing concern for municipalities in Canada.

Consequence of Failure

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

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

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

Table 3 Risk Analysis: Types of Consequences of Failure

This AMP includes a preliminary evaluation of asset risk and criticality. Each asset has been assigned a probability of failure score and consequence of failure score

based on available asset data. These risk scores can be used to prioritize maintenance, rehabilitation, and replacement strategies for critical assets.

These models have been built in Citywide for continued review, updates, and refinements. Appendix A to E includes risk summaries by asset class and Appendix G details risk models used for each asset category.

Levels of Service

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

The Township measures the level of service provided at two levels: Community Levels of Service, and Technical Levels of Service.

Community Levels of Service

Community levels of service are a simple, plain language description or measure of the service that the community receives. For core asset categories as applicable (Roads, Bridges & Culverts) the province, through O. Reg. 588/17, has provided required qualitative descriptions.

Technical Levels of Service

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

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

Current and Proposed Levels of Service

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

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

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

2.4 Scope & Methodology

2.4.1 Asset Categories for this AMP

This asset management plan for Dorion Township is produced in compliance with O. Reg. 588/17. The July 2025 deadline under the regulation—the third of three AMPs—requires analysis of proposed Levels of Service (LOS), including the estimated costs, risks, and achievability of them.

Appendix A to E summarizes the state of the infrastructure for the Township 's asset portfolio and establishes current levels of service and the associated technical and customer-oriented key metrics. The Asset Management Plan considers the following tax-funded asset categories:



Figure 6 Tax Funded and Rate Funded Asset Categories

2.4.2 Data Effective Date

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

2.4.3 Deriving Replacement Costs

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

User-Defined Cost and Cost Per Unit

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

Cost Inflation / CPI Tables

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

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

2.4.4 Estimated Service Life & Service Life Remaining

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

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



Figure 7 Service Life Remaining Calculation

2.4.5 Reinvestment Rate

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

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

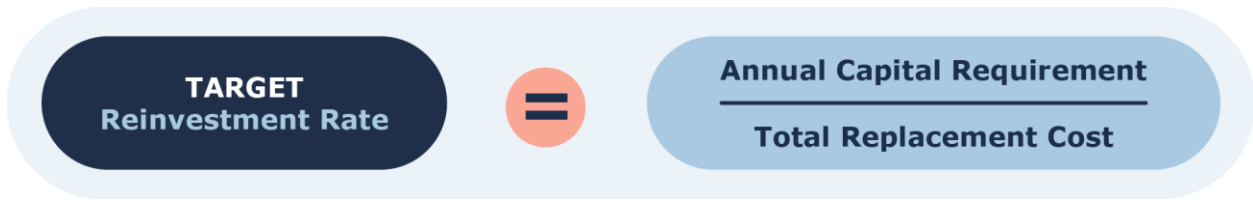


Figure 8 Target Reinvestment Rate Calculation

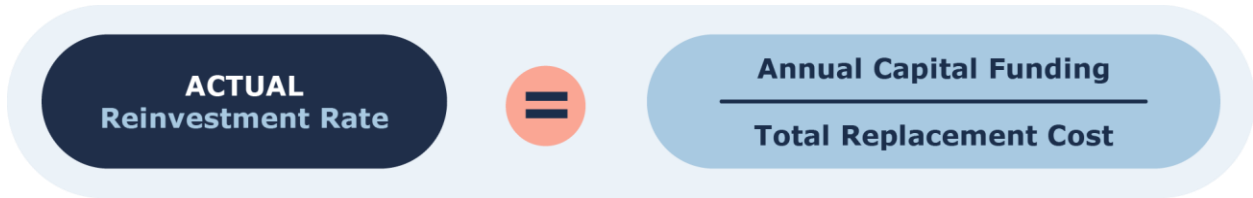


Figure 9 Actual Reinvestment Rate Calculation

2.4.6 Deriving Asset Condition

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

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

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

Table 4 Standard Condition Rating Scale

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

2.5 Ontario Regulation 588/17

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

Figure 10 below outlines key reporting requirements under O. Reg 588/17 and the associated timelines.

¹ O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure
<https://www.ontario.ca/laws/regulation/170588>

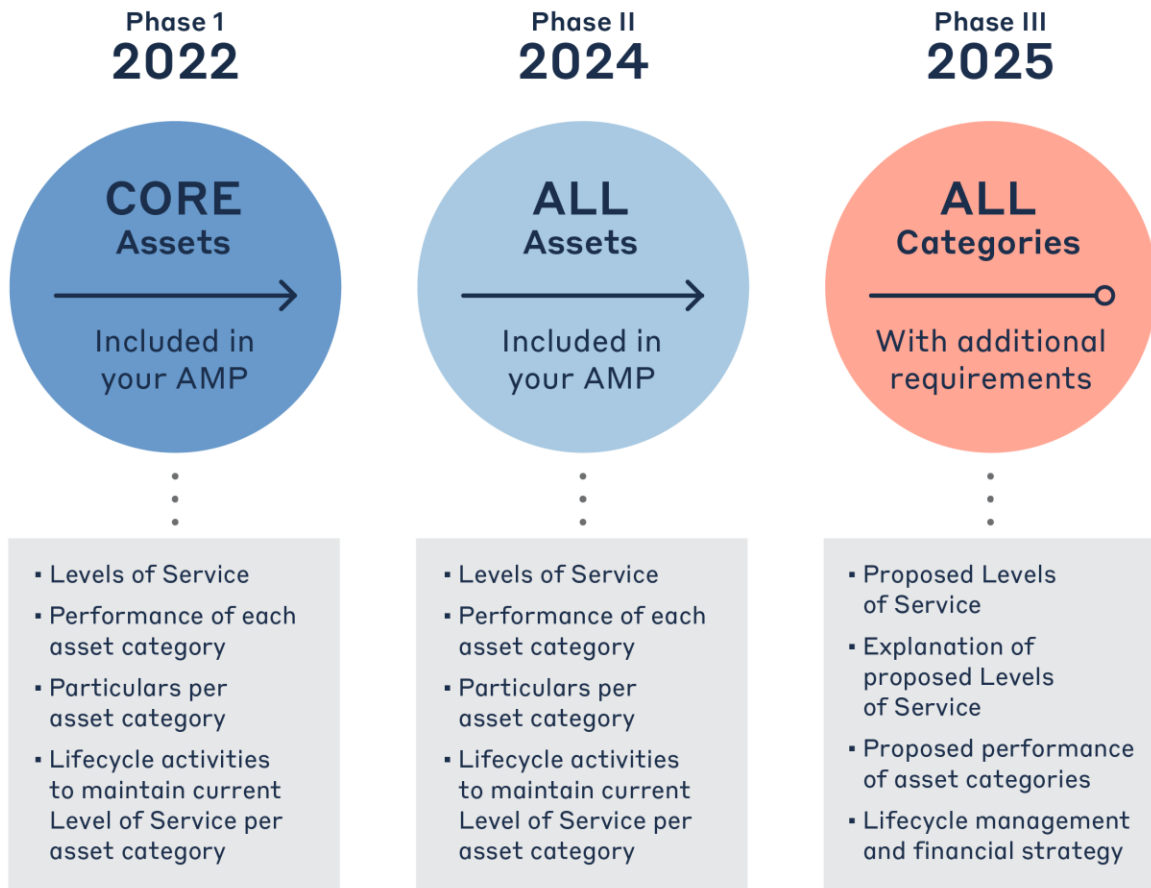


Figure 10 O. Reg. 588/17 Requirements and Reporting Deadlines

2.5.1 O. Reg. 588/17 Compliance Review

Table 5 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. 588/17 Section	AMP Section Reference	Status
Growth assumptions Considerations for Proposed LOS	S.5(2), 5(i-ii) S.5(2), 6(i-vi)	5	Complete
Proposed LOS over 10 years for each asset category	6 (1) 1	6	Complete
Why Proposed LOS are Appropriate	6 (1) 2 (i., ii,iii,iv)	6.2	Complete

Requirement	O. Reg. 588/17 Section	AMP Section Reference	Status
Proposed LOS 10-year Breakdown	6 (1) 3	6.2.2	Complete
Proposed LOS Risk Management	6 (1), (B)	6.2.2	Complete
Proposed LOS Lifecycle Management	6 (1) 4 (i., A,B, C, D)	6.2.3	Complete
Proposed LOS Financial Strategy	6 (1) 4 (i.,D,ii.,iii.,iv.)	7	Complete

Table 5: 2025 O. Reg. 588/17 Requirements

2.5.2 General and Extraordinary Assumptions

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

- Asset condition information is reported based on OSIM reports, Building Condition Assessments (BCA) and internal staff estimates and most associated recommendations including capital investments and maintenance activities.
- Asset deterioration is based on the respective EUL and where available the reported assessed condition. It is recognized that assets deterioration will not exactly match the forecasted deterioration rate, but the projections represent the best estimation of future conditions.
- Population and economic activity projections are based on the 2021 Canadian census and the Northern Policy Institute future projections
- All financial information is based on estimated asset costs as of December 2023 and Township financial information (i.e. revenues, expenditures, debentures) from 2022, 2023 and 2024. The cost impacts of inflation on future expenses and/or revenues are not reflected.

3. Portfolio Overview – State of the Infrastructure

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

3.1 Asset Hierarchy & Data Classification

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



Figure 11 Asset Hierarchy and Data Classification

3.2 Portfolio Overview

3.2.1 Total Replacement Cost of Asset Portfolio

The six asset categories analyzed in this Asset Management Plan have a total current replacement cost of \$18.5 million. This estimate was calculated using user-defined costing, as well as inflation of historical or original costs to current date. This estimate reflects the replacement of historical assets with similar, not necessarily identical, assets available for procurement today. Figure 12 illustrates the replacement cost of each asset category; at 50% of the total portfolio, roads form the largest share of the Township 's asset portfolio, followed by buildings at 24%.

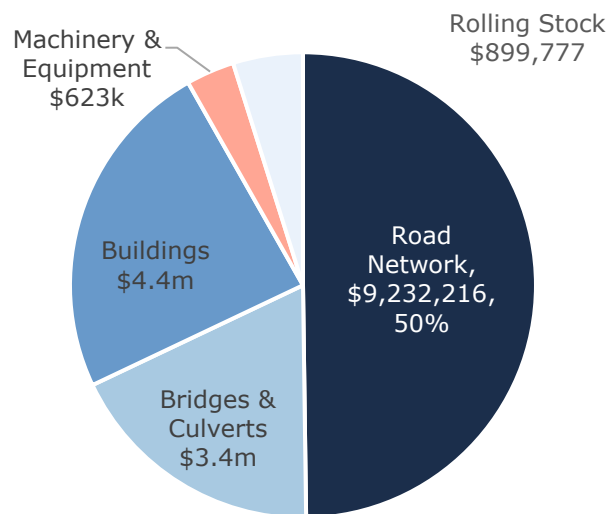


Figure 12 Current Replacement Cost by Asset Category

3.2.2 Condition of Asset Portfolio

Figure 13 and Figure 14 summarize asset condition at the portfolio and category levels, respectively. Based on both assessed condition and age-based analysis, 46% of the Township 's infrastructure portfolio is in fair or better condition, with the remaining 54% in poor or worse condition. Typically, assets in poor or worse condition may require replacement or major rehabilitation in the immediate or short-term. Targeted condition assessments may help further refine the list of assets that may be candidates for immediate intervention, including potential replacement or reconstruction.

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

Condition data was available for most assets. Where assessed condition was not available, Age-based condition estimations were used.

Further, when assessed condition data was available, it was projected to current year-end (2023). This 'projected condition' can generate lower condition ratings than those established at the time of the condition assessment. The rate of this deterioration will also depend on lifecycle curves used to project conditions over time.

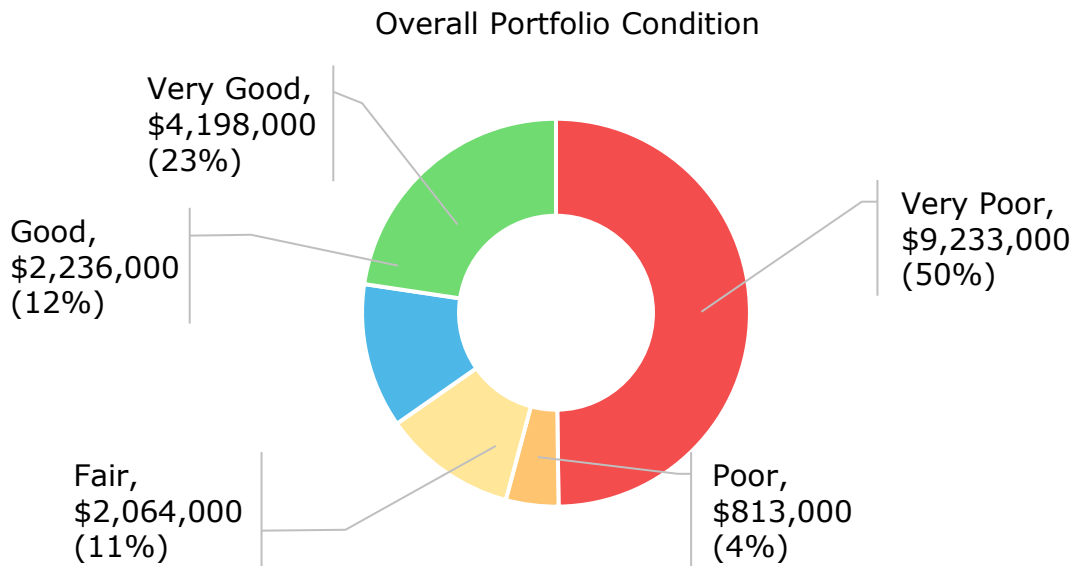
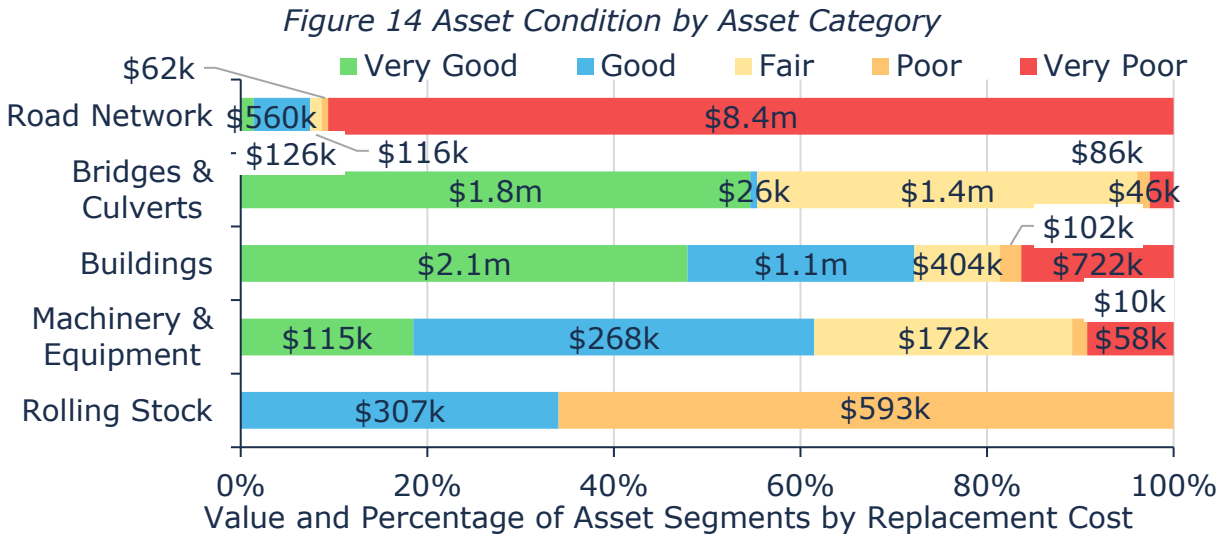


Figure 13 Asset Condition: Portfolio Overview

As further illustrated in Figure 14 at the category level, the road network is in the worst condition overall with a significant proportion of assets in very poor condition. This contrasts with the other asset categories which have a much higher proportion of assets in fair or better condition. See Table 6 for details on how condition data was derived for each asset segment.



Source of Condition Data

This AMP relies on assessed conditions for 90% of assets, based on and weighted by replacement cost. For the remaining assets, age is used as an approximation of condition. Assessed condition data is invaluable in asset management planning as it reflects the true condition of the asset and its ability to perform its functions. Table 6 below identifies the source of condition data used throughout this AMP.

Asset Category	Asset Segment(s)	% of Assets with Assessed Conditions	Source of Condition Data
Road Network	Paved Roads	100%	Internal Staff Assessments, Age-Based
	Gravel Roads		
Bridges & Culverts	Bridges Structural Culverts	46%	OSIM Report
Buildings	All	99%	Engineering Consultants
Machinery & Equipment	All	90%	Internal Staff Assessments, Age-Based
Rolling Stock	All	100%	Internal Staff Assessments, Age-Based

Table 6 Source of Condition Data

3.2.3 Service Life Remaining

Based on asset age, available assessed condition data and estimated useful life, 56% of the Township’s assets will require replacement within the next 10 years. Service life remaining by asset category is summarized in Figure 15 below. As the graph illustrates, the road network has the largest proportion of assets with service life expired.

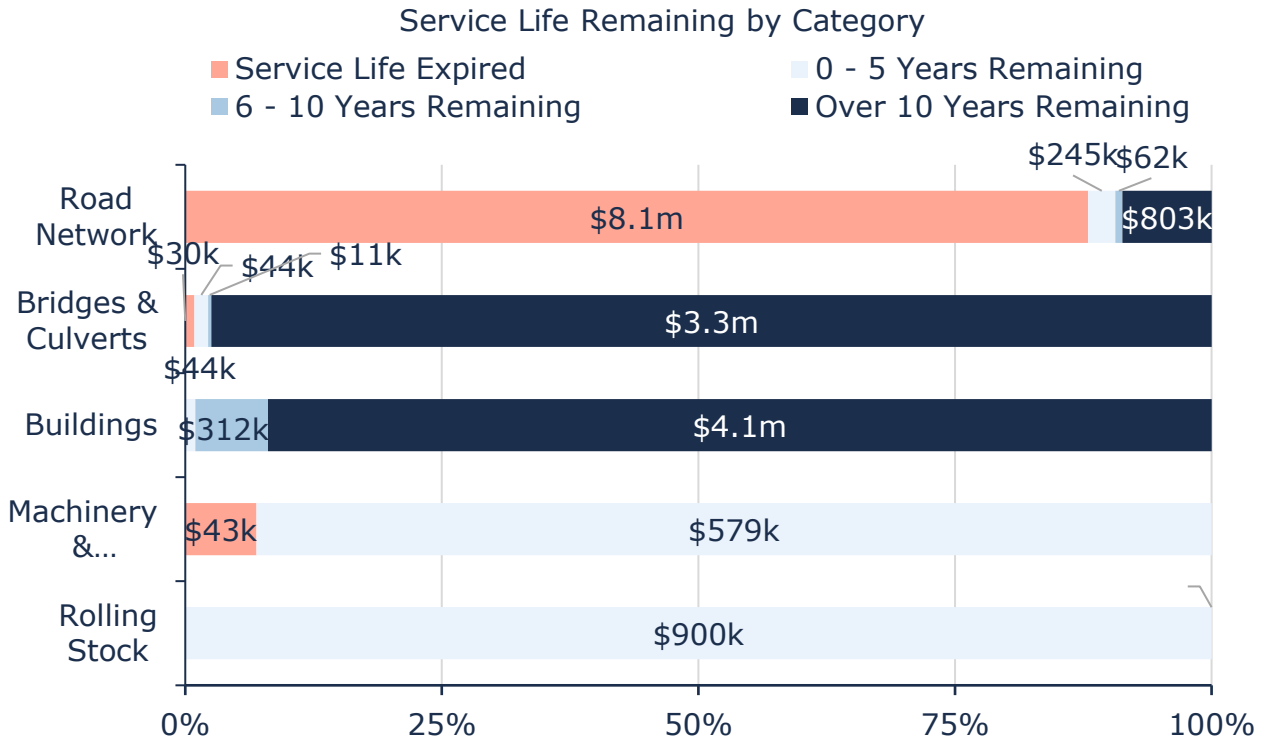


Figure 15 Service Life Remaining by Asset Category

3.2.4 Risk Matrix

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

1 - 4 Very Low	5 - 7 Low	8 - 9 Moderate	10 - 14 High	15 - 25 Very High
\$1,686,611 (9%)	\$4,664,109 (25%)	\$2,006,941 (11%)	\$627,370 (3%)	\$9,558,845 (52%)

Figure 16 Risk Matrix: All Assets

The analysis shows that based on current risk models, approximately 52% of the Township’s assets, with a current replacement cost of approximately \$9.5 million, carry a risk rating of 15 or higher (red) out of 25. Assets in this group may have a

high probability of failure based on available condition data and age-based estimates and were considered to be most essential to the Township .

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

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

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

4. Portfolio Risk & Criticality

4.1 Qualitative Risk

The Township has noted key trends, challenges, and risks to service delivery that they are currently facing. The most prominent qualitative risks across all asset categories are:



Staffing Constraints

Dorion Township has a small number of municipal staff who are responsible for managing a multitude of asset types across a large geographic area. Many asset interventions and assessments require warmer weather to complete. Due to the Township's northern location, summers tend to be short. Constraints in both the number of staff available to complete asset management activities and a limited window of time to complete the work is a qualitative risk for the Township.



Capital Funding Strategies

In some instances, the Township may rely on funding programs for replacement and rehabilitation of their assets. Sometimes these funding programs are specific to select project components and require the Township to cover other project costs (i.e., engineering, contract administration). If the Township is unable to cover the requisite project costs the available funding is often rendered inaccessible. This funding structure and requirements create risks to obtaining the needed capital funding.



Remote Location

Dorion Township is in Northern Ontario and is 75 kilometers from the nearest major urban center of Thunder Bay. The Township's location can sometimes reduce the pool of interested contractors for road capital projects and/or result in location-based cost premiums.

5. Growth

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

5.1 Growth Assumptions

Apart from 2016 to 2021, the Township has experienced sustained population loss since the 1980's. This is outlined in Table 7 below.

Table 7: Dorion Township's Historic Population

Year	Total Population	% Change
2021	375	18.7
2016	316	-22
2011	338	-38
2006	376	-66
2001	442	-30
1996	472	-41
1991	513	-1
1986	514	

In 2020 and 2019 respectively, expansion of Highway 11/17 and the construction of the East-West Tie Transmission Line Project began. The construction and management of both projects are external to the Township. These projects, however, may be connected to the population growth that occurred between 2016 and 2021.

The Northern Policy Institute predicts the Thunder Bay District (of which Dorion Township is a part of) to experience a modest 2.5% decline in population between 2017 and 2041. This is largely a result of an aging population, decreasing fertility rate, and significant interprovincial and interprovincial out-migration. Considering the regional projections, it is deduced that Dorion Township will not experience material population growth in the future. Projections for the District of Thunder Bay are summarized in Table 8 below:

Table 8: Population Projections District of Thunder Bay

Year	0--19	20--44	45--64	65+	Total
2017	29,281	45,270	44,227	29,322	148,100
2018	29,202	45,184	43,473	30,357	148,216
2019	29,000	45,224	42,656	31,394	148,274
2020	28,899	45,081	41,887	32,442	148,309
2021	28,841	44,892	41,190	33,362	148,285
2022	28,781	44,769	40,192	34,459	148,201
2023	28,767	44,587	39,195	35,566	148,115
2024	28,718	44,408	38,242	36,656	148,024
2025	28,687	44,064	37,422	37,753	147,926
2026	28,616	43,841	36,549	38,811	147,817
2027	28,548	43,611	35,827	39,710	147,696
2028	28,493	43,390	35,042	40,635	147,560
2029	28,361	43,169	34,488	41,390	147,408
2030	28,189	42,922	34,079	42,051	147,241
2031	28,045	42,665	33,784	42,562	147,056
2032	27,919	42,342	33,653	42,941	146,855
2033	27,791	42,045	33,650	43,152	146,638
2034	27,655	41,626	33,739	43,385	146,405
2035	27,489	41,179	33,857	43,631	146,156
2036	27,298	40,835	33,804	43,958	145,895
2037	27,081	40,472	33,999	44,069	145,621
2038	26,941	40,119	34,210	44,068	145,338
2039	26,800	39,801	34,445	44,000	145,046
2040	26,664	39,489	34,622	43,972	144,747
2041	26,535	39,247	34,774	43,888	144,444

Source: Author's calculations based on the Ministry of Finance population projections

5.2 Impact of Growth on Lifecycle Activities

Based on the regional projections of a 2.5% population decrease by 2041 it is expected that construction of additional infrastructure (i.e. an expanded road network) is not required and that Dorion Township will be able to service any residential growth by maintaining the existing infrastructure.

This infrastructure growth strategy is supported by the Official plan (Adopted in 2022) which outlines the Township's intention to foster low density developments in

the established Settlement Area (SA)² with servicing by well water and septic instead of municipal water and wastewater services. Further, the official plan outlines the intention that any new development be serviced by the existing road network rather than expanding the road network.

Lifecycle costs in this report, including in Proposed Levels of Service, therefore do not reflect any net new infrastructure assets.

² Settlement Areas are the intended focal point for community growth and development and the primary location for new development. Settlement areas are designated for a wide range of land-uses including residential, commercial, tourist, and alternative energy development.

6. Proposed Levels of Service

6.1 Overview

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

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

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

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

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

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

6.2 Proposed LOS Options & Analysis

6.2.1 Setting Proposed LOS Options: Process and Considerations

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

1. Strategic Document Review

The Township's Strategic Plan (2014-2018) is a foundational document that sets direction by identifying strategic objectives and mechanisms to achieve them. The Strategic Plan was reviewed and considered in the development of Proposed LOS Options. Key details and considerations from the Strategic Plan are:

Mission:

1. Maintain and enhance quality of life
2. Foster economic development
3. Be proactive in addressing local, regional, and global issues

The practice of asset management itself supports the Township’s mission. For example, infrastructure assets provide value to residents and their quality of life; roads provide a route for travel, parks and recreation provide opportunities for activities and enjoyment. Asset management also works to proactively understand asset needs and plan accordingly for them. This aligns with the mission to maintain and enhance quality of life and proactively address local issues.

The Strategic Plan advances six themes that contain strategies and associated actions. The strategic themes are:

1. Economy
- 2. Infrastructure**
3. Community
4. Environment
5. Residents
6. Aboriginal People

The infrastructure strategic theme holds significant relevance to the discussion of Proposed LOS Options. Particularly relevant Infrastructure strategies and actions are:

Table 9: Strategic Plan Infrastructure Strategies

Strategy	Associated Actions
Develop a transportation strategy to proactively address current assets and future potentials	<ul style="list-style-type: none"> • Document a plan; province twinning highway (PTH) and local roads • Review active transportation liabilities and potential • Review CP Siding reactivation • Explore King Horn Line potential
Focus on maintaining roads	<ul style="list-style-type: none"> • Monitor funding available and Township requirements • Complete current bridge replacement

In the context of Proposed LOS options, the Strategic Plan advances the priority of road and bridge assets and the importance of the financial strategy in the long-term sustainable delivery of core assets.

2. Resident & Staff Engagement

Resident feedback was sought through the issuance of a resident and staff questionnaire. Key findings from the survey included:

- Staff Questionnaire:
 - Identified value in increasing LOS so that actual reinvestment rate is closer to the target reinvestment rate

- Simultaneously recognized that an increase to capital funding may cause affordability challenges to rate payers
 - Noted the declining condition of paved roads and the significant (and unaffordable) cost of replacement
- Resident Questionnaire:

Dorion Township issued a resident survey in the spring of 2025. Surveys were mailed to residents and posted online. In total, 23 survey responses were submitted, representing a 6% response rate or 7% when only considering the population over 15 years. The survey contained a total of 11 questions regarding satisfaction levels with various municipal services, priority of assets by their type, and willingness to pay for changes in service levels. Findings of relevance to setting proposed LOS included the following:

Demographics:

- Most respondents (77%) are resident property owners and most (62%) are rural residents
- In line with census data, most respondents (59%) are over the age of 65

Asset Priorities, Satisfaction & Willingness to Pay

- Roads, Bridges and Structural culverts were identified as High Importance assets; they also had the highest percentage of respondents who were willing to pay for improvements. This is summarized in the table below.

Table 10: Proposed LOS Analysis, Resident Survey

Asset Category	% of High Importance Identification	% Willing to Pay for Improvements
Roads, bridges, culverts and ditches	96	81
Landfill	84	57
Municipal Buildings	35	77
• Community Center	46	38
• Centennial	34	30
• Library	38	27
Emergency Services	92	77

- The Township’s current approach to infrastructure investment is well received. When asked: are you in favor of recent improvements? 38% strongly agreed, 52% agreed and 10% were unsure. This supports current lifecycle management practices (as summarized in Appendices A to E) to be reasonably effective and appropriate.
- Based on the survey, the public is either unsure or does not believe the Township is overspending. When asked, is the Township overspending in any service areas? The majority (54%) of residents either disagreed (36%) or strongly disagreed (16%); a large portion (36%) were unsure, and a small portion agreed (4%) or strongly agreed (4%)

In summary, key findings from the survey that helped informed Proposed LOS Options are:

- Priority in and highest willingness to invest in roads and bridges
- Lower levels of willingness to invest in other asset categories
- Strategic Funding Allocation should be focused on roads and bridges

3. Discovery Sessions

Findings from the resident and staff questionnaire and strategic document review were consolidated, and a meeting was held with Township staff to discuss. Additional considerations for setting Proposed LOS were identified, specifically:

- The condition of paved roads is very poor, requiring full replacement (including the base) which is not financially viable. Conversion to gravel roads is suitable considering the traffic types and volumes and the relative affordability of the asset’s lifecycle costs.
- Conversion to gravel would require a phased approach, with an initial goal to begin construction of the first road in 2028
- The Town’s operations are supported by 2 to 3 FTE staff; succession planning is challenging due to the wide range of expertise required, the small population to draw upon, and job competition from the surrounding region. Larger capital projects require outside contractors due to scale, equipment and/or expertise requirements.

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

Table 11: Proposed LOS Options

Scenario	Details
1	<ul style="list-style-type: none"> • Annual Capital budget of \$140,000³ in year one; increasing by \$15,000 annually until the annual capital budget reaches \$500,000 • Convert paved roads to gravel beginning in 2028

³ At the time of this report’s publication the Township’s sustainable capital funding totaled \$140,000 annually.

Scenario	Details
	<ul style="list-style-type: none"> • Prioritize investment to roads and bridges
2	<ul style="list-style-type: none"> • Annual Capital budget of \$140,000 in year one; 2% annual increases. • Convert paved roads to gravel beginning in 2028. • Capital allocation of 60% roads, 30% to bridges, 10% to everything else to reflect established priority
3	<ul style="list-style-type: none"> • Annual Capital budget of \$300,000 in year one; no annual increase. • Convert paved roads to gravel beginning in 2028. • Roads and bridges fully funded; balance of funding to other asset categories

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

6.2.2 Proposed LOS Options: Analysis

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

1. Associated Risks
2. Affordability
3. Achievability

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

Proposed LOS Options: Risks

Table 10 below details the qualitative risks associated with each of the Proposed LOS and the anticipated relative severity of each scenario.

Table 12: Risks Associated with Proposed LOS Options

Risks Associated with Proposed LOS Options			
Applicable Scenario(s)	Relative Severity	Risk Identified	Risk Defined
1	Low		Increased capital funding requirements are not palatable to ratepayers and the additional investment can only be funded by conditional grants, as they become available. While grants and senior government funding reduces the burden on rate payers, they are considered an unsustainable revenue source. The Township will be more vulnerable to changes in provincial and federal policy and funding programs.
3	High	Reliance on Grants	
1	Low	Increased Infrastructure Backlog	The Township's current average annual capital investment is much less than the average annual capital requirement. Therefore, for many years assets are underfunded, and lifecycle management is not optimal. Reduced and/or deferred lifecycle
2	High		
3	Mid		

Risks Associated with Proposed LOS Options			
Applicable Scenario(s)	Relative Severity	Risk Identified	Risk Defined
			activities threaten reliability and increase the potential for costly (and unbudgeted) repairs to maintain service.
1	Low	Increased Rate of Asset Failure	Underinvestment in assets will result in a lower average condition and an increased rate of asset failure. This will affect the reliability of infrastructure, and the quality of service provided.
2	High		
3	Mid		
1	Low	Increased Severity of Asset Failure	Underinvestment in assets is correlated to an increased severity of asset failure. This may mean that assets are beyond the point of repair and require premature replacement. In some instances, this may result in a period where the Township does not have functional assets that are critical to their operations.
2	High		
3	Mid		

In addition to the above noted qualitative risks, there are measurable risks held by each asset. Risks are quantified based on the respective probability and consequences of asset failure models outlined in Section 4 and detailed in Appendix H. Table 11 below summarizes the average risk scores for each scenario for Bridges and Roads, and all other assets. For each asset category, scenario one has the lowest average risk; this is especially pronounced for roads and all other assets. Differences are smaller between the scenarios for bridges, and this reflects the consistent prioritization of these assets and the associated capital investment to support.

Table 13: Average Risk by Scenario

Scenario	Average Risk all Other	Average Risk Bridges	Average Risk Roads
1	11.71	12.46	11.99
2	16.52	12.59	16.52
3	16.42	11.69	15.56

Proposed LOS Options: Affordability & Strategic Alignment

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

- Importance of balancing infrastructure investment levels with ratepayer affordability
- Ensuring that investment changes are reasonably realistic to implement considering ratepayer affordability and project execution
- In alignment with long-term affordability and strategic lifecycle management, investment in bridges and structural culverts and the road network including the conversion of paved roads to gravel.
- Table 12 summarizes the percentage of the identified capital investment requirement (i.e. need) that is funded under each scenario. Figures reflect average funding over a 23-year period (2025 to 2048). All Scenarios are based on the capital cost of converting existing paved roads to gravel and the capital costs of maintaining gravel roads. Therefore, the average annual capital requirement of paved roads (identified in Appendix A) is not considered.

Table 14: Percentage of Average Annual Need Funded

Asset Category	Scenario		
	1	2	3
Percentage of Average Annual Need Funded			
Roads	88	55	96
Bridges & Structural Culvers	96	75	95
All Other	35	7	25

The Financial Strategy (Section 6) provides details into affordability analysis of the selected option. Some key considerations when reviewing all Proposed LOS options are:

- The Township is limited in their available revenue sources; their tax base is almost entirely residential and alternative revenue streams are unlikely
- The Township does not realistically foresee the ability to increase the capital budget from existing levels to \$300,000 over a one-year period and via tax base revenues.

The three above noted scenarios were analyzed and results were reviewed, With consideration for achievability, risks, and affordability, the Township of Dorion

selected **Scenario 1** as their Proposed Level of service. The financial strategy and 10-year capital forecast reflect scenario one. Scenario one is based on the following:

- **Annual Capital budget of \$140,000⁴ in year one; increasing by \$15,000 annually until the annual capital budget reaches \$500,000**
- **Convert paved roads to gravel beginning in 2028**
- **Prioritize investment in roads and bridges**

⁴ At the time of this report's publication the Township's current capital budget was \$140,000 annually.

Proposed LOS Option: Additional Considerations

Achievability

- In years where capital investments are more significant the work will be conducted by external contractors. This is primarily because the Township’s staff resources are not sufficient and/or appropriate to solely complete the project due to its scope, technical and equipment requirements and/or scale. The use of external contractors would allow for an increased capital expenditure with existing staff resources.
- The Ministry of Transportation (MTO) is actively reconfiguring the MTO road network within the Township. The Township anticipates the opportunity to align the schedule of their road’s capital projects with MTO projects to benefit from cost-economies that contractors would garner from having projects and resultantly staff and equipment in the location already. This is a particularly important consideration for the Township due to their remote northern location and the associated challenges (as discussed in 4.1) this brings.

Lifecycle Cost & Affordability

- While converting the existing paved roads to gravel does carry significant cost, it is substantially less than the cost of replacing paved roads with asphalt. The condition of all paved roads is very poor, and all roads require immediate replacement. Considering the traffic types and volumes, gravel roads are an appropriate road surface for the Township. As a lifecycle strategy the estimated cost savings are significant. This is summarized in Table 15 below:

Table 15: Converting Paved Roads to Gravel vs. Replacing with Asphalt

Cost	Gravel	Paved	Difference
Conversion/Replacement	\$679,000	\$8,105,000	\$7,426,000
Estimated Useful Life	*5	15-20	
Average Annual Capital Requirements ⁶	\$68,000	\$540,000	\$472,000

- Increased capital investment is required to meet the proposed LOS. The financial strategy in Section 7 discusses the forecasted financial position of the proposed LOS targets and identifies strategies for meeting capital funding requirements. The forecasted annual capital funding requirements for a 10-year period are as follows:

⁵ The lifecycle management strategies for these assets consist of perpetual maintenance activities funded by an operational budget and annual rehabilitation strategies funded through an annual capital budget.

⁶ Gravel roads can theoretically have a limitless life. For the purposes of this comparison, the cost to convert the roads from paved to gravel has been amortized over a 20-year period. However, the road is expected to last significantly longer.

Table 16: 10 Year Capital Investment Requirements & Allocations- Scenario 1

10 Year Capital Investment Requirement & Allocations										
	'25	'26	'27	'28	'29	'30	'31	'32	'33	'34
Roads: Paved to Gravel Conversion					\$414,000		\$28,750	\$235,750		
Existing Roads ⁷	\$118,280	\$118,280	\$118,280	\$118,280	\$118,280	\$118,280	\$118,280	\$118,280	\$118,280	\$151,398
Bridges & Culverts	\$36,720	\$50,000	\$50,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000	\$70,000
All Others	15,000	15,000	15,000	\$15,000	\$26,720	\$50,000	\$50,000	\$70,000	\$70,000	\$70,000
Total Requirement	\$152,258	\$165,538	\$165,538	\$185,538	\$611,258	\$220,538	\$261,116	\$488,116	\$283,828	\$283,828

The above table accounts for both current and future expenditures to achieve and maintain the proposed levels of service. This requires a combination of capital spending and savings (i.e. reserves) to ensure future large expenditures can be funded. As discussed in the financial strategy, it may also require the use of debt to cover the spikes in costs due to the road conversion project. Due to the estimated life and low quantity of assets, in some years there may be no forecasted capital investment requirements. In these years, annual funding should be set aside in the form of reserves to ensure funding for upcoming life-cycle events is available when required.

It is important to note that an AMP is a dynamic document which should be reviewed regularly to ensure up-to-date information is incorporated including accurate replacement costs, changes in inventory, changes in available funding sources, and reflection on progress made on previous recommendations.

⁷ At the time of this report's publication the Township was in active engagement with the Ministry of Transportation to transfer 5.7 kilometers of paved roads to Dorion Township ownership. This AMP does not reflect the inventory information or the cost of Future Acquisitions, however very early estimates suggest that they may carry an approximate average annual capital investment requirement of \$254,000. Currently, the projected timing of capital investments in unknown asset in-service dates and conditions are not available.

6.2.3 Selected Proposed LOS: Required Lifecycle Strategies

Table 17 details the anticipated lifecycle strategy changes that are required to meet the proposed LOS:

Table 17: Lifecycle Changes Required to Meet Proposed LOS

Asset Category	Lifecycle Changes to Reach PLOS	AMP Section /Information
Road Network	Conversion of paved roads to gravel phased over approximately 10 years with work projected to begin 2028 No lifecycle strategy changes otherwise; noted gravel road maintenance activities shall be applied to all gravel roads	8.7
Bridges & Culverts	No lifecycle changes, annual capital spending increase only	8.13
Facilities	No lifecycle changes, annual capital spending increase only	8.18
Machinery & Equipment	No lifecycle changes, annual capital spending increase only	Machinery & equipment assets are inspected regularly and are maintained for use as per their useful life. Maintenance is tailored to each asset based upon use and is well documented.
Rolling Stock	No lifecycle changes, annual capital spending increase only	Circle checks are completed before each use and assets are routinely inspected and maintained based on their hours of use. Repairs and maintenance are completed by the Township's staff or an external mechanic as required. All maintenance activities are documented in repair logs.

Changes to Community and Technical Levels of Service for Scenario 1

Dorion Township does not anticipate any changes to qualitative community levels of services for any of the asset categories included within this AMP. All asset categories will see adjustments to their technical levels of service over time,

particularly relating to capital reinvestment rate and average condition of assets. Refer to each asset category for more details.

7. Financial Strategy

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

The Township's 2024 AMP identified the financial requirements for:

- a. Existing assets
- b. Existing service levels

This plan (2025 AMP) identifies the financial requirements to meet the identified proposed LOS with consideration for any additional financial impacts from economic and population growth. The financial plan considers and accounts for traditional and non-traditional sources of municipal funding, which are:

2. Use of traditional sources of municipal funds:
 - a. Tax levies
 - b. User fees
 - c. Debt
 - d. Development charges
3. Use of non-traditional sources of municipal funds:
 - a. Reallocated budgets
 - b. Partnerships
 - c. Procurement methods
4. Use of Senior Government Funds:
 - a. CCBF (Formerly Gas Tax)
 - b. Annual grants

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

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

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

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

7.1 Proposed LOS: Annual Requirements & Capital Funding

The annual requirements represent the amount the Township should allocate annually to each asset category to meet the proposed LOS. For the Township of Dorion, the proposed LOS is based on increasing the capital budget by \$15,000 annually for 23 years (2025-2048) until the capital budget reaches \$500,000. On an average annual basis, this equates to a capital investment of \$338,000.

However, it is important to note that based on the annual incremental increase, the annual investment will increase each year (i.e. it will be less than \$338,000 until 2037 and greater after 2037).

As reported in Appendices A to G, the average annual capital requirement for all assets is higher than the proposed LOS. Generally, this means that under this proposed LOS, assets are being replaced later than recommended. However, it should be noted that this PLOS involves strategic lifecycle management activity of converting paved roads to gravel roads. As noted under Section 6.2.2 this lifecycle strategy carries significant cost reductions compared with replacing paved roads with paved roads. Furthermore, capital investment is strategically allocated to other road and bridge assets to reflect the Township's prioritization of these asset categories. At the same time, all asset categories receive a level of investment This is detailed in section 6.2.2 of the report.

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

7.1.1 Annual Funding Available

Based on a historical analysis of sustainable capital funding sources, the Township is committing approximately \$156,000 towards capital projects per year. Given the average annual capital requirement of \$338,000 under the selected proposed LOS scenario, there is currently an average annual funding gap of \$182,000.

7.1.2 Funding Objective

We have developed a scenario that would enable Dorion to achieve full funding required to meet the proposed LOS within 1 to 20 years for the following assets:

1. **Tax Funded Assets:** Road Network, Bridges & Culverts, Buildings, Rolling Stock, and Machinery & Equipment

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

7.2 Financial Profile: Tax Funded Assets

7.2.1 Current Funding Position

Table 18 shows, by asset category, Dorion's average annual asset investment requirements, current funding positions, and funding increases required to achieve full funding and proposed LOS funding levels.

Table 18: Current Funding Position

Asset Category	Avg. Annual Requirement (AAR)	AAR (PLOS)	Annual Funding Available				Annual Deficit	
			Tax	Gas Tax	OCIF	Total Available	AAR	PLOS
Bridges & Culverts	\$76,000	\$69,857		\$5,840		\$5,840	\$70,160	\$64,017
Buildings	\$126,000	\$45,787		\$3,828		\$3,828	\$122,172	\$41,960
Machinery & Equipment	\$54,000	\$19,623				\$0	\$54,000	\$19,623
Road Network	\$615,000	\$170,161		\$13,225	132,250	\$146,475	\$468,525	\$23,686
Rolling Stock	\$90,000	\$32,705				\$0	\$90,000	\$32,705
	\$961,000	\$338,134	\$0	\$23,892	\$132,250	\$156,142	\$804,858	\$181,992

To meet the proposed LOS, the average annual investment requirement for the above categories is \$338,000. Annual revenue currently allocated to these assets for capital purposes is \$156,000 leaving an average annual deficit of \$182,000. Put differently, the current level of investment is on average 46% of the investment needed to achieve the proposed LOS.

7.2.2 Full Funding Requirements

In 2024, the Township of Dorion had annual budgeted tax revenues of \$802,223. As illustrated in Table 19, without consideration of any other sources of revenue or cost containment strategies, full funding and funding to meet the proposed LOS would require the following tax change over time:

Table 19: Tax Changes Required

Asset Category	Tax Change Required for Full Funding	Tax Change Required for PLOS
Bridges & Culverts	8.7%	8.0%
Buildings	15.2%	5.2%
Machinery & Equipment	6.7%	2.4%
Road Network	58.4%	3.0%
Rolling Stock	11.2%	4.1%
Total	100.2%	22.7%

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

- a) Dorion’s debt payments for these asset categories will be decreasing by \$51,650 by 2029

Our recommendations consider scenarios with and without capturing the above changes and allocating them to the infrastructure deficit outlined above. Table 20 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 (PLOS)	\$181,992	\$181,992	\$181,992	\$181,992	\$181,992	\$181,992	\$181,992	\$181,992
Change in Debt Costs	N/A	N/A	N/A	N/A	-\$51,560	-\$51,560	-\$51,560	-\$51,560

	Without Capturing Changes				With Capturing Changes			
	5 Years	10 Years	15 Years	20 Years	5 Years	10 Years	15 Years	20 Years
Resulting Infrastructure Deficit:	\$181,992	\$181,992	\$181,992	\$181,992	\$130,342	\$130,342	\$130,342	\$130,342
Tax Increase Required	22.7%	22.7%	22.7%	22.7%	16.2%	16.2%	16.2%	16.2%
Annually:	4.2%	2.1%	1.4%	1.1%	3.1%	1.6%	1.1%	0.8%

Table 20 : Debt Reallocation Modelling

7.2.3 Financial Strategy Recommendations

Although Dorion's current debt is due to expire within the next 5 years, it is anticipated that the Township will incur additional debt at the time of expiry and for this reason we do not recommend considering any of the options that capture changes in debt costs above. With all things considered, we recommend the 10-year option. This involves funding to meet the proposed levels of service as described earlier. This strategy requires the following:

- a) Increasing tax revenues by 2.1%⁸ each year for the next 10 years solely for the purpose of phasing in the proposed levels of service for asset categories covered in this section of the AMP.
- b) Allocating the current OCIF and CCBF revenue as outlined previously.
- c) Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.

Notes:

1. Although the above recommendation is based on the average annual funding requirements for the PLOS, it should be noted that to meet the PLOS, the Township anticipates significant cost outlays in years 2029 through 2032. These outlays are associated with upfront capital costs for the paved to gravel road conversion project. The Township is expected to require the use of debt and/or reserves for funding in these years and should plan accordingly to ensure the projects are adequately funded and avoid disruptions.
2. As noted above, since the Township is expected to incur additional debt once the current outstanding debt expires, we have not considered any expected changes in debt costs in our recommendation. However, any debt cost reductions that are realized net of any additional debt taken on once the current debt expires should be reallocated to the infrastructure deficit as outlined in the scenario in the table above that captures changes in debt costs.
3. 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 commitment⁹.

⁸ This percentage represents the average annual increase required to meet the funding levels. This equates to nominal average annual increase of approximately \$15,000 from the previous year.

⁹ The Township should take advantage of all available grant funding programs and transfers from other levels of government. While OCIF has historically been considered a sustainable source of funding, the program is currently undergoing review by the provincial government. Depending on the outcome of this review, there may be changes that impact its availability.

7.3 Use of Debt

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

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

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

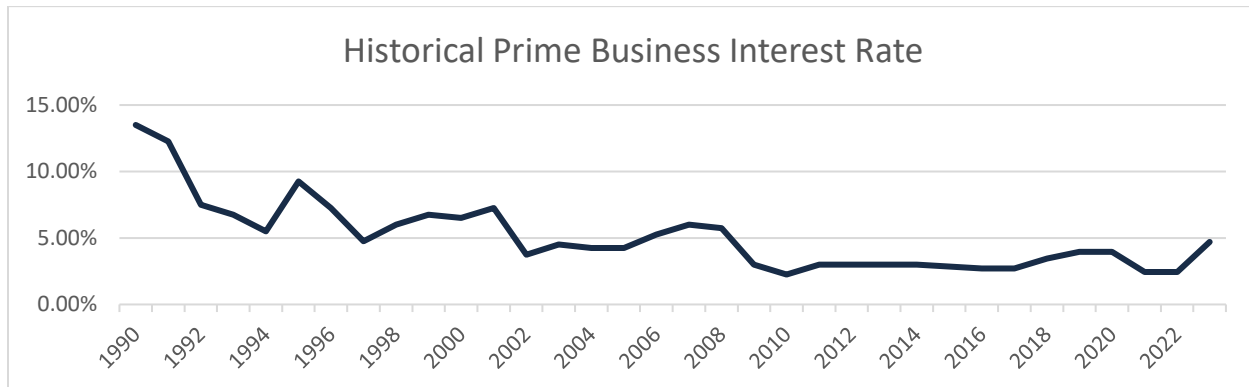


Figure 17: Historic Prime Business Interest Rate

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

Table 21 outline how Dorion has historically used debt for investing in the asset categories as listed. There is currently \$176,000 of debt outstanding for the assets covered by this AMP with corresponding principal and interest payments of \$51,650.

Table 21: Debt Use 2018 to 2022

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2018	2019	2020	2021	2022
Bridges & Culverts	\$80,000		\$120,000			
Buildings						

Asset Category	Current Debt Outstanding	Use of Debt in the Last Five Years				
		2018	2019	2020	2021	2022
Machinery & Equipment						
Road Network	\$96,472		\$186,720			
Rolling Stock						
Total Tax Funded:	\$176,472	0	\$306,720	0	0	0

Table 22 details future debt carrying costs for debts currently held.

Table 22: Debt Carrying costs 2025 to 2035

Asset Category	Principal & Interest Payments in the Next Ten Years						
	2025	2026	2027	2028	2029	2030	2035
Bridges & Culverts	\$13,446	\$13,097	\$12,755	\$12,414	\$8,085		
Buildings							
Machinery & Equipment							
Road Network	\$38,204	\$22,197					
Rolling Stock							
Total Tax Funded:	\$51,650	\$35,294	\$12,755	\$12,414	\$8,085	0	0

As noted in the Tables above, Dorion Township’s existing debts are scheduled to expire in 2029. Simultaneously, the proposed LOS requires significant capital cost outlays in 2029 to 2032, and it is expected that some level of debt is required to fund the projects. The financial strategy would require that new debt is acquired in 2029 (not sooner) and that associated debt carrying costs do not exceed \$52,000 (i.e. current debt carrying costs). Annual debt payments more than \$52,000 would require additional funding paid for through taxation increases above the noted recommendations or the use of reserve funds.

7.4 Use of Reserves

7.4.1 Available Reserves

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

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

By asset category, Table 23 below outlines the details of the reserves currently available to Dorion.

Table 23: Reserve Balances December 31, 2023

Asset Category	Balance at December 31, 2023
Bridges & Culverts	\$0
Buildings	16,704
Machinery & Equipment	\$243,219
Road Network	\$0
Rolling Stock	\$0
General Capital	\$114,217
Total Tax Funded:	\$374,140

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

- a) breadth of services provided
- b) age and condition of infrastructure
- c) use and level of debt
- d) economic conditions and outlook
- e) internal reserve and debt policies.

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

8. Recommendations & Key Considerations

8.1 Financial Strategies

1. Increasing tax revenues by 2.1%¹⁰ each year for the next 10 years solely for the purpose of phasing in the proposed levels of service for asset categories covered in this section of the AMP.
2. Allocating the current OCIF and CCBF revenue as outlined previously.
3. Increasing existing and future infrastructure budgets by the applicable inflation index on an annual basis in addition to the deficit phase-in.
4. The Township anticipates significant cost outlays in years 2029 through 2032. These outlays are associated with upfront capital costs for the paved to gravel road conversion project. The Township is expected to require the use of debt and/or reserves to fund the roads conversion projects between 2029 and 2032 in these years and should plan accordingly to ensure the projects are adequately funded and avoid disruptions.

8.2 Asset Data

1. To ensure accurate data complete regular data review and updates especially to assessed condition and replacement cost.
2. For assets that do not yet have condition assessments, consider a strategy for obtaining them; for assets with condition assessments ensure they are completed on a regular schedule and in a uniform manner.
3. Develop and regularly review short- and long-term plans to meet capital requirements.

8.3 Risk & Levels of Service

1. Risk models and matrices can play an important role in identifying high value assets, and developing an action plan for their management. This can aid in strategic and objective project selection and capital plans. Initial models have been built into Citywide for all asset groups. These models reflect current data. As the data evolves and new attribute information is obtained, these models should also be refined and updated.
2. Staff should monitor evolving local, regional, and environmental trends to identify factors that may shape the demand and delivery of infrastructure programs. These can include population growth, and the nature of population growth; climate change and extreme weather events; and economic conditions and the local tax base. This data can also be used to review service level targets.

¹⁰ This percentage represents the average annual increase required to meet the funding levels. This equates to nominal average annual increase of approximately \$15,000 from the previous year.

Appendices

Appendix A: Road Network

The Road Network is a critical component of the provision of safe and efficient transportation services and represents the highest value asset category in the Township’s asset portfolio. Dorion Township’s road network is composed of 11.2 km paved roads, (Dorion Loop Road and Ouimet Canyon Road), and 44 km of gravel roads.

At the time of this report’s publication the Township was in active engagement with the Ministry of Transportation to transfer ownership of 5.7 kilometers of paved roads to Dorion Township. This AMP does not reflect the inventory information or the cost of this future acquisition, however it is recognized that these additional assets will have cost and operational impacts on the ownership and their asset management program. Very early estimates suggest that this 5.7 kilometers of paved road may carry an approximate average annual capital investment requirement of \$254,000. The financial strategy referenced herein does not include or otherwise consider these anticipated costs.

8.4 Inventory & Valuation

Table 24 summarizes the quantity and current replacement cost of the Township’s various road network assets as managed in its primary asset management register, Citywide.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Gravel Roads	44	Length (m)	\$1,127,000	CPI
Paved Roads	11.2	Length (m)	\$8,105,000	User-Defined
Total			\$9,232,000	

Table 24 Detailed Asset Inventory: Road Network

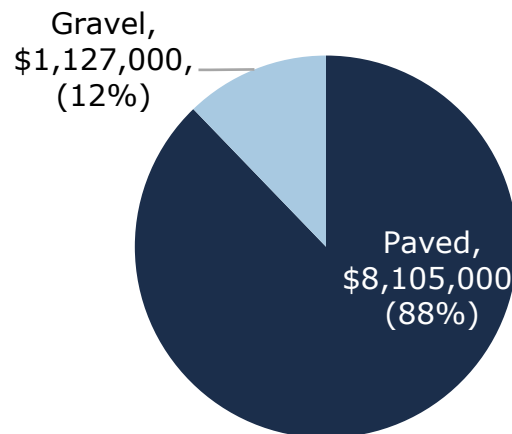


Figure 18 Portfolio Valuation: Road Network

8.5 Asset Condition

Figure 19 summarizes the replacement cost-weighted condition of the Township 's road network. Based on a combination of field inspection data and age, overall, when weighted by replacement cost 9% of assets are in fair or better condition, the remaining assets are in very poor condition. Condition assessments were available for 100% of paved roads and 99% of unpaved roads, based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for the remaining asset types.

Assets in poor or worse conditions may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition.

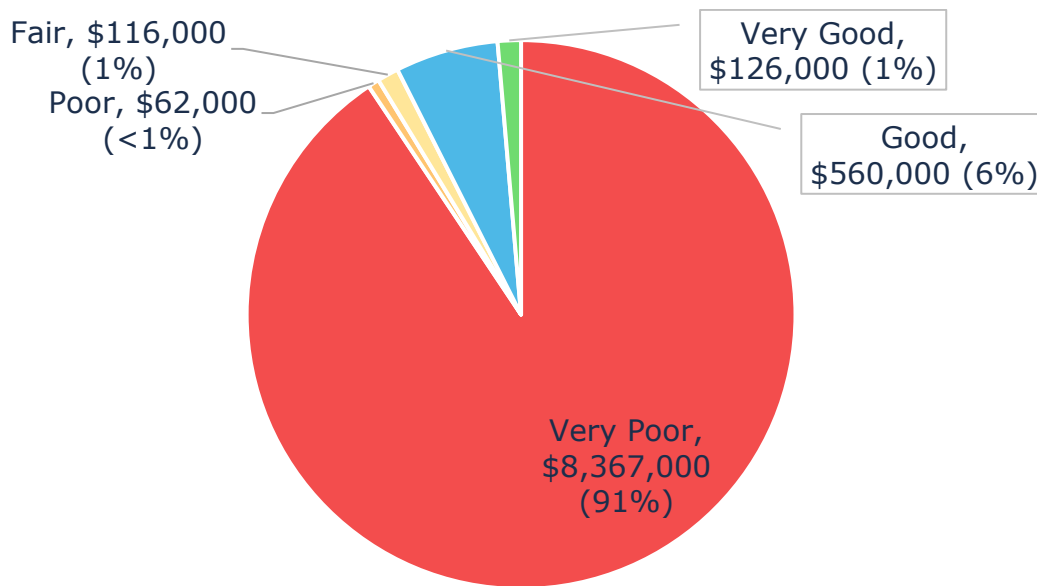


Figure 19 Asset Condition: Road Network Overall

As illustrated in Figure 20, based on condition assessments, all of the Township 's paved road network is in poor condition; however, 71% of unpaved roads are in fair or better condition.

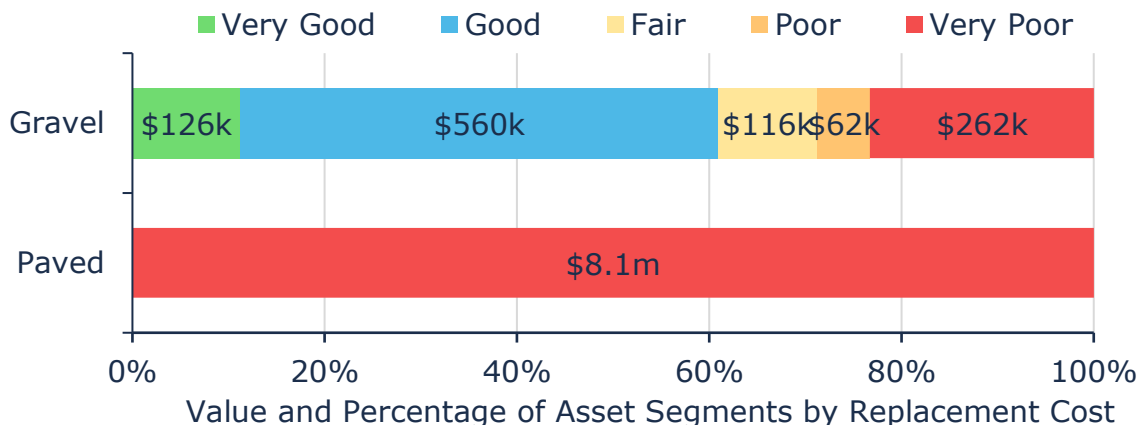


Figure 20 Asset Condition: Road Network by Segment

8.6 Age Profile

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

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

Figure 21 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets. For both paved and gravel roads, the average asset age weighted by replacement cost is greater than the estimated useful life (EUL). It is important to note that with rehabilitations assets may meet functional needs well beyond their estimated useful life. This is especially the case for gravel roads, which with proper management can theoretically have a limitless life.

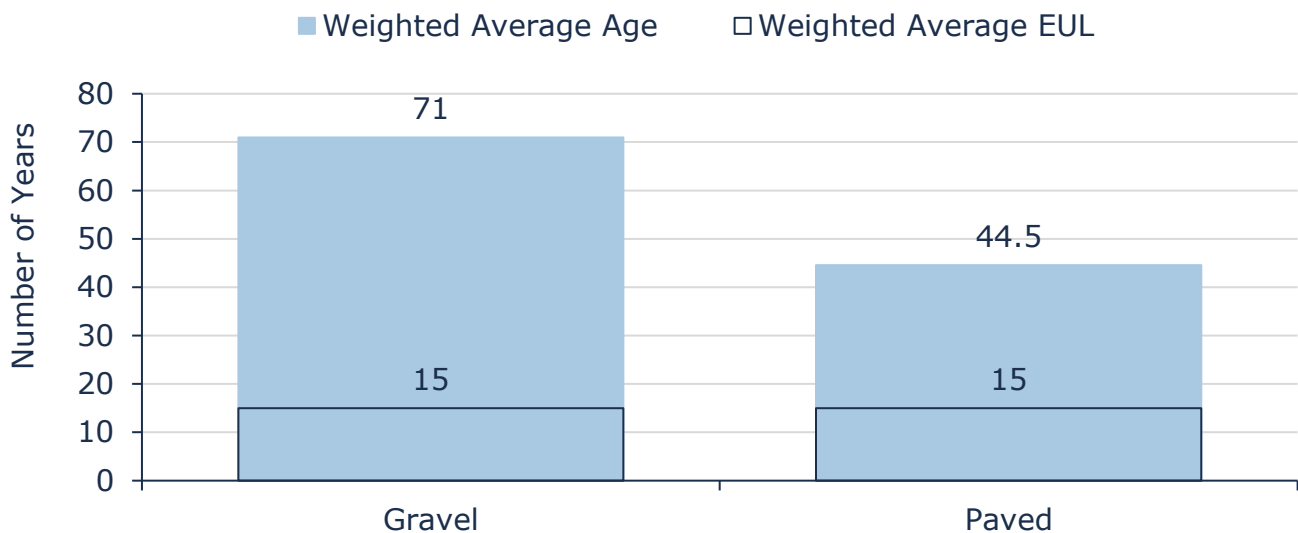


Figure 21 Estimated Useful Life vs. Asset Age: Road Network

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

8.7 Current Approach to Lifecycle Management

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 Township’s current approach for road inspection:

- Staff complete road patrols on a regular basis; additional patrols may be triggered by significant weather events.
- To enable more rigorous road condition analysis, the Township recently purchased a road assessment system which they are in the process of implementing.

Historically, and in this AMP, the condition assessment rating scales in Table 25 below are used:

Condition	Rating
Very Good	8 and above
Good	6 and above
Fair	4 and above
Poor	2 and above
Very Poor	0 and above

Table 25: Road Network Condition Rating Scale

Instead of allowing the roads to deteriorate until replacement is required, strategic maintenance and rehabilitation is expected to extend the service life of roads at a lower total cost.

Table 26: Paved Roads Lifecycle Strategy below summarizes the maintenance activities the Township currently applies to paved roads. Currently, rehabilitation activities are not completed but are being considered as future activity.

Table 26: Paved Roads Lifecycle Strategy

Paved Roads (Asphalt)		
Event Name	Event Class	Event Trigger
Patching	Maintenance	Condition
Ditching & Brushing	Maintenance	Once Annually
Replacement	Capital	Condition

In future years, the Township may wish to consider implementing additional preventative maintenance and rehabilitation measures such as crack sealing and mill and overlays. Such interventions, especially when appropriately timed, can extend an asset’s total life, improve its condition, and carry a lower total lifecycle cost than if such interventions were not implemented. For the purposes of illustration, a lifecycle model has been provided below based on the interventions detailed in **Table 17**

Table 27: Paved Roads Lifecycle Model Example

Paved Roads Example Lifecycle Model		
Event Name	Event Class	Event Trigger
Crack Sealing	Preventative Maintenance	Every 5 years (7 instances)
Mill & Overlay	Rehabilitation	Asset Condition 3.8
Replacement	Capital	Condition 1.8

Completing these lifecycle activities extends the assets projected life from 20 years to 40 years. These activities and their impact on condition and asset deterioration are illustrated in **Figure 21** below.

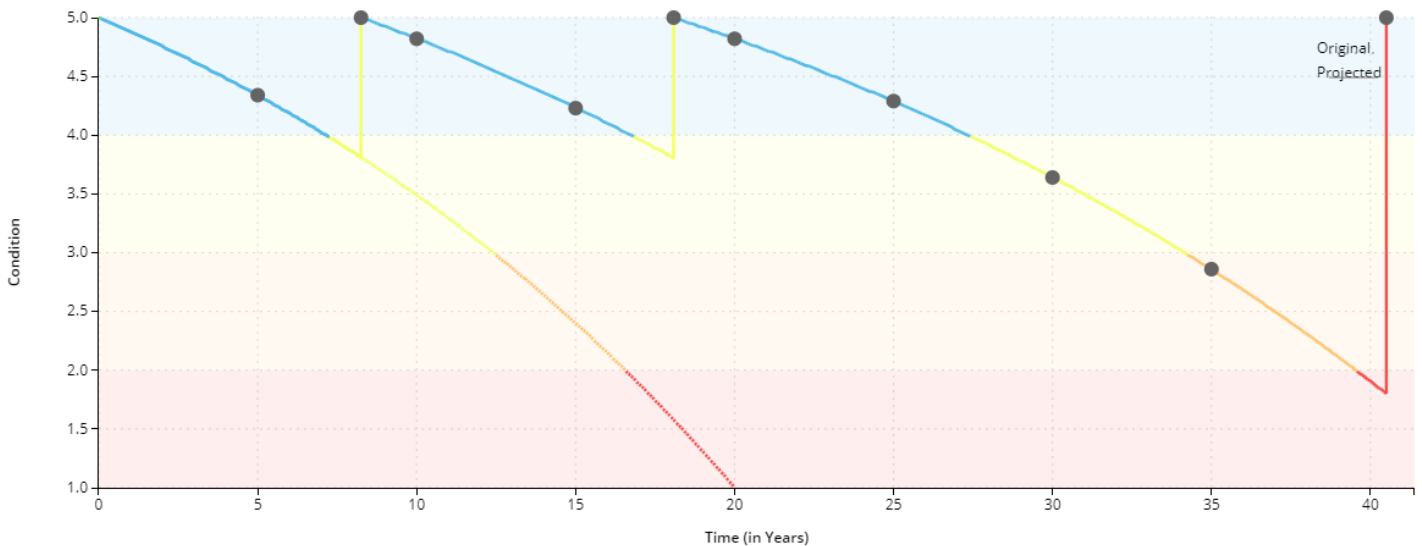


Figure 22: Example: Paved Roads Lifecycle Model

Gravel roads typically have poor base construction. This can lead to wheel track rutting in wet weather, and traffic will continually displace gravel from the surface to the shoulder and ditch areas during wet and dry weather. Maintaining the shape of the road surface and shoulder is essential to ensure proper performance and to provide a sufficient level of service for the public.

Therefore, the management of gravel roads is not through major rehabilitation and replacement, but rather through good perpetual maintenance and some minor rehabilitation which depend on a few basic principles: proper techniques and cycles for grading; the use and upkeep of good surface gravel; and dust abatement and stabilization. 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 in **Table 18** have been documented to illustrate the perpetual maintenance and rehabilitation required to keep gravel roads in a good state of repair.

The following table outlines the Township’s current lifecycle management strategy.

Gravel Roads		
Event Name	Event Class	Event Trigger
Gravelling	Maintenance	Condition
Grading	Maintenance	As Needed
Dust Abatement	Preventative Maintenance	Annual Treatment

Table 28 Lifecycle Management Strategy: Road Network

8.8 Risk Analysis

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

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

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

<p>1 - 4 Very Low \$770,125 (8%)</p>	<p>5 - 7 Low \$190,804 (2%)</p>	<p>8 - 9 Moderate - (0%)</p>	<p>10 - 14 High \$166,287 (2%)</p>	<p>15 - 25 Very High \$8,105,000 (88%)</p>
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Figure 23 Risk Matrix: Road Network

8.9 Levels of Service

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

8.9.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description, which may include maps of the road network in the municipality and its level of connectivity	Dorion Township’s road network is composed of 11.2 km paved roads, (Dorion Loop Road and Ouimet Canyon Road), and 44 km of gravel roads. A map of the road network and its connectivity is provided in Figure 23 on the following page.
Quality	Description or images that illustrate the different levels of road class pavement condition	<p>Condition assessments for paved roads are conducted internally by Public Works Staff. Roads are rated as follows:</p> <p>Very Poor: Pavement is in very poor condition with extensive severe defects. Ride ability is very poor, and the surface is very rough and uneven.</p> <p>Poor: Pavement is in poor condition with frequent patterns of moderate defects. Ride ability is poor, and the surface is rough and uneven.</p> <p>Fair: Pavement is in fair condition with intermittent patterns of slight to moderate defects. Ride ability is fair, and the surface is slightly rough and uneven.</p> <p>Good: Pavement is in good condition with accumulating slight defects. Ride ability is good with intermittent slightly rough and uneven sections.</p> <p>Very Good: Pavement is in excellent condition with few visible defects.</p> <p>Ride ability is excellent with few areas of very slight distortion.</p>

Table 29 O. Reg. 588/17 Community Levels of Service: Road Network



Figure 24: Road Network Map

8.9.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2022)
Accessible	Lane-km of collector roads (MMS classes 3 and 4) per land area (km/km ²)	0.05
	Average pavement condition index for paved roads in the municipality	Very Poor
Performance	Average surface condition for unpaved roads in the Township (e.g. excellent, good, fair, poor)	Good ¹¹
	Capital reinvestment rate	2.82%

Table 30 O. Reg. 588/17 Technical Levels of Service: Road Network

¹¹ The 2024 AMP noted an average condition of very poor. Upon further review, the gravel roads assessments were provided for year end 2023 and projected retroactively to 2022 to determine an average condition of 63% or Good.

Appendix B: Bridges & Culverts

The Township 's transportation network also includes bridges and structural culverts, with a current replacement cost of \$3.36 million

8.10 Inventory & Valuation

Table 31 summarizes the quantity and current replacement cost of bridges and culverts. The Township owns and manages one bridges and 18 structural culverts.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Bridges	1	Quantity	\$1,300,000	User-Defined
Structural Culverts	18	Quantity	\$2,068,912	CPI
TOTAL			\$3,368,912	

Table 31 Detailed Asset Inventory: Bridges & Culverts

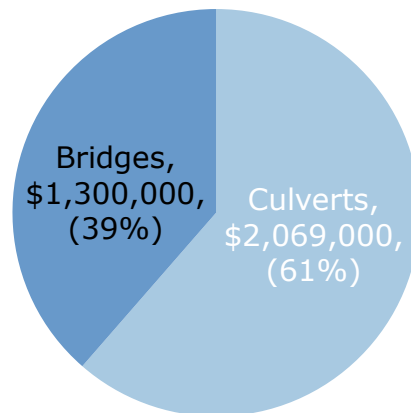


Figure 25 Portfolio Valuation: Bridges & Culverts

8.11 Asset Condition

Figure 26 summarizes the replacement cost-weighted condition of the Township 's bridges and culverts. Based on the Township 's recent Ontario Structures Inspection Manual (OSIM) assessments, 96% of bridges and culverts are in fair or better condition. Some elements or components of these structures may be candidates for replacement or rehabilitation in the medium term and should be monitored for further degradation in condition.

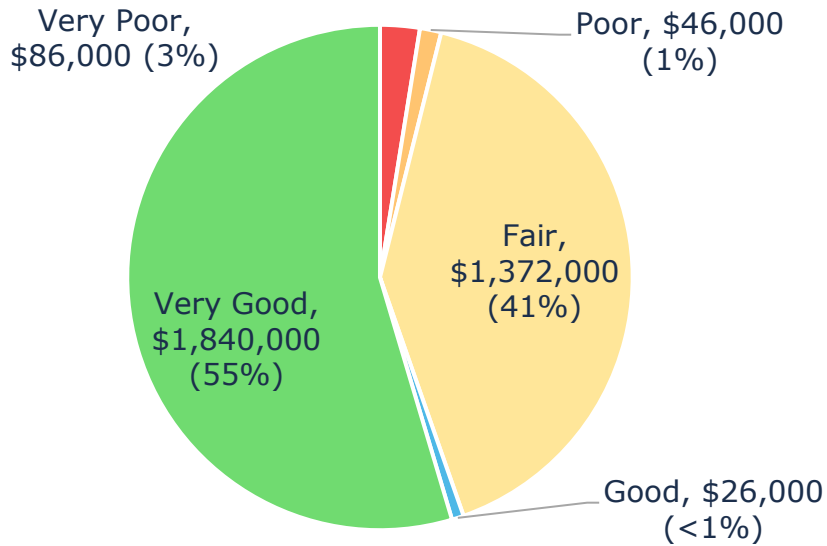


Figure 26 Asset Condition: Bridges & Culverts Overall

As further detailed in Figure 27, based on in-field condition assessments, \$1.3 million of bridge assets were assessed as being in fair condition. The condition of structural culverts is more varied, with the majority in very good condition and a small proportion in very poor to good condition. Bridges and structures with a poor or worse rating (i.e., a bridge condition index of less than 60) are not necessarily unsafe for regular use. The OSIM ratings are designed to identify repairs needed to elevate condition ratings to a fair or higher.

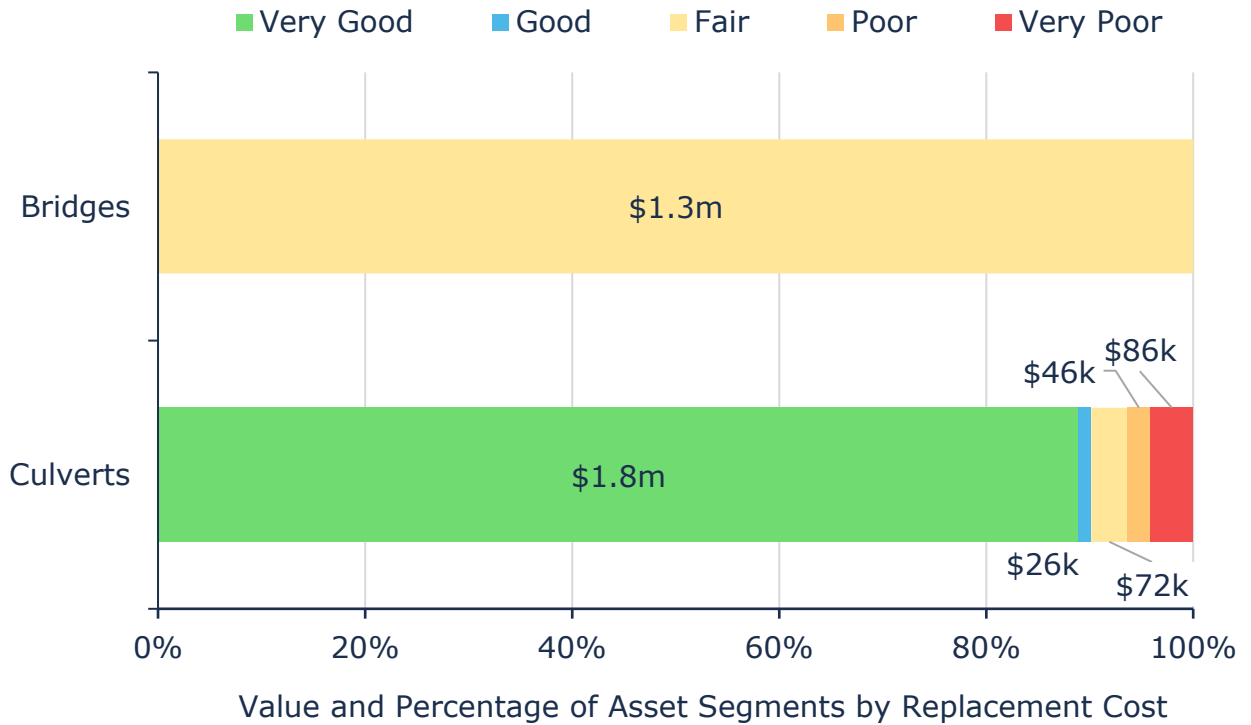


Figure 27 Asset Condition: Bridges & Culverts by Segment

8.12 Age Profile

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

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

Figure 28 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets.

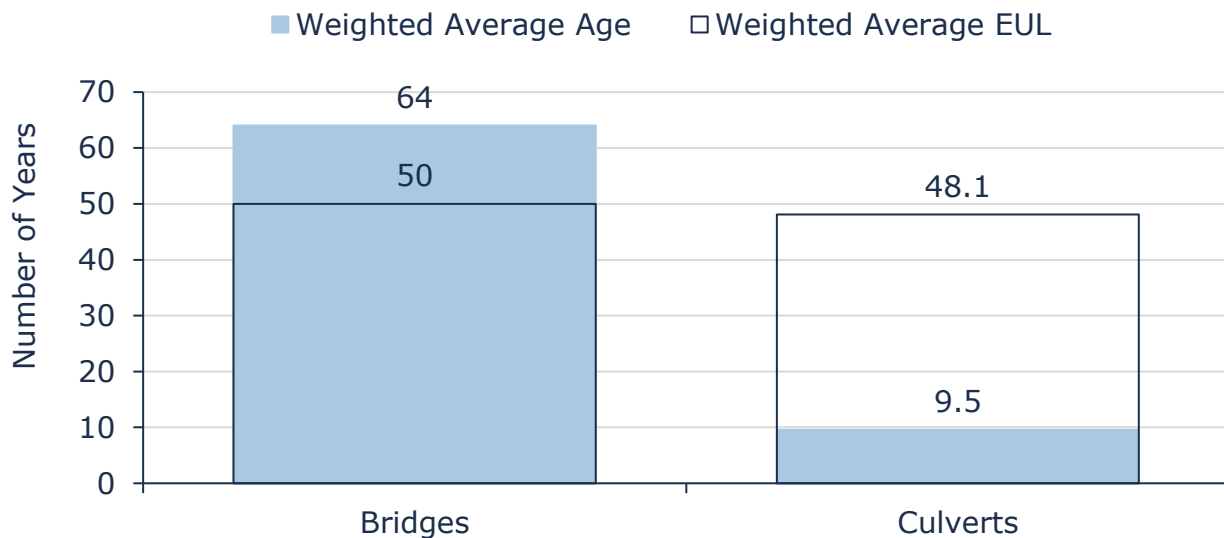


Figure 28 Estimated Useful Life vs. Asset Age: Bridges & Culverts

Age analysis reveals that on average, bridges have consumed all their estimated useful life, with an average age of 64 years against an average EUL of 50 years. On average, culverts have a much lower average age of 9.5 years, against an average EUL of 48 years. OSIM assessments should continue to be used in conjunction with age and asset criticality to prioritize capital and maintenance expenditures.

8.13 Current Approach to Lifecycle Management

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

Table 32 outlines the Township 's current lifecycle management strategy.

Activity Type	Description of Current Strategy
Maintenance	<p>Most lifecycle activities are driven by the results of mandated structural inspections completed according to the Ontario Structure Inspection Manual (OSIM).</p> <ul style="list-style-type: none"> Public Works staff complete maintenance activities like bridge sweeping and washing based on findings from regular patrols of bridges and culverts.
Inspection	<p>Most lifecycle activities are driven by the results of mandated structural inspections completed according to the Ontario Structure Inspection Manual (OSIM).</p> <p>Public Works staff complete maintenance activities like bridge sweeping and washing based on findings from regular patrols of bridges and culverts.</p>

Table 32 Lifecycle Management Strategy: Bridges & Culverts

8.14 Risk Analysis

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

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

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

<p>1 - 4 Very Low \$177,702 (5%)</p>	<p>5 - 7 Low \$1,891,210 (56%)</p>	<p>8 - 9 Moderate \$1,300,000 (39%)</p>	<p>10 - 14 High - (0%)</p>	<p>15 - 25 Very High - (0%)</p>
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Figure 29 Risk Matrix: Bridges & Culverts

8.15 Levels of Service

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

8.15.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2023)
Scope	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	The Township’s 1 bridges and 18 structural culverts are a key component of the municipal transportation network. Except for Coldwater Bridge which has a 20 tonne load limit, none of the bridges or structural culverts have load restrictions. Therefore, most types of vehicles can cross the Township’s bridges and structural culverts without restriction.
Quality	Description or images of the condition of bridges & culverts and how this would affect the use of the bridges & culverts	Bridge and structural culvert condition is assessed based on a range of very poor to very good. The Township’s bridge was most recently assessed in fair condition. Structural culverts assessments ranged from poor to good. With ongoing maintenance and rehabilitation as required, bridges and culverts are expected to operate regularly without restrictions.

Table 33 O. Reg. 588/17 Community Levels of Service: Bridges & Culverts

8.15.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2023)
Scope	% of bridges in the Township with loading or dimensional restrictions	100% ¹²
Quality	Average bridge condition index value for bridges in the Township	Fair (BCI 54)
	Average condition index value for structural culverts in the Township	Poor (BCI 38)
Performance	Capital reinvestment rate	.05%

Table 34 O. Reg. 588/17 Technical Levels of Service: Bridges & Culverts

¹² The Coldwater Drive Bridge has a load limit of 20 tonne.

Appendix C: Facilities

Table 35 summarizes the quantity and current replacement cost of the Township 's various facilities assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity (Componetized)	Unit of Measure	Replacement Cost	Primary RC Method
Administration	52		\$1,138,000	
Firehall Centennial Building	85	Componetized Assets	\$1,760,000	User Defined Costs Inflated
Museum	24		\$335,000	
Public Works Garage Building	67		\$1,187,000	
TOTAL			\$4,420,000	

Table 35 Detailed Asset Inventory: Facilities

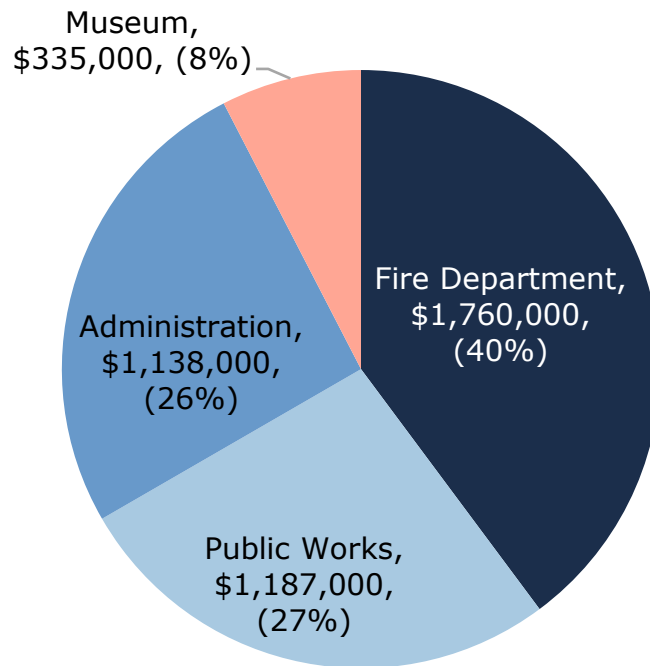


Figure 30 Portfolio Valuation: Facilities

8.16 Asset Condition

Figure 31 summarizes the replacement cost-weighted condition of the Township 's facilities. Based on a combination of field inspection data and age, 81% of assets are in fair or better condition; the remaining 19% of assets are in poor to very poor condition. Condition assessments conducted in 2022 and projected to 2023 were available for all building assets.

Assets in poor or worse conditions may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 31, the majority of the Township 's facilities assets are in fair or better condition.

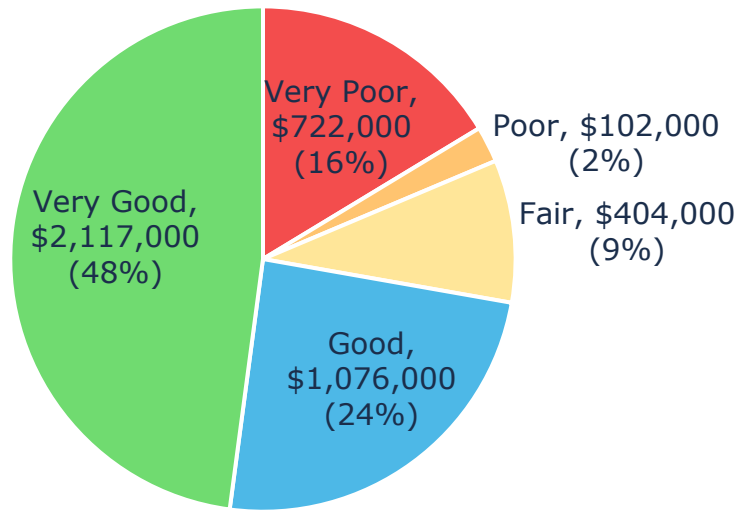


Figure 31 Asset Condition: Facilities Overall

Condition is further reported by building segment in Figure 32, below.

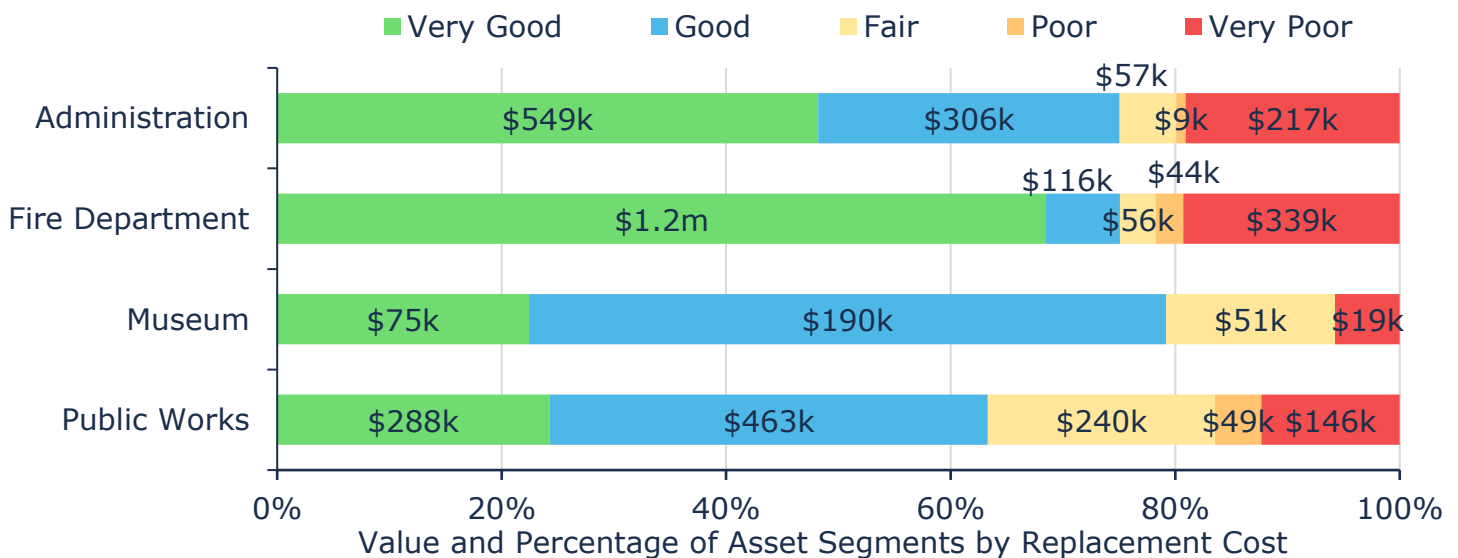


Figure 32 Asset Condition: Facilities by Segment

8.17 Age Profile

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

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

Figure 33 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets. For every segment the weighted average age is less than the weighted average estimated useful life (EUL).

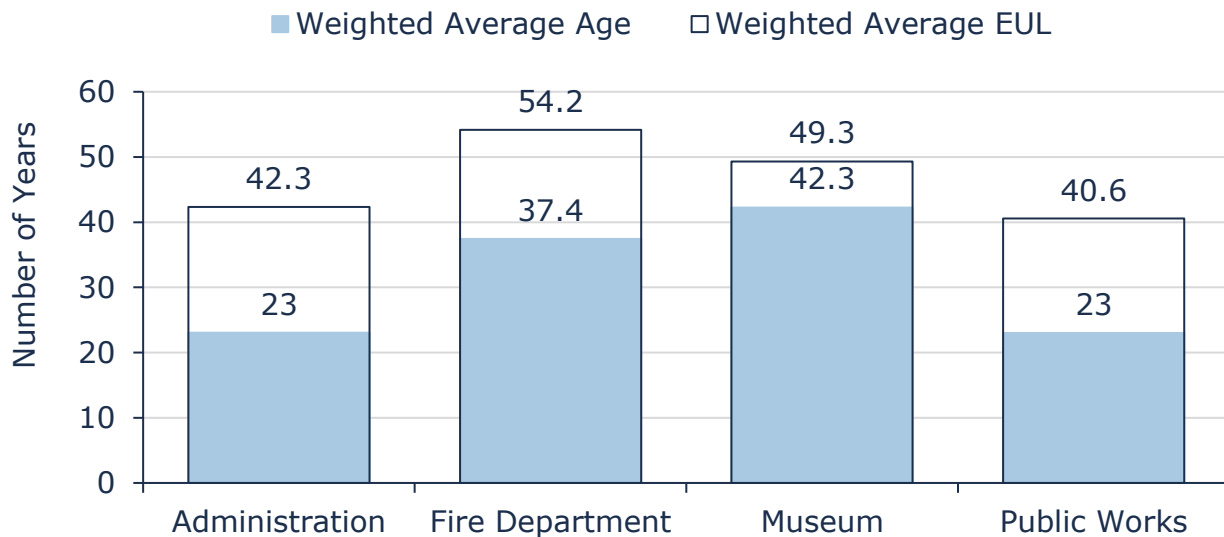


Figure 33 Estimated Useful Life vs. Asset Age: Facilities

8.18 Current Approach to Lifecycle Management

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

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

Activity Type	Description of Current Strategy
Maintenance & Inspection	<p>Building Condition Assessments (BCA) were completed in 2021 by a third-party consultant.</p> <ul style="list-style-type: none"> ➤ BCAs are a process of systematically inspecting, reviewing, and documenting the state of facilities. ➤ Using UNIFORMAT II classification system, the BCA provides an assessed condition score for each building component based on visual review. ➤ Assets are identified using UNIFOMRAT II which is based on three levels of componentization: a major building group (Level 1), a component group (Level 2) and specific components (Level 3). <hr/> <p>Senior staff complete weekly walk-throughs of all facilities to review interior and exterior components including HVAC, electrical, and plumbing systems. All activities conducted within the facilities are documented in a daily diary and transparently communicated to council monthly.</p>
Rehabilitation/ Replacement	<p>Rehabilitation and replacement decisions consider the BCA assessment information, the criticality of the component, and its historical functionality.</p>

Table 36 Lifecycle Management Strategy: Facilities

8.19 Risk Analysis

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

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

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

1 - 4 Very Low \$713,592 (16%)	5 - 7 Low \$2,566,115 (58%)	8 - 9 Moderate \$706,941 (16%)	10 - 14 High \$393,825 (9%)	15 - 25 Very High \$39,928 (<1%)
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Figure 34 Risk Matrix: Facilities

8.20 Levels of Service

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

8.20.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2023)
Quality	Appropriate actions and interventions are taken to ensure the regular safe use of Facilities assets.	Facilities are maintained and continuously improved by public works staff. Senior staff complete weekly walk-through of all facilities to review interior and exterior components including HVAC, electrical, and plumbing systems. All activities conducted within facilities are documented in a daily diary and transparently communicated to the council monthly.
Sustainable	There are long-term plans in place for the renewal and replacement of Facilities components.	In 2020, the Township of Dorion hired an external consultant to complete Building Condition Assessments (BCA) of their facilities. This project involved the identification of all building components (i.e. windows, doors, roofs, etc.) and an assessment of their current condition and near and long-term investment requirements. This has provided the Township with a more robust understanding of their asset's investment requirements. The Township is working to develop their financial strategies to better support their identified long-term capital investment requirements.
User-Access	Facilities assets are available for public use and programming, suggestions and complaints are received and responded to in a timely manner.	Regular inspection and cleaning are completed to ensure that assets are available for public use. Where issues and/or concerns are identified, they are escalated to Senior staff.

Table 37 O. Reg. 588/17 Community Levels of Service: Facilities

8.20.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average Condition of Assets	70%
	Actual Capital Reinvestment Rate	0.03%
Performance	Annual Capital Investment	\$1k
	Target Capital Reinvestment Rate	2.8%
	Average Annual Capital Requirement	\$91k

Table 38 O. Reg. 588/17 Technical Levels of Service: Facilities

Appendix D: Machinery & Equipment

The Township owns a variety of machinery and equipment assets, primarily these include:

- Fire Gear
- Library Materials
- Public Works Equipment

These assets are segmented into three groups. Segment based inventory information is summarized below.

8.21 Inventory & Valuation

Table 39 summarizes the quantity and current replacement cost of the Township 's various machinery and equipment assets as managed in its primary asset management register, Citywide Assets.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Appliances/ Food Service Equipment	1	Assets	\$38,000	CPI
Library	100	Assets	\$40,000	CPI
Mobile Equipment	12	Assets	\$544,000	User-Defined
TOTAL			\$623,000	

Table 39 Detailed Asset Inventory: Machinery & Equipment

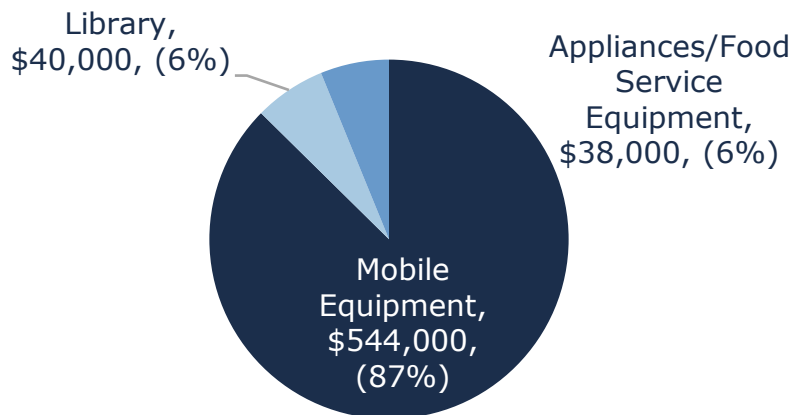


Figure 35 Portfolio Valuation: Machinery & Equipment

8.22 Asset Condition

Figure 36 summarizes the replacement cost-weighted condition of the Township 's machinery and equipment. Based on a combination of field inspection data and age, 89% of assets are in fair or better condition; the remaining 11% of assets are in poor to very poor condition. Condition assessments were available for 90% of assets based on replacement cost. This condition data was projected from inspection date to current year to estimate their condition today. No condition data was available for library assets.

Assets in poor or worse conditions may be candidates for replacement in the short term; similarly, assets in fair condition may require rehabilitation or replacement in the medium term and should be monitored for further degradation in condition. As illustrated in Figure 36 the majority of the Township 's machinery and equipment assets are in fair or better condition.

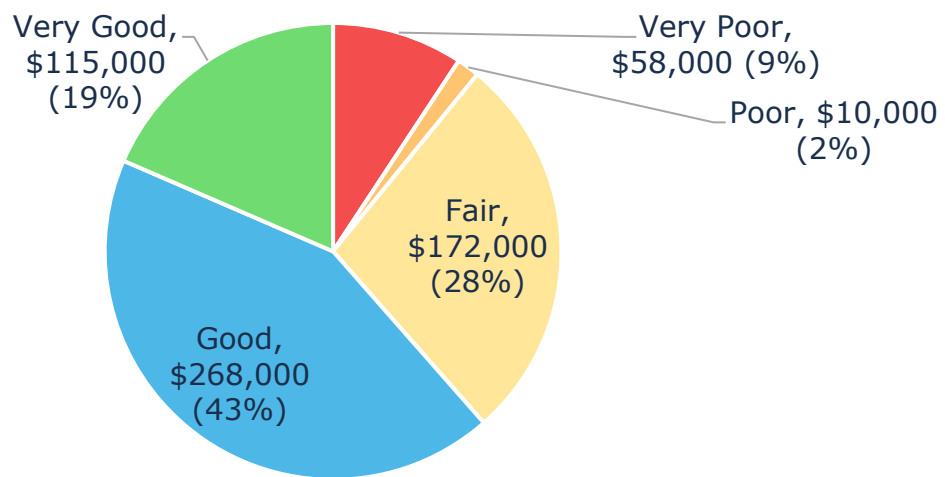


Figure 36 Asset Condition: Machinery & Equipment Overall

As illustrated in Figure 37, based on condition assessments and age-based conditions, nearly all the mobile equipment is in fair or better condition; this contrasts with library machinery and equipment which is all in poor condition. Appliance and food services equipment is entirely in fair condition.

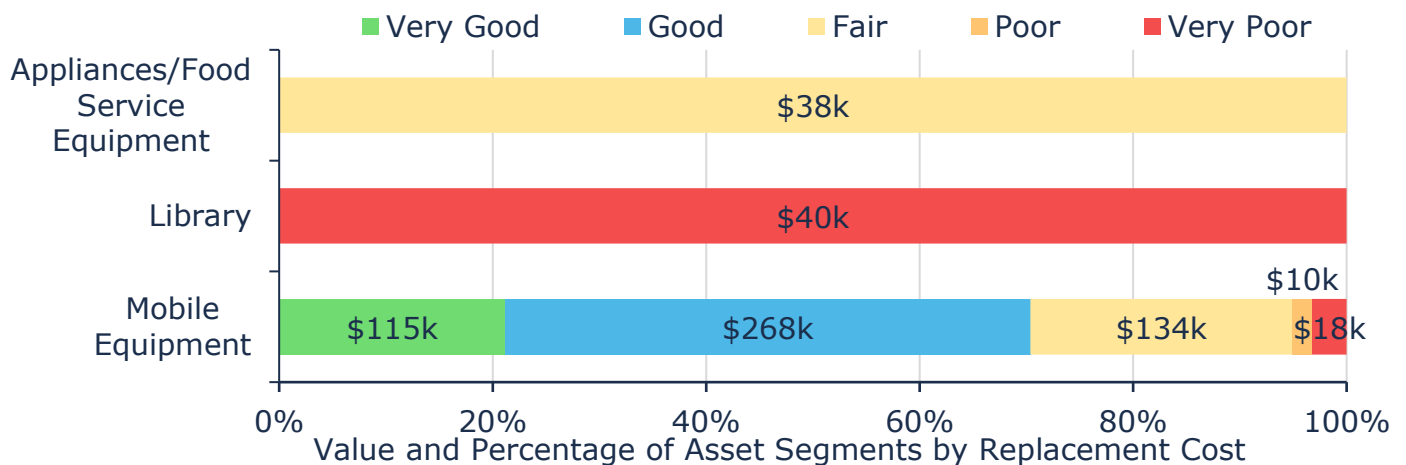


Figure 37 Asset Condition: Machinery & Equipment by Segment

8.23 Age Profile

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

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

Figure 38 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets. The average age of appliances and food services equipment is more than double the weighted average estimated useful life (EUL); in contrast the average age of mobile equipment is less than the weighted average EUL and the weighted average age of library equipment is slightly greater than the weighted average EUL.

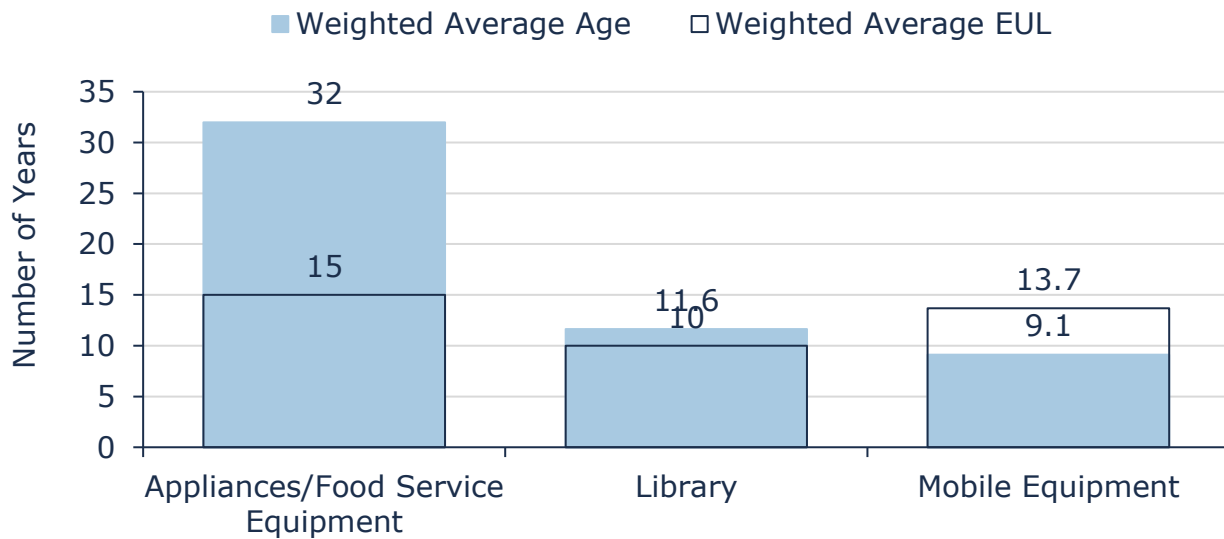


Figure 38 Estimated Useful Life vs. Asset Age: Machinery & Equipment

8.24 Risk Analysis

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

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

gathered, the Township may consider integrating relevant information that improves confidence in the criteria used to assess asset risk and criticality.

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

1 - 4 Very Low \$4,560 (<1%)	5 - 7 Low \$6,439 (1%)	8 - 9 Moderate - (0%)	10 - 14 High \$2,258 (<1%)	15 - 25 Very High \$609,313 (98%)
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Figure 39 Risk Matrix: Machinery & Equipment

8.25 Levels of Service

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

8.25.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2023)
Quality	Appropriate actions and interventions are taken to ensure the regular safe use of Machinery & Equipment assets.	Machinery & equipment assets are inspected regularly and are maintained for use as per their useful life. Maintenance is tailored to each asset based upon use and is well documented.
Sustainable	There are long-term plans in place for the renewal and replacement of Machinery & Equipment assets	Asset replacement decisions consider the assets age, hours of use, current performance, and anticipated future life which are often correlated with the assets Estimate Useful life. The Township does have a general reserve for larger machinery and equipment assets. When funds are drawn from the reserve, contributions are initiated to build back up the reserve balance.

Table 40 O. Reg. 588/17 Community Levels of Service: Machinery & Equipment

8.25.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average Condition of Assets	43%
	Actual Capital Reinvestment Rate	4.31%
Sustainable	Annual Capital Investment	\$19k
	Target Capital Reinvestment Rate	8.99%
	Average Annual Capital Requirement	\$40k

Table 41 O. Reg. 588/17 Technical Levels of Service: Machinery & Equipment

Appendix E: Rolling Stock

Rolling stock assets allow staff to efficiently deliver services and personnel. Rolling stock assets are primarily used for Fire Protection and Public Works.

8.26 Inventory & Valuation

Table 42 summarizes the quantity and current replacement cost of all rolling stock assets available in the Township 's asset register.

Segment	Quantity	Unit of Measure	Replacement Cost	Primary RC Method
Freightliner Romper	1	Assets	\$585,000	User-Defined
Freightliner Tanker	2	Assets	\$230,000	CPI
Pick-up Truck	3	Assets	\$86,000	User Defined
TOTAL			\$900,000	

Table 42 Detailed Asset Inventory: Rolling Stock

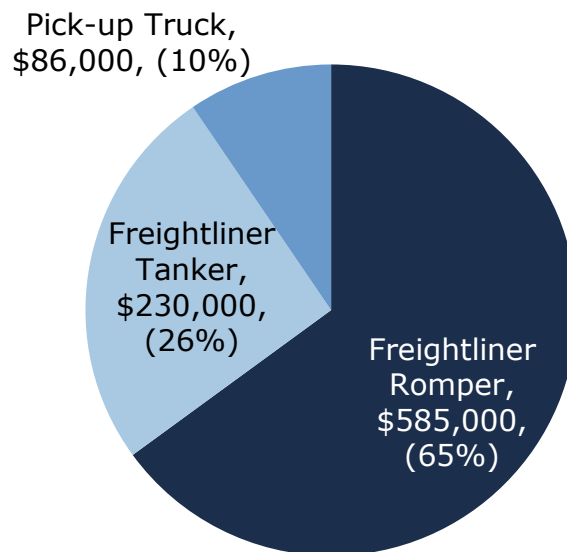


Figure 40 Portfolio Valuation: Rolling Stock

8.27 Asset Condition

Figure 41 summarizes the replacement cost-weighted condition of the Township 's rolling stock assets. Based on assessed condition information, approximately 34% of assets are in good

condition, the remaining 66% of assets are in poor condition. Assets in poor condition may be candidates for replacement in the short term and should be monitored for further degradation in condition.

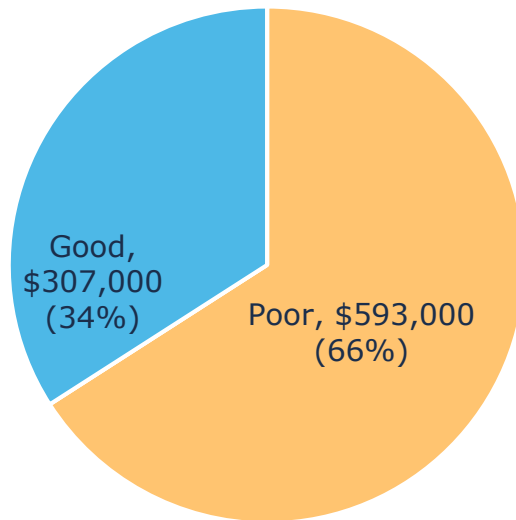


Figure 41 Asset Condition: Rolling Stock Overall

Figure 42 summarizes the condition of rolling stock assets by their segment. The analysis illustrates that the freightliner tanker and pick-up trucks are on average in good condition in contrast the freightliner romper is in poor condition.

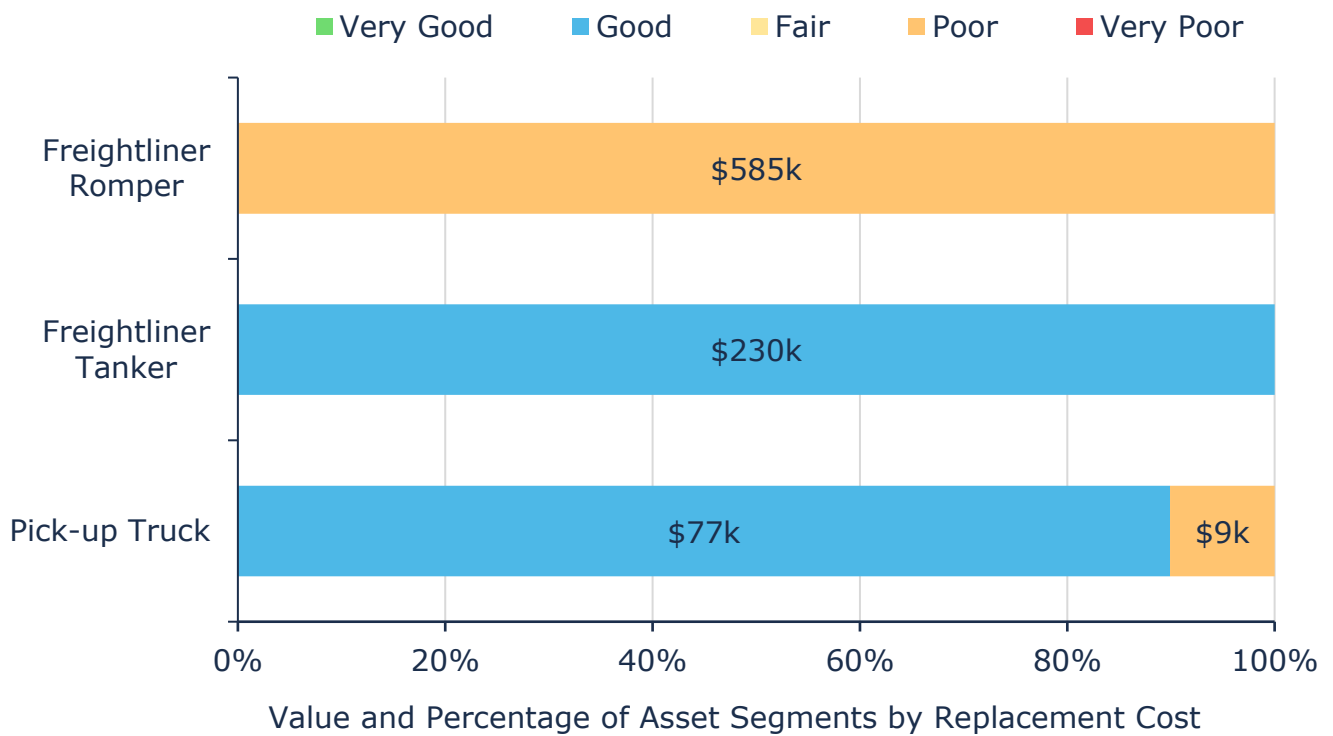


Figure 42 Asset Condition: Rolling Stock by Segment

8.28 Age Profile

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

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

Figure 43 illustrates the average current age of each asset type and its estimated useful life. Both values are weighted by the replacement cost of individual assets. For every segment except the pick-up truck the weighted average age is greater than the weighted average estimated useful life (EUL).

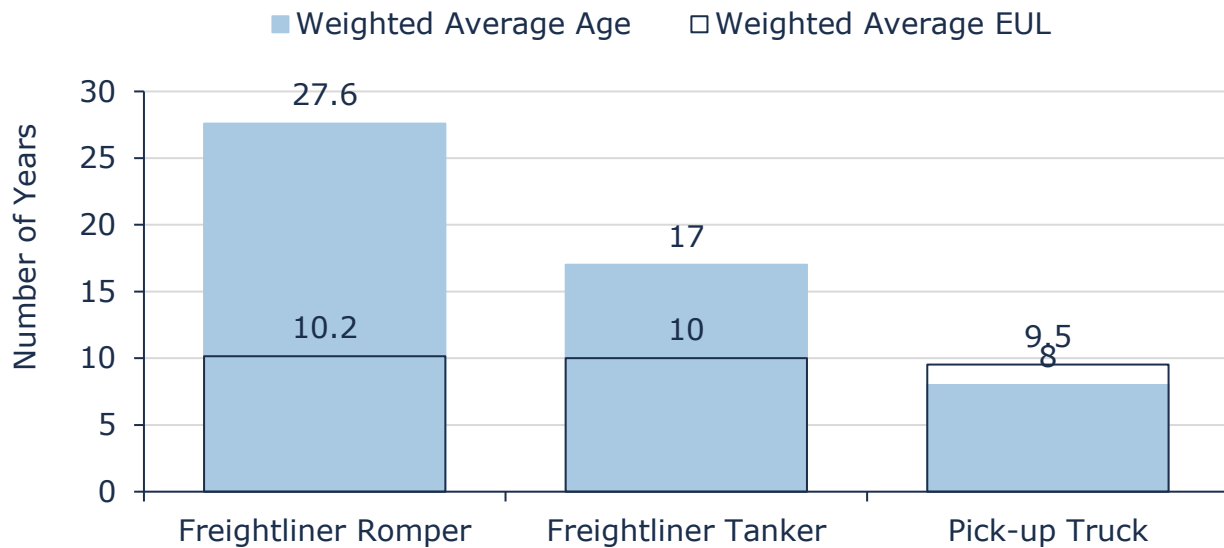


Figure 43 Estimated Useful Life vs. Asset Age: Rolling Stock

8.29 Risk Analysis

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

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

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

1 - 4 Very Low \$20,632 (2%)	5 - 7 Low \$9,541 (1%)	8 - 9 Moderate - (0%)	10 - 14 High \$65,000 (7%)	15 - 25 Very High \$804,604 (89%)
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Figure 44 Risk Matrix: Rolling Stock

8.30 Levels of Service

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

8.30.1 Community Levels of Service

Service Attribute	Qualitative Description	Current LOS (2023)
Quality	Appropriate actions and interventions are taken to ensure the regular safe use of Rolling Stock assets.	Circle checks are completed before each use and assets are routinely inspected and maintained based on their hours of use. Repairs and maintenance are completed by the Township's staff or an external mechanic as required. All maintenance activities are documented in repair logs.
Sustainable	There are long-term plans in place for the renewal and replacement of Rolling Stock assets	Rolling stock asset replacement decisions are predominantly based on asset failure and are handled within the context of the year of replacements financial plan and the Public Works reserve levels. Critical asset components are pre-purchased and available to lower the service impact of asset failure.

Table 43 O. Reg. 588/17 Community Levels of Service: Rolling Stock

8.30.2 Technical Levels of Service

Service Attribute	Technical Metric	Current LOS (2024)
Quality	Average Condition of Assets	6%
Sustainable	Actual Capital Reinvestment Rate	0.19%
	Annual Capital Investment	\$1k

Service Attribute	Technical Metric	Current LOS (2024)
	Target Capital Reinvestment Rate	10.8%
	Average Annual Capital Requirement	\$52k

Table 44 O. Reg. 588/17 Technical Levels of Service: Rolling Stock

Appendix H – Risk Rating Criteria

Probability of Failure

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

Consequence of Failure

Asset Category	Risk Classification	Risk Criteria	Value/Range	Consequence of Failure Score
Roads (Paved)	Economic (100%)	Replacement Cost (100%)	All	4
Bridges & Culverts	Economic (100%)	Replacement Cost (100%)	\$0-\$200,000	1
			\$200,000-\$400,000	2
			\$400,000-\$800,000	3
			\$800,000-\$1,000,000	4
			\$1,000,000+	5
Buildings	Economic (100%)	Replacement Cost (100%)	\$0-\$2,000	1
			\$2,000-\$6,000	2
			\$6,000-\$10,000	3
			\$10,000-\$50,000	4
			\$50,000+	5