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1.0 Executive Summary

1.1 Background

Norwich Township is located within the County of Oxford in the heart of Southwestern Ontario, with beautiful countryside, villages, and productive farmland. The Township is dedicated to its historical, agricultural, and beautiful heritage, along with providing a safe and healthy environment for its citizens.

This Asset Management Plan (AMP) supports the Township's 2023-2026 Council Priorities and Strategic Action Plan as we continually strive to work together for a safe, healthy, and sustainable future. This plan sets out a strategic framework that will guide future investments that support economic growth and respond to changing needs in a fiscally responsible manner. The Township's asset management program forms a strong foundation for sound asset management principles well into the future.

The development of a long-term, sustainable plan requires an analysis of lifecycle costs using a combination of proactive lifecycle strategies and replacement only strategies. Through these lifecycle strategies, the Township is able to determine an average annual investment requirement, which forms the basis for annual contributions into capital reserves. This helps smooth the impact on property taxes, helping with predictability and sustainability. Each AMP appendix will identify if the current annual contribution is in-line with the lifecycle funding requirements, in turn allowing for a long-term financial plan to be developed for managing and reducing any identified gaps.

This AMP covers all Township owned assets, with the exception of natural assets as staff continue to work through identifying assets and related asset management planning practices for this area.

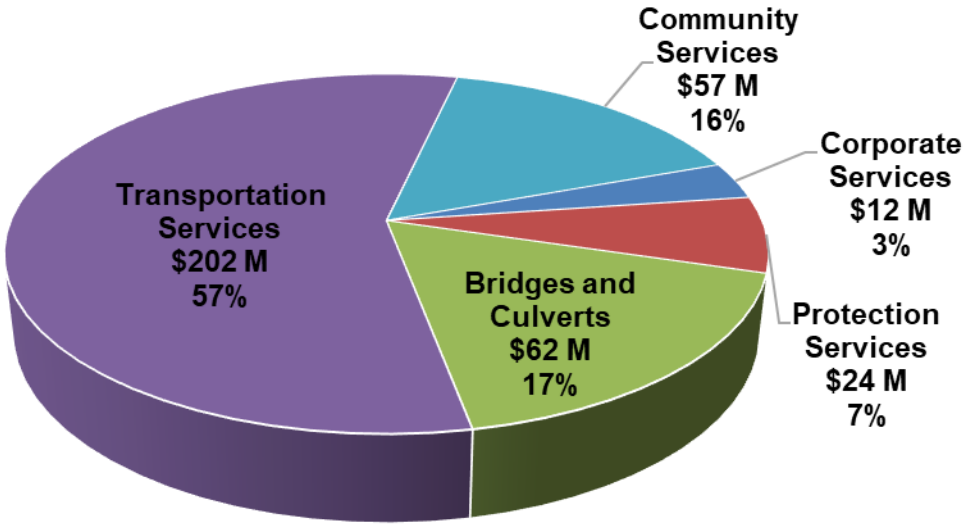
In addition to meeting the provincially mandated AMP requirements, this AMP establishes a strategic framework for managing these assets, aligning assets with service objectives, documenting core practices and procedures, and guiding the action and investment needed to meet key business goals. To be eligible for certain capital grants, municipalities must have an AMP and demonstrate the particular need of a project to the social, economic or environmental priorities of the community.

This AMP is based on current information available with a goal to identify plans to address gaps in data and procedures. Improvement opportunities will be listed within each asset appendix. The AMP is designed to be a living document that will be reviewed annually and revised in response to changing environmental, social and economic needs within our community. The annual update process will ensure that staff are working through each Budget cycle with up-to-date information on our assets.

Table 1.1.1 reflects a summary of the replacement value of the Township's assets identified throughout the 2024 Asset Management Plan appendices. The overall replacement cost totals approximately $357 million.

Table 1.1.1 Consolidated Replacement Value

Asset Appendix	Replacement Cost
Corporate Services	$12,002,683
Protection Services	24,422,419
Bridges and Culverts	61,898,688
Transportation Services	201,854,652
Community Services	56,632,103
Total Replacement Cost	**356,810,545**



2.0 Introduction

2.1 Importance of Asset Management

Asset Management strives to continually improve the long-term management of assets. The following is a list of goals that asset management programs and processes aim to achieve:

- Reduced lifecycle cost (i.e. total operating, maintenance and capital resources) of providing services to residents.
- Reduced risk exposure to the Township by ensuring that assets are managed in a manner that matches the risk that their failure represents to the delivery of services.
- An informed and transparent decision-making process that provides Council with the knowledge that they need to make decisions regarding capital expenditures, operating costs and revenue requirements (i.e. tax levels).
- A mechanism to ensure that the services that are delivered, through the use of assets, can be provided at a sustainable level that is affordable to residents.

2.2 Alignment to Strategic Plan

The initiatives contained within this AMP support the themes as set out in the 2023-2026 Council Priorities and Strategic Action Plan.

- Sustained and well-managed growth This plan sets out a strategic framework that will guide future investments that support economic growth and respond to changing needs in a fiscally responsible manner.
- A prosperous local economy and a safe and healthy community Asset management planning processes ensure assets are maintained in a manner that allows our local economy to prosper.
- Adequate and reliable infrastructure Asset management planning processes ensure assets are maintained in a manner that provides the required level of service in order to enhance the quality of life for all our citizens. Each AMP appendix documents ways climate change and environmental sustainability are incorporated into asset management practices.
- Effective municipal government Asset management planning allows council to make informed decisions.

2.3 Alignment to Other Plans and Policies

The comprehensive asset management approach will also review other plans and initiatives in place to ensure that asset management activities align with these plans and initiatives.

- Official Plan The County of Oxford's Official Plan helps guide municipal decisions with respect to infrastructure, public services and other investments.
- Capital Plan The capital plan consists of a capital budget and capital implementation program over a 10-year horizon, built in alignment with asset lifecycle needs. The plan identifies capital projects, provides a planning schedule and identifies financing sources.
- By-Laws, Policies and Procedures The AMP incorporates requirements from various asset related by-laws, policies and procedures, including the Development Charges Background Study.
- Regulations The AMP aligns with senior level government regulations.

2.4 Purpose and Development Methodology

The purpose of the AMP is to set out how the Township's assets will be managed in accordance with the Council Priorities and Strategic Action Plan; various plans and policies; and legislation, to ensure that the Township is capable of providing sustainable levels of service.

The output from the AMP serves as a framework for the Township's capital planning process, including reconstruction and rehabilitation strategies, maintenance, repair activities, ongoing operations, and financial planning.

The asset management planning process begins with the Council Priorities and Strategic Action Plan, aligned with the public's expectations and government regulations. The process evaluates the state of our assets, which is determined by current conditions and performance assessment for each asset component. This assists in forecasting a sustainable funding level and identifies if a funding surplus or deficit

exists. Performance measures are established and tracked to provide an understanding of the current levels of service. This framework guides the development of proposed levels of service and indicates performance measures used to evaluate progress in achieving the proposed levels of service.

The asset management strategy component of the planning process provides a detailed analysis within each appendix. This analysis is based on best practices and industry standards employed to manage the assets. This component includes a comprehensive review based on clearly identified rehabilitation strategies that trigger specific lifecycle events. The ideal lifecycle strategy takes into consideration return on investment, risk assessment and prioritization of projects. The next step in the planning cycle is developing the financial strategy. This is an integral component of the capital plan. All possible revenue sources are considered for each of the asset needs, such as, grants (including the Ontario Community Infrastructure Fund and Canada Community Building Fund), reserves, development charges, debt, user fees, and tax levy. This stage of the process is reviewed and developed concurrently with the operating and capital budget process to ensure the plan is sustainable, both technically and financially.

2.5 Plan Content

This AMP complies with the requirements of O.Reg. 588/17 and the provincial government directives and is structured to provide consistency and ease of understanding for readers. For each service area appendix, the following sections are included:

- State of Assets
- Levels of Service
- Asset Management Strategy
- Financial Strategy

2.6 Resources

At the organizational level, the asset management program involves collaboration among various divisions and programs – transportation, community services, protection services, information systems, planning, finance, and more.

The Township utilizes software applications for capital asset long-term financial planning and analysis. The systems include:

- Comprehensive asset inventory including condition ratings;
- Replacement costs for the asset inventory items;
- Maintenance management system in order to assess maintenance, operation and replacement activities of existing assets;
- Asset accounting for Public Sector Accounting Board (PSAB) purposes in accordance with PSAB 3150;
- Asset service levels and anticipated useful lives.

2.7 Plan Scope

The AMP utilizes a long-term strategic planning window of 100-years. Having a long-term strategic planning window allows the plan to model the exceptionally long service lives of some assets (i.e. underground assets of stormwater, road bases, etc.). Although the accuracy of a long-term planning window is highly subject to assumptions and estimates, it allows decision makers to better assess the asset funding requirements, and sustainably fund asset lifecycle needs.

2.8 Planning Framework

The Township will align asset management planning with the Province of Ontario's land-use planning framework, including any relevant policy statement issued under section 3(1) of the Planning Act and any Provincial Plans that are in effect, as well as with the County of Oxford's Official Plan. The objective being to ensure that assets and public service facilities are provided in a coordinated, efficient and cost-effective manner and that planning for assets and public service facilities is coordinated and integrated with land use planning so that they are financially viable over their lifecycle and available to meet current and projected needs.

The Oxford County Official Plan is the policy document that establishes the overall land use strategy for the Township. The policies and land use schedules contained in the Official Plan establish locational and development review requirements for various land uses (residential, commercial, industrial, institutional, parks, etc.), set out how agricultural land and other natural features and cultural heritage resources are to be protected and provide direction on how environmental constraints are to be addressed. The Official Plan also helps to guide municipal decisions with respect to asset management, public services and other investments.

The Official Plan anticipates that population growth and economic activity will continue to be experienced during the course of the planning period. In order to ensure an up-to-date basis for designating sufficient lands for settlement and employment purposes, for establishing capital improvement programs for municipal assets and for planning for public services, the County reviews and updates population, household and employment forecasts for the 25-year planning period on a regular basis (e.g. every 5 years). These forecasts were last updated in 2020, as illustrated in table 2.8.1.

The 2024 Development Charges Background Study completed an analysis of shorter-term growth projections based on updated information, thus resulting in projections to 2034 that differ from the 2020 growth forecasts for the same period. Further, the 2020 forecasts are currently in the process of being reviewed and updated to ensure they continue to reflect current growth drivers and trends. Staff will continue to monitor growth to ensure that capital projects designed to service growth are timed appropriately.

Table 2.8.1 Township of Norwich Growth Projections

	2026	2031	2036	2041	2046
Population	12,320	12,820	13,360	13,890	14,390
Households	4,120	4,300	4,480	4,640	4,780
Employment	4,280	4,360	4,470	4,600	4,740

2.9 Commitment to Engagement

The Township will provide information and seek input on asset management planning through:

- Opportunities for residents and other stakeholders to provide input across a range of channels (e.g., online, in person, written submissions);
- Coordinated planning between interrelated assets by pursuing collaborative approaches with Oxford County and neighbouring municipalities, and other asset owning agencies wherever viable and beneficial; and
- Our partnerships and relationships with external parties are important to maintaining service delivery. We rely on partnerships to aid in the delivery of services and improvements to our assets. We highly value our partnerships and recognize the benefits of working with them to secure safe and effective delivery, incorporate leading practices and techniques, and achieve efficiencies in delivery.

This document is made publicly available on the Township's website as required by O. Reg. 588/17. The Township will also respond to and facilitate information requests for any background information and reports used in the creation of this plan.

2.10 Improvement Plan

Improved asset management planning is vital to the long-term sustainability of assets throughout the province. The Township is committed to updating its asset management data on a continuous basis as new information is received (i.e. the Bridge Needs Study is completed every two years providing updated conditions). This continuous improvement process helps ensure that the right capital projects are targeted with each budget cycle. Throughout each service area appendix, areas of improvement are identified. In addition, staff will define and include a data accuracy and reliability rating for the 2025 Asset Management Plan.

3.0 State of Township Assets

3.1 Inventory

Assets are identified within each appendix by component and quantity. The current inventory and replacement cost figures capture inventory within newly constructed subdivisions which the Township is aware of and anticipates assuming ownership of. Growth related asset needs identified in the Development Charges Background Study and the Capital plan are not included in current inventory and replacement costs, however they are included for the purposes of determining lifecycle needs and the annual requirement. It is important to include both the unassumed and growth assets to ensure that lifecycle activities are planned and funded accordingly.

3.2 Valuation

Replacement cost valuation is forward-looking and accounts for changes in technology, engineering standards, climate change and other factors. Replacement costs are based on current tender prices, where available. Current tender prices are adjusted where staff feel cost increases are due to temporary economic situations. Replacement costs provided as part of condition assessments or other studies are also being utilized, where available. The Consumer Price Index tables have also been used to inflate historical costs, where other updated cost information was not available.

3.3 Condition Assessment Approach

There are numerous investigative techniques in order to determine and track the physical condition of an asset portfolio. The techniques used are often asset specific and tied to the nature of service or degradation level of the asset and can be grouped into categories. The specific approach used for each service area is identified in the related appendix. For assets, without a standardized approach to condition assessment scoring, information from visual inspections, failure records and other maintenance related observations are used in establishing the condition of the asset. Given the complexities and accessibility of some assets, not all assets allow for a visual or performance-based condition assessment. In these cases, a theoretical age-based condition score can be determined.

The condition scale and visual inspection ratings are based on the following approach:

- Very Good - Asset is well maintained with no noticeable defects.
- Good - Asset may show signs of minor deterioration and may require some maintenance.
- Fair - Deterioration evident, function affected. Asset may require on-going monitoring.
- Poor - Serious deterioration, function inadequate. Asset may require ongoing monitoring.
- Critical - No longer functional, general or complete failure. Asset may require extensive monitoring.

As the physical condition assessments are completed at a point in time, the asset management system will project the condition to the end of a specified year based on the lifecycles defined in the individual profiles. This allows for a more accurate reflection of the current condition. Projected conditions presented in this report are based on December 31, 2023.

3.4 Useful Life

Asset estimated useful lives, for each new build / replacement, based on a run to failure strategy, are identified within each report card. Assets may undergo a continual process of repair, rehabilitation and refurbishment in order to maintain their intended purpose. By using lifecycle strategies, the Township is able to extend the overall life of certain assets, ensuring that each asset is maintained in the most sustainable manner.

It should be noted that anticipated useful lives, based purely on age, can provide a misleading view on the asset replacement requirements. In many cases assets that are properly constructed and maintained may outlive their anticipated useful life and continue providing service. In other cases, due to poor workmanship and lack of proactive maintenance, assets may fail before they fulfill their anticipated useful life.

4.0 Levels of Service

4.1 Levels of Service Context

The structure of the Levels of Service (LOS) framework was developed to align with international best practices including the International Infrastructure Management Manual (IPWEA, 2015). The framework includes the mandatory measures to meet the requirements of Ontario Regulation (O.Reg.) 588/17 by including both community and technical levels of service. The metrics in this framework may be expanded upon as the Township continues to improve its data collection and reporting processes.

This framework helps establish a relationship between the current LOS being provided by the Township's assets, and the associated operating and capital expenditures required to achieve the proposed LOS. The framework puts into perspective the definition and measurement of service performance in alignment with the Township's mission and vision.

Community or Customer levels of service are statements that describe quantifiable metrics of the service delivery outcomes from the perspective of the customer, expressed in non-technical terms. Technical levels of service metrics are quantifiable metrics applied against assets that are subject-matter specific inputs or outputs supported by the day-to-day activities of staff.

Identifying levels of service (LOS) ensures that asset management decisions are:

- Based on impact to customers, the community and the environment;

- Focused to deliver the required level of service;
- Aligned with the strategic goals of the Township; and
- Considered and optimally balanced with risk and financial cost.

It is important to define and quantify the levels of service within each service area as key indicators of asset needs and the basis for investment decisions. Service levels communicate to Council and the residents the state and trend of the Township's assets. Funding scenarios can be created based on different service levels, which allows Council to set priorities on the proposed service level for each asset type.

Levels of service take into consideration:

- Legislative and regulatory requirements: These requirements prevent levels of service from declining below a certain standard. (i.e. Minimum Maintenance Standards for municipal highways, building codes and the Accessibility for Ontarians with Disabilities Act)
- Corporate goals and objectives: These goals and objectives define the Township's priorities, and guide future spending.
- Customer needs: The expectations of the public have a direct impact on the level of service demanded from our assets.
- Industry standards and best management practices

4.3 Proposed Levels of Service

Proposed levels of service are not required for reporting until 2025 based on O.Reg. 588/17 requirements. Over the course of 2024, the Township will complete public engagement activities on proposed levels of service scenarios, including financial impacts. This information will be used to help inform the identification of the appropriate and sustainable proposed service levels.

4.4 External Trends and Issues

There are always external factors that are beyond the control of the Township that can influence the level of service achieved from our assets. Performing an analysis of these factors will ensure that the performance targets are well-aligned with the environment which the Township operates in.

The following are known external trends/issues impacting levels of service:

- Aging assets: older assets may burden the Township and may require a higher funding investment to maintain safety and reliability.
- Inflation index for construction projects: inflation rates that increase at a rate greater than expected could result in a shortage of funding to complete asset lifecycle needs.

- Environmental factors and Climate change: unusual weather events can significantly impact the condition of assets, changing the timeframes for required lifecycle activities.
- Changes in senior level government funding: changes in funding levels or priorities will require the Township to take another look at our ability to fund our asset management needs.
- Uncertainty of growth forecasts: may result in increased deterioration, the need for additional assets and upgrades to service growth quicker than expected.

5.0 Asset Management Strategy

5.1 Procurement Methods

The Township's Procurement Policy sets out guidelines for the Township and staff to ensure that all purchases of materials, supplies and services is at the lowest possible cost while obtaining the level of quality and service that is required by the Township.

The key objectives of the purchasing policy are to:

- ensure that the procurement process is open and fair and is maintained in an honest and impartial manner; and
- to promote and uphold the integrity in the purchasing process and protect Council, vendors and staff involved by providing clear direction and assigning appropriate accountabilities.

Procurements may include joint contracts with internal divisions and external municipalities/agencies through capital planning or development-related asset planning. To ensure the most efficient allocation of resources and funds, the Township will consider bundling projects when issuing tenders, to realize cost-benefits and economies of scale.

5.2 Risks Associated with the Strategy

Risk management frameworks are developed to assist with the prioritization of investments within the capital planning period. The Township's risk management framework was developed so that it could be integrated with lifecycle management and levels of service strategies to support the development of the Township's Asset Management Plan. This is achieved by identifying the key components of risk as well as the impacts the specific asset will have on the overall delivery of services in the event of failure or disruption. The preferred approach is to implement a triple bottom line analysis approach to evaluate:

- Social impacts of asset failure, including impacts to customers, businesses and the Township's reputation;
- Environmental impacts of asset failure; and
- Economic impacts of failure including the cost of remediation.

In the context of asset management, risk is the multiple of the consequence of an asset failing and the probability that the event will occur. Probability of failure (POF) is a representation of the probability or likelihood that a failure event for an asset will occur. The POF is tied to asset condition and is based on condition data, deterioration modelling and available failure reports. The probability of failure will increase throughout the asset's lifecycle as it degrades. Consequence of failure is based on weighted parameters specific to each asset component based on their financial, social, and environmental impact, and provides an understanding of asset criticality and the impact of asset failure. These parameters include aspects such as replacement cost and distance to environmentally sensitive areas. The Township's asset management software includes risk information in each of the asset profiles.

5.3 Lifecycle Analysis

The lifecycle management strategy is the set of planned actions that should enable assets to provide users with the proposed level of service in a sustainable way, while achieving acceptable levels of risk and the lowest lifecycle costs required to provide that level of service. Lifecycle considerations for assets include industry benchmarking, consultant recommendations, available budget and other inputs, to determine the right activity for an asset at a specific point in time. The goal of this assessment is to capture the deterioration model for each asset component. Understanding the optimal budget at which lifecycle activities sustain the proposed LOS at the lowest lifecycle cost is one of the main objectives of the lifecycle planning component of the AMP. The lifecycle activities impacting condition and useful life are contained within profiles in the Township's asset management system.

Lifecycle considerations for assets include analysis of the timing to carry out key asset management activities including inspection, maintenance, repair, and replacement. For some assets, replacement needs are based on a run to failure strategy, as this is the most economical.

The lifecycle activity types that are considered for managing assets include:

- Non-Infrastructure Solutions Actions or policies that can lower costs or extend useful lives.
- Maintenance Including regularly scheduled inspection and maintenance, or more significant maintenance associated with unexpected events. These activities do not improve the overall condition of the asset, nor increase its useful life.
- Rehabilitation / Renewal Significant treatments designed to extend the useful life of the asset.
- Replacement Occurs at the end of the useful life and/or when rehabilitation is no longer an option.
- Disposal Activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed by the Township to provide services.
- Expansion / Growth Planned activities required to extend services to previously un-serviced areas, expand services to meet growth demands, or increase the level of service being provided.

6.0 Financial Strategy

6.1 Financing Strategies

A financial plan is a critical component of the AMP and brings the AMP into action. A sound financial plan demonstrates that the Township has integrated the AMP into financial planning and budgets, and that it has utilized all available funding tools.

In addition to targeting and prioritizing the investment needed to maintain existing assets, there are also planning processes in place to determine the additional assets and expansion of existing assets (e.g. the widening of structures) needed to meet growing demands through population increases or demand for new services (e.g. paving of gravel roads). The projects targeted to meet growth are funded primarily through Development Charges (DC) – the mechanism that enables recovery of growth-related capital expenditures from new development.

Where possible, lifecycle activities are planned in collaboration with activities across service portfolios to minimize disruption and to achieve cost efficiencies. The availability of funding by other municipalities for shared assets will also have an impact on the timing of lifecycle projects. In the event of constraints, either financial or resource related, the Township will prioritize projects based on risk and impact to an assets useful life and serviceability based on timing of recommended lifecycle strategies. This may result in assets of a higher condition being prioritized over assets in a lower condition to achieve the best value from dollars invested.

Based on the lifecycle strategies identified to maintain service levels, financial estimates over the next 100-years are determined in current dollars. These estimates assume that all work is able to be completed, as indicated, and do not consider future changes due to environmental factors, new maintenance techniques, and unidentified growth.

The average annual investment requirement represents the amount of capital funding required to renew and maintain the existing assets on an annual basis so services can continue to be delivered. The Township utilizes this information to determine the required annual contribution to capital reserves. Utilizing the average annual figure for the required contribution, over a charge based on actual required expenditures, helps smooth the impact on residents, helping with predictability and sustainability.

Prioritizing the focus on the use of funds from capital reserves on existing asset lifecycle needs, helps ensure that the Township has the ability to maintain existing assets in a state of good repair and continue to deliver on the levels of service that residents depend on. Use of these reserves to expand the Township's asset base, or on non-asset related activities, adds risk to the Township's ability to maintain assets in a state of good repair, which in turn could lead to a reduced level of service being provided.

In the event that this AMP identifies funding shortfalls in any of the asset categories, the impacts of the shortfall and how the impact will be managed, will be identified. The action plan may include any of the following approaches:

1. Reduction in levels of service which will effectively reduce the funding requirement; and
2. Employ financial strategies, such as:
    a. use of debt; and
    b. increase or introduce user fees.

When evaluating asset funding requirements and shortfalls, it is important to consider intergenerational equity which refers to the fairness between generations. From an asset perspective this speaks to who should pay for assets that have long-term benefits. For assets such as fleet and equipment with short lives, 10 years or less, the current generation receives the full benefit of the asset and should be responsible for the asset's financing. For assets with longer lives, such as stormwater assets with a 90-year life, multiple generations will receive the benefit and establishing fairness for the asset financing is more difficult.

6.2 Budget Process

The Township will integrate findings from the AMP in the creation of the capital and operating budgets. Sound financial analysis will be encompassed in asset management planning for the AMP to be a sought-after guide to employees for long-term planning.

The AMP will be referenced in preparation of the capital plan to assist with:

- Identifying all potential revenues, costs and project timing (including operating, maintenance, replacement and decommission) associated with asset lifecycle decisions;
- Utilizing risk to prioritize projects where funding shortfalls occur;

- Evaluating each significant new (growth related) asset, including considering the impact on future operation costs; and
- Incorporating new revenue tools and alternative funding strategies where possible.

Service area staff will work closely with financial staff in the preparation of the operating and capital budgets to ensure that the lifecycle activities budgeted are necessary to achieve agreed upon levels of service and accommodate growth over the 10-year capital planning horizon.

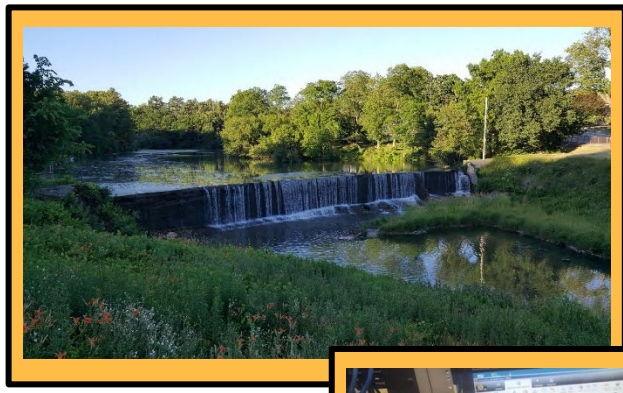
6.4 Funding Gap Analysis

Using the anticipated 10-year asset lifecycle needs, along with the current capital investment level, the Township is able to determine if there is an anticipated funding gap for each service area over the current 10-year period.

Drawing reserve balances to zero would likely result in increased capital reserve contribution requirements in the subsequent 10-year period in order to fund the anticipated asset lifecycle needs. Reserves are also utilized to fund emergency or unplanned expenses. A minimal or fully committed reserve balance would limit the ability to fund these types of expenses. Consideration needs to be given to a minimum balance the Township should maintain based on these risks. Staff will work with the asset management software provider to calculate the funds that should be set aside based on where assets are in their lifecycle, which would represent a fully funded asset management program. This information would be utilized to define a target reserve balance, taking into consideration risks and alternative funding sources.

Once the funding gap or surplus has been identified, the Township would investigate opportunities for reducing the funding gap or maximizing the benefits of available funding. These strategies may include increases to the levy, utilization of grant funding opportunities and further review of lifecycle strategies and proposed levels of service. Funding options will be identified within each service area and will be incorporated into future budget cycles as appropriate.

Corporate Services



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1.0 Introduction

Administration and Health Care facilities provide safe and efficient work and meeting places for Township staff, Council, other organizations, and members of the public. Staff maintain these facilities assets, allowing them to meet functional requirements along with building and safety codes, all while operating in a safe and efficient manner. The administrative buildings provide space for staff workstations, equipment, and material; provide modern and effective meeting places; and support the Township in delivering front-line and administrative services. Also included in this portfolio are Dams and other civic structures.

This portfolio is categorized into facilities, furniture/equipment, dams, and civic structures/monuments. Minor equipment, not included within another appendix is included in the furniture and equipment bucket under this portfolio. This AMP focuses on those assets related to the general administration of the Township, including the Municipal Office and Health Centre.

1.1 Improvement Plan

The following recommendations are based on the review of current management practices, inventory, valuation and condition analysis.

- Incorporate maintenance requirements into lifecycle strategies.
- Continue to work to reduce asset data gaps.
- Document lifecycle history on asset components within the asset management systems.
- Update attributes to further enhance the risk profile in the asset management system.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the Township's current inventory and the associated replacement costs, average age and anticipated useful life for each component. The anticipated useful lives exclude the management strategies that the Township utilizes to extend the overall life beyond this estimate.

Replacement costs for facilities were determined by Building Condition Assessments (BCA) completed by Facility Risk Solutions in 2023. For other assets in this portfolio, the replacement costs were estimated based on staff reviews, historical construction costs and inflation rates.

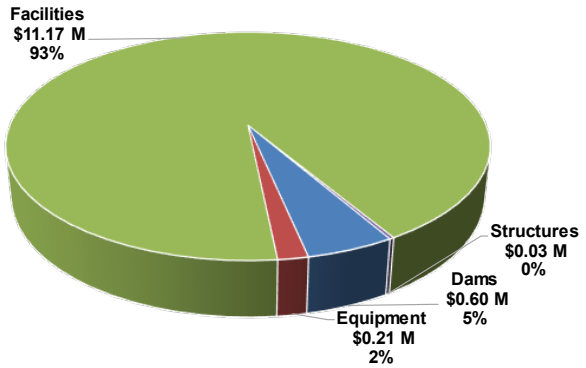


Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Dams	each	1	$600,000	6	50
Equipment	each	5	205,827	5	4-10
Facilities	each	2	11,165,566	22	20-100
Structures	each	2	31,290	47	20-60
Total Replacement Cost			**$12,002,683**		

2.2 Condition Assessment Approach

The assessment approach utilizes a combination of physical assessments, asset attributes, as well as established anticipated useful lives.

The Township has complete building condition assessments (BCA). The BCAs assess and document the current condition of facilities to identify capital repairs and replacements which may affect the continued operation of the property over the next ten (10) years, and to provide an assessment as to the level of accessibility for each property. Replacement costs are also requested as a part of this process. BCAs were completed on the Municipal Office and Health Centre in 2023. A detailed inspection of the Otterville Dam was carried out in 2017.

2.3 Current Condition

The condition profile is shown in table 2.3.1, based on the projected condition as of December 31, 2023. The indicator measure in each condition is based on percentage of replacement costs as opposed to the number of assets.

The critical ratings in the equipment assets are the result of the shorter lifecycles of these typically pooled assets, and in the structures assets relate to the age of the monuments, as these asset categories utilize age-based condition ratings.

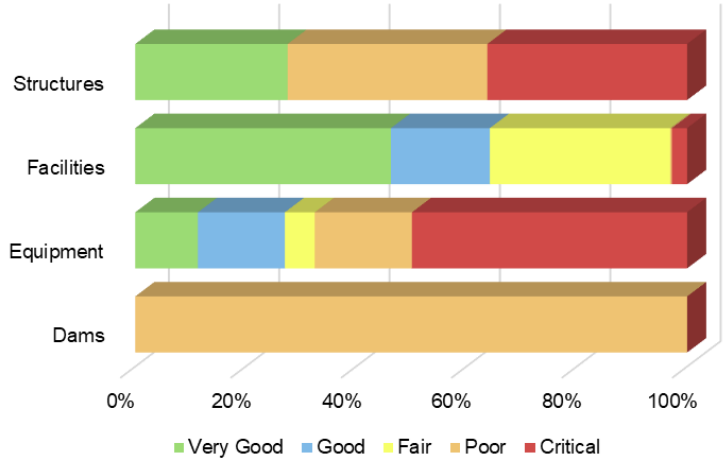


Table 2.3.1 - Condition Profile

Asset Component	Very Good	Good	Fair	Poor	Critical	Average Condition Rating
Dams	0%	0%	0%	100%	0%	Poor
Equipment	11%	16%	5%	18%	50%	Poor
Facilities	46%	18%	33%	0%	3%	Good
Structures	28%	0%	0%	36%	36%	Poor
Overall Total	**43%**	**17%**	**30%**	**6%**	**4%**	

3.0 Levels of Service

The Infrastructure for Jobs and Prosperity Act, 2015 - O.Reg. 588/17, requires the Township to establish metrics to evaluate this portfolio. Table 3.1.1 lists metrics the Township has included.

Corporate Objective

The objective of the service is to provide well maintained buildings, structures and properties appropriate to the services being delivered.

Legislative Requirements

The Township is required to maintain minimum standards based on governing directives. These include, but are not limited to, Technical Standards & Safety Authority (TSSA), Electrical Safety Authority (ESA), National Plumbing Code of Canada (NPC), Fire Code, Ontario Building Code, Designated Substance List (DSL) and additional Ministry of Labour (MOL) requirements.

The Accessibility for Ontarians with Disabilities Act, 2005[1] was developed with the purpose of ensuring that accessibility for Ontarians with disabilities is achieved on or before January 1, 2025. The Township ensures that each new build / renovation complies with the standards developed under this Act.

Customer Levels of Service

The following statements form our qualitative descriptions of the customer level metrics required under O.Reg. 588/17.

- *The Townships administration facilities are used by staff, Council, other organizations, and members of the public, with the Township committed to providing safe, and accessible spaces.*

Table 3.1.1 - Performance Measures

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
Quality	Maintaining facilities in a state of good repair.	% of assets in good or better condition	-	60%	TBD
Reliability	Providing facilities that are reliable and accessible.	% of assets in poor or critical condition	-	9%	TBD

[1] https://www.ontario.ca/laws/statute/05a11

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

To cost effectively maintain facilities and structures at the established service levels, the right maintenance or rehabilitation activity needs to be completed at the ideal time throughout the asset's lifecycle. The use of the facility also plays a role in when maintenance is completed. Staff will also complete similar lifecycle activities across buildings in this portfolio and others where possible to maximize economies of scale and achieve the best benefit to the Township.

To minimize disruption where possible, maintenance is planned during periods a unit is vacant. Where this is not possible staff will attempt to work with tenants to minimize disruption.

Examples of lifecycle activities considered in the overall sustainable management of this portfolio are described in table 4.1.1.

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Building Condition Assessments (BCA) • Structural condition assessments **Trigger: Ongoing**
Maintenance	• Routine and preventative maintenance programs • Snow removal and landscaping at facilities **Trigger: Ongoing**
Rehabilitation / Renewal	• Major & minor rehabilitations **Trigger: Fair**
Replacement	• Occurs at the end of the useful life and/or when rehabilitation is no longer an option • May also occur to increase service levels **Trigger: Poor/Critical**
Disposal	• Activities associated with disposing of an asset once it has reached the end of its useful life **Trigger: Poor/Critical**
Expansion / Growth	• Implementation of a new service • Changes to accessibility requirements **Trigger: Development**

4.2 Risk Strategy

For this portfolio, the probability of failure is based on the projected condition and the consequence of failure is based on the replacement cost of the asset and health and safety criticality. Staff are working to further enhance the risk profiles as not all attributes recommended for inclusion (including social and environmental metrics) are currently tracked within the asset management systems.

Table 4.2.1 illustrates the risk ratings at a summary level. In addition to the BCA process, staff complete regular inspections. Areas of concern are addressed through demand maintenance or included in the subsequent budget cycle as appropriate. The inspection and review process helps mitigate the likelihood of any unanticipated asset failures. Staff will continue to monitor the higher risk assets, review, and/or complete physical inspections to further validate needs and plan for lifecycle strategies accordingly.

Table 4.2.1 - Risk Profile

Asset Component	Very High	High	Moderate	Low	Very Low	Average Risk Rating
Dams	0%	100%	0%	0%	0%	High
Equipment	0%	0%	0%	50%	50%	Very Low
Facilities	0%	27%	2%	9%	62%	Low
Structures	0%	0%	0%	36%	64%	Very Low
	0%	**30%**	**2%**	**9%**	**59%**	

4.3 Climate Change

As part of the asset management planning process, the Township will consider the risks and vulnerabilities of capital assets to climate change and the resulting actions that may be required. Commitment will be made to the development of tailored actions that make the best use of our resources to mitigate and adapt to climate change, in accordance with our local reduction targets, financial capacity and stakeholder support.

Climate change resiliency will be identified as a design criterion for asset renewal/replacement projects as part of the Township's capital plan.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded through an annual levy contribution to the Dams, Cemeteries, Medical Centre, Municipal Office and Equipment reserves.

Based on the lifecycle strategies identified to maintain current levels of service, the financial estimates over the next 100-years are determined in current dollars and summarized in Table 5.1.1. Staff will review the current lifecycle requirements with each budget cycle to ensure that the 10-year capital plan reflects the most current information available. The 10-year capital plan may not reflect all lifecycle needs identified by the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

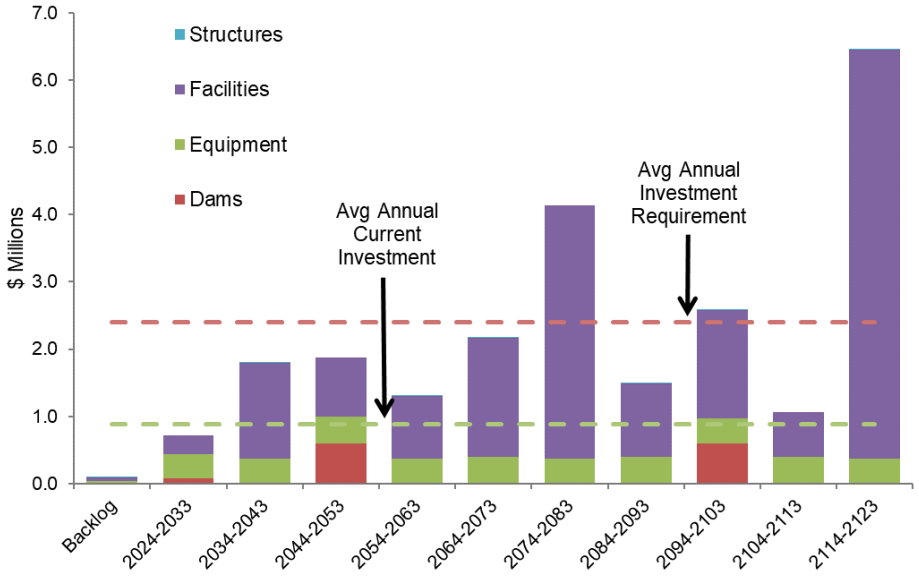


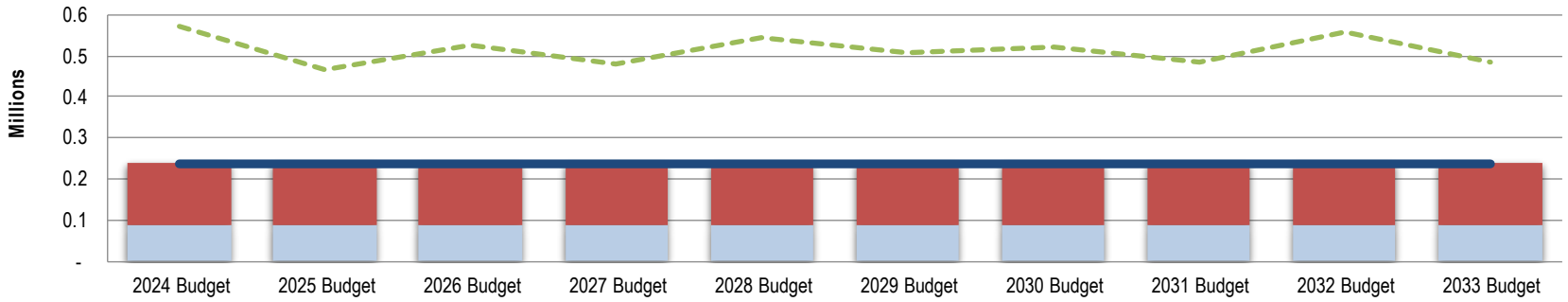
Table 5.1.1 - Lifecycle Requirements (millions)

Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Dams	$-	$0.08	$-	$0.60	$-	$-	$-	$-	$0.60	$-	$-
Equipment	0.04	0.36	0.37	0.40	0.37	0.40	0.37	0.40	0.37	0.40	0.37
Facilities	0.05	0.28	1.43	0.87	0.93	1.77	3.77	1.09	1.61	0.67	6.08
Structures	0.01	-	0.01	-	0.02	0.01	-	0.01	0.02	-	0.01
Totals	**$0.10**	**$0.72**	**$1.81**	**$1.87**	**$1.32**	**$2.18**	**$4.14**	**$1.50**	**$2.60**	**$1.07**	**$6.46**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the current funding noted within the 2024 Approved Budget. The reserve balances noted in Table 5.1.2 reflect the projects identified in the 10-year capital plan and may not reflect all the lifecycle needs identified in Table 5.1.1.

Table 5.1.2 - Budgeted Funding

	Key	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget	2030 Budget	2031 Budget	2032 Budget	2033 Budget
Annual Required Investment		$239,000	$239,000	$239,000	$239,000	$239,000	$239,000	$239,000	$239,000	$239,000	$239,000
Current Investment		87,825	87,825	87,825	87,825	87,825	87,825	87,825	87,825	87,825	87,825
Funding Deficit		151,175	151,175	151,175	151,175	151,175	151,175	151,175	151,175	151,175	151,175
Funding Surplus		-	-	-	-	-	-	-	-	-	-
Reserve Balance		571,393	464,218	526,293	480,618	544,443	505,518	518,843	484,418	557,743	486,068

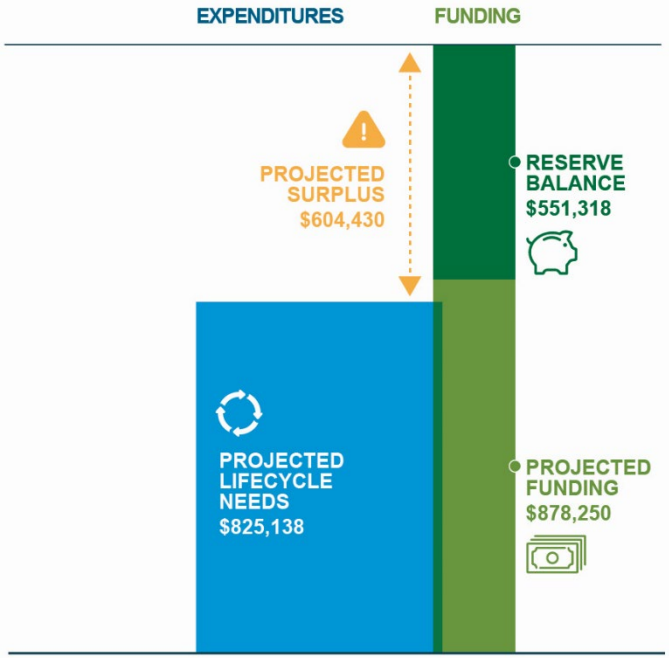


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the current 10-year period of 2024 to 2033. The asset management system calculates the optimal expenditures based on theoretical asset lifecycle needs. Table 5.3.1 reflects an approximate $0.6 million surplus in funding availability over the 2024 to 2033 period.

Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$825,138	-
Reserve Balance	-	$551,318
Projected Funding	-	878,250
Total	**$825,138**	**$1,429,568**
Deficit (Surplus)		**($604,430)**



This portfolio is in a funding surplus over the 2024 to 2033 period, however, is in a deficit to achieve annual required investment levels. Contributions to reserve should increase annually with inflation and additional increases to the annual reserve contributions should be considered to close the annual funding gap. This portfolio contains many facilities, with the eventual replacement of the facilities needing to be planned for (see higher need periods as identified in Table 5.1.1), therefor it is expected to see a surplus during the 2024 to 2033 period.

For long-term sustainability, staff will continue to review the annual contribution to the various reserves with each budget cycle to ensure it reflects the needs of this portfolio. Failure to implement these increases could result in localized reductions to service such as increased maintenance costs, inconvenience to staff, and the inability to deliver services effectively.


TOWNSHIP OF NORWICH
FIRE SERVICE STATION No.3

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Protection Services

1.0 Introduction

Protection Services consists of a volunteer fire department directed by a full-time Fire Chief, and relies on 72 dedicated, enthusiastic, and professionally trained volunteer firefighters dispersed among four stations strategically located across the Township. Also included in this portfolio is Buildings Services, offering zoning, building code information and technical advice.

The Township's protection services assets are categorized into various components, as a result of differing life spans and maintenance strategies. They are assets related to our fire hall facilities, fleet, and equipment. The equipment is made up of components including bunker gear, extrication tools, hoses, SCBA systems, thermal imaging cameras, communication tools and other general fire equipment. Fleet includes an aerial, tankers, pumpers, and various trucks.

Like many of our assets, our protection services assets are facing increased challenges as a result of aging assets, increased costs and increasing demand due to growth in our communities. Our investment in these assets must therefore be balanced to optimize investment for renewal with the growing needs of our community.

1.1 Improvement Plan

The following recommendations are based on the review of current management practices, inventory, valuation and condition analysis.

- Incorporate maintenance requirements into lifecycle strategies.
- Continue to work to reduce asset data gaps.
- Document lifecycle history on asset components within the asset management systems.
- Update attributes to further enhance the risk profile in the asset management system.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the Township's current inventory and the associated replacement costs, average age and anticipated useful life for each component. The anticipated useful lives exclude the management strategies that the Township utilizes to extend the overall life beyond this estimate.

Replacement costs for facilities were determined by Building Condition Assessments (BCA) completed by Facility Risk Solutions in 2023. For other assets in this portfolio, the replacement costs were estimated based on staff reviews, historical costs and inflation rates.

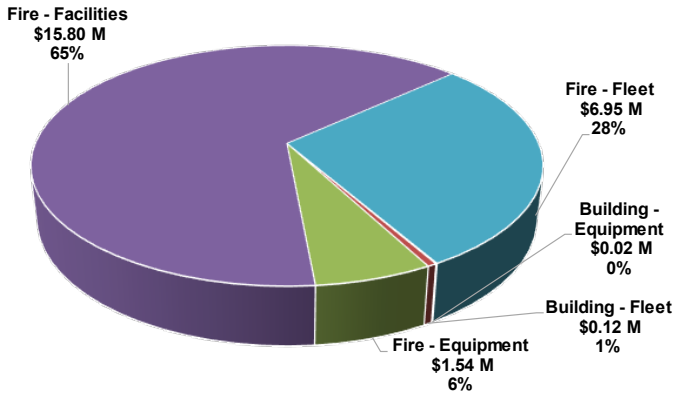


Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Building - Equipment	each	5	$17,293	4	4-10
Building - Fleet	each	2	120,000	7	7
Fire - Equipment	each	695	1,538,524	9	4-20
Fire - Facilities	each	4	15,800,602	18	20-100
Fire - Fleet	each	10	6,946,000	12	7-28
Total Replacement Cost			**$24,422,419**		

2.2 Condition Assessment Approach

The assessment approach utilizes a combination of physical assessments, asset attributes, as well as established anticipated useful lives.

The Township inspects all fire equipment on a yearly basis with higher intervals for higher risk equipment. The Township follows the Fire Underwriters Survey and other insurance and fire department organizations to come up with minimum requirements. The Office of the Fire Marshal collects data on fire equipment and fleet used in fires. Any equipment is automatically repaired or replaced if it fails a test. Therefore, the Fire Department's assets could conceivably require greater changeover year-to-year based on equipment usage over the course of a year.

Building Condition Assessments (BCA) assess and document the current condition of facilities to identify capital repairs and replacements which may affect the continued operation of the property over the next ten (10) years, and to provide an assessment as to the level of accessibility for each property. Replacement costs are also requested as a part of this process. BCAs were completed on all the Fire Halls in 2023.

2.3 Current Condition

The condition profile is shown in table 2.3.1, based on the projected condition as of December 31, 2023. The indicator measure in each condition is based on percentage of replacement costs as opposed to the number of assets.

The critical fleet assets are related to older pumpers and tankers. These assets are planned for replacement within the 10-year capital budget.

Furthermore, fleet and equipment delivery times have significantly increased as a result of the pandemic, reducing the overall average condition rating of these assets.

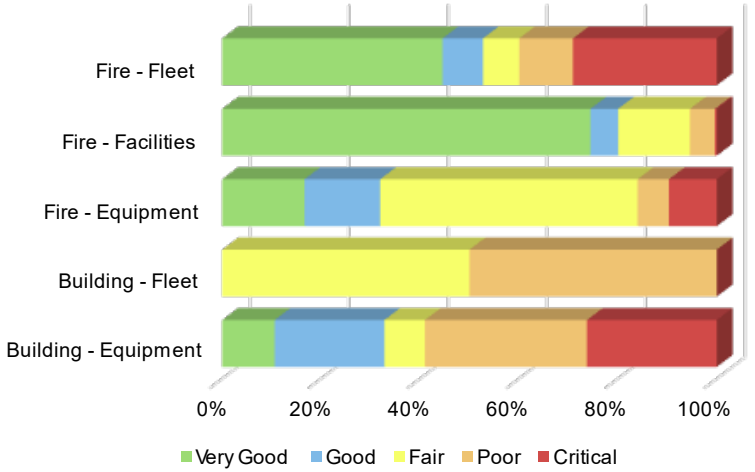


Table 2.3.1 - Condition Profile

Asset Component	Very Good	Good	Fair	Poor	Critical	Average Condition Rating
Building - Equipment	11%	22%	8%	33%	26%	Poor
Building - Fleet	0%	0%	50%	50%	0%	Poor
Fire - Equipment	17%	15%	52%	6%	10%	Fair
Fire - Facilities	74%	6%	15%	5%	0%	Good
Fire - Fleet	45%	8%	7%	11%	29%	Fair
Overall Total	**62%**	**7%**	**15%**	**7%**	**9%**	

3.0 Levels of Service

The Infrastructure for Jobs and Prosperity Act, 2015 - O.Reg. 588/17, requires the Township to establish metrics to evaluate this portfolio. Table 3.1.1 lists metrics the Township has included.

Corporate Objective

The corporate objective of protection services is to provide fire protection and building services to the residents and visitors of Norwich Township.

Legislative Requirements

Ontario firefighters are governed by the Fire Protection and Prevention Act Ontario Regulation 213/07 and the Township has a Council approved Establishing and Regulating By-law which sets service levels for the municipality. Amongst other regulations and guidelines from other industry sources, the Fire Department is required to operate with a total of 72 volunteer firefighters spread across 4 stations with one permanent Fire Chief, a Fire Services Clerk, and a shared service Fire Prevention Officer (shared 1/5 position and cost with 4 other rural municipalities).

The Township is required to maintain minimum standards based on governing directives. These include, but are not limited to, Technical Standards & Safety Authority (TSSA), Electrical Safety Authority (ESA), National Plumbing Code of Canada (NPC), Fire Code, Ontario Building Code, Designated Substance List (DSL) and additional Ministry of Labour (MOL) requirements.

The Accessibility for Ontarians with Disabilities Act, 2005[1] was developed with the purpose of ensuring that accessibility for Ontarians with disabilities is achieved on or before January 1, 2025. The Township ensures that each new build / renovation complies with the standards developed under this Act.

Customer Levels of Service

The following statements form our qualitative descriptions of the customer level metrics required under O.Reg. 588/17.

- *Norwich Fire Service provides fire protection services through a range of programs designed to protect the lives and property of the inhabitants from adverse effects of fires, sudden medical emergencies or exposure to dangerous conditions created by man or nature*
- *Norwich Buildings Services offers zoning, building code information and technical advice and to be of assistance during the entire construction process*

[1] https://www.ontario.ca/laws/statute/05a11

Table 3.1.1 - Performance Measures

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
Quality	Providing a protection services department that is in a state of good repair	% of assets in good or better condition	-	69%	
Reliability	Providing a protection services department that is reliable for residents with reliable equipment and training for staff	% of assets in poor or critical condition	-	16%	TBD

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

To cost effectively maintain assets at the established service levels, the right maintenance or rehabilitation activity needs to be completed at the ideal time throughout the asset's lifecycle. Staff will also complete similar lifecycle activities across buildings in this portfolio and others where possible to maximize economies of scale and achieve the best benefit to the Township.

For protective services assets, replacement needs typically follow a "run to planned lifecycle" strategy if the assets are consistently passing their annual checks. This is usually the most cost-effective approach and follows provincial and federal standards. Staff will constantly monitor industry trends and best practices, assessing lifecycle activities to ascertain if implementing them would add value.

Examples of lifecycle activities considered in the overall sustainable management of this portfolio are described in table 4.1.1.

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Ongoing collaboration meetings with other Fire Chiefs in Oxford County • Building Condition Assessments (BCA's) • Regular equipment inspections and testing **Trigger: Ongoing**
Maintenance	• Minor repairs • Ongoing preventative maintenance checks for all equipment and fleet **Trigger: Ongoing**
Rehabilitation / Renewal	• Major & minor rehabilitations **Trigger: Fair/Poor**
Replacement	• Occurs at the end of the useful life • May also occur to increase service levels **Trigger: Poor/Critical**
Disposal	• Activities associated with disposing of an asset once it has reached the end of its useful life **Trigger: Poor/Critical**
Expansion / Growth	• New assets requirements as part of Township growth **Trigger: Development**

4.2 Risk Strategy

For this portfolio, the probability of failure is based on the projected condition and the consequence of failure is based on the replacement cost of the asset and health and safety criticality. Staff are working to further enhance the risk profiles as not all attributes recommended for inclusion (including social and environmental metrics) are currently tracked within the asset management systems.

Table 4.2.1 illustrates the risk ratings at a summary level. In addition to the BCA process, staff complete regular inspections. Areas of concern are addressed through demand maintenance or included in the subsequent budget cycle as appropriate. There are four tanker/pumper trucks rated as very high due to their age and replacement cost which are anticipated to be replaced within the next 10 years. The inspection and review process helps mitigate the likelihood of any unanticipated asset failures. Staff will continue to monitor the higher risk assets, review, and/or complete physical inspections to further validate needs and plan for lifecycle strategies accordingly.

Table 4.2.1 - Risk Profile

Asset Component	Very High	High	Moderate	Low	Very Low	Average Risk Rating
Building - Equipment	0%	0%	0%	26%	74%	Very Low
Building - Fleet	0%	0%	0%	50%	50%	Very Low
Fire - Equipment	0%	0%	36%	6%	58%	Low
Fire - Facilities	0%	7%	2%	21%	70%	Low
Fire - Fleet	40%	7%	0%	8%	45%	High
	11%	**7%**	**4%**	**17%**	**61%**	

4.3 Climate Change

As part of the asset management planning process, the Township will consider the risks and vulnerabilities of capital assets to climate change and the resulting actions that may be required. Commitment will be made to the development of tailored actions that make the best use of our resources to mitigate and adapt to climate change, in accordance with our local reduction targets, financial capacity and stakeholder support.

Climate change resiliency will be identified as a design criterion for asset renewal/replacement projects as part of the Township's capital plan.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded through an annual levy contribution to various Building and Fire Department reserves.

Based on the lifecycle strategies identified to maintain current levels of service, the financial estimates over the next 100-years are determined in current dollars and summarized in Table 5.1.1. Staff will review the current lifecycle requirements with each budget cycle to ensure that the 10-year capital plan reflects the most current information available. The 10-year capital plan may not reflect all lifecycle needs identified by the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

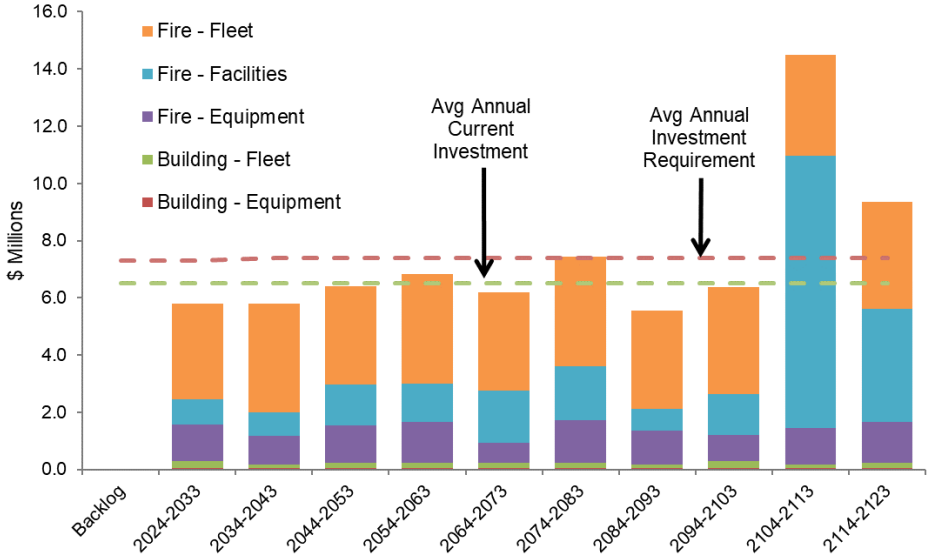


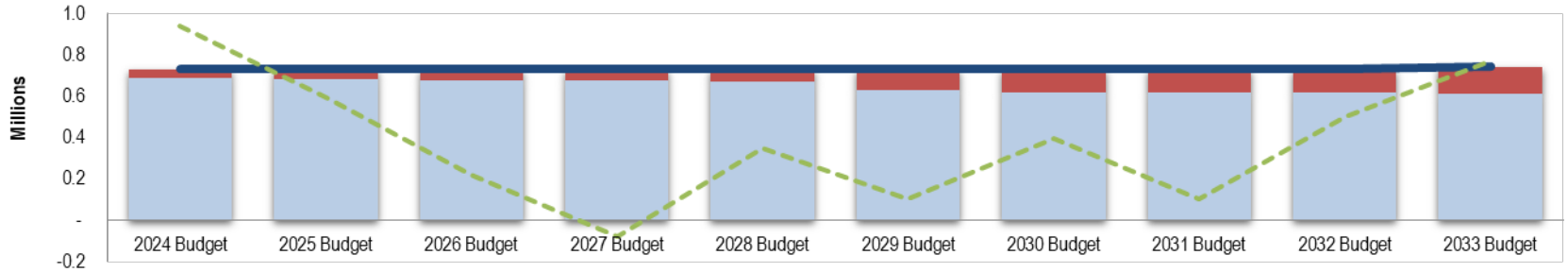
Table 5.1.1 - Lifecycle Requirements (millions)

Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Building – Equipment	$-	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04	$0.04
Building - Fleet	-	0.24	0.12	0.18	0.18	0.18	0.18	0.12	0.24	0.12	0.18
Fire - Equipment	0.03	1.28	1.01	1.32	1.43	0.72	1.49	1.21	0.93	1.28	1.44
Fire - Facilities	-	0.89	0.82	1.42	1.35	1.81	1.91	0.74	1.41	9.54	3.94
Fire - Fleet	-	3.34	3.82	3.44	3.82	3.44	3.82	3.44	3.76	3.50	3.76
Totals	**$0.03**	**$5.79**	**$5.81**	**$6.40**	**$6.82**	**$6.19**	**$7.44**	**$5.55**	**$6.38**	**$14.48**	**$9.36**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the current funding noted within the 2024 Approved Budget. The reserve balances noted in Table 5.1.2 reflect the projects identified in the 10-year capital plan and may not reflect all the lifecycle needs identified in Table 5.1.1.

Table 5.1.2 - Budgeted Funding

	Key	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget	2030 Budget	2031 Budget	2032 Budget	2033 Budget
Annual Required Investment		$733,000	$733,000	$733,000	$733,000	$733,000	$733,000	$733,000	$733,000	$733,000	$743,000
Current Investment		688,629	684,243	679,985	675,728	671,552	632,646	620,221	618,133	616,096	613,957
Funding Deficit		44,371	48,757	53,015	57,272	61,448	100,354	112,779	114,867	116,904	129,043
Funding Surplus		-	-	-	-	-	-	-	-	-	-
Reserve Balance		943,818	596,318	219,718	(80,182)	351,418	104,718	397,518	100,918	502,218	770,818

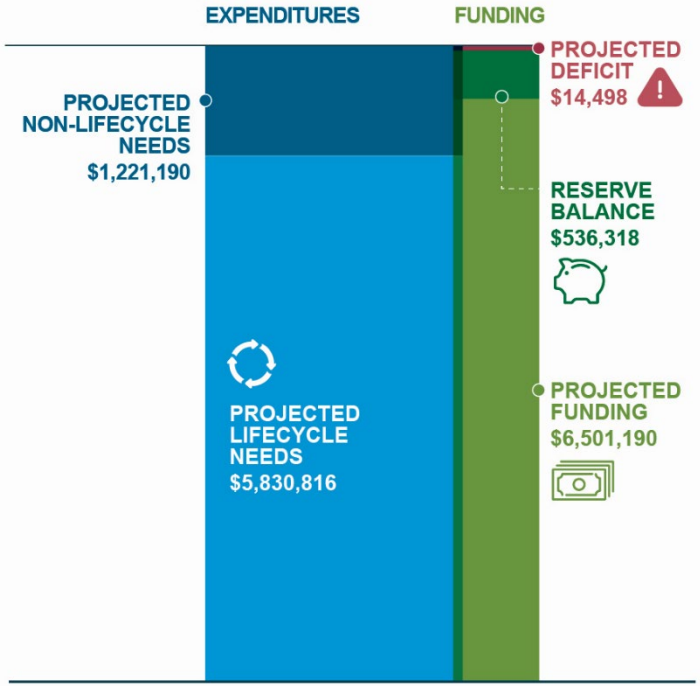


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the current 10-year period of 2024 to 2033. The Township's asset management system calculates the optimal expenditures based on theoretical asset lifecycle needs. The projected non-lifecycle needs included in Table 5.3.1 reflect ongoing debenture payment obligations. Table 5.3.1 reflects an approximate $15 thousand deficit in funding availability over the 2024 to 2033 period.

Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$5,830,816	-
Projected Non-Lifecycle Needs	1,221,190	-
Reserve Balance	-	$536,318
Projected Funding	-	6,501,190
Total	**$7,052,006**	**$7,037,508**
Deficit (Surplus)		**$14,498**



This portfolio has a small funding deficit, annual contributions to reserve should increase annually with inflation. As existing debentures end, the Township should consider re-allocating the funds as reserve contributions to assist with closing the funding gap. This portfolio contains many facilities, with the eventual replacement of the facilities needing to be planned for. As these fire halls age, the reserve balance should be increasing to accommodate their eventual replacement. Fluctuations in reserve balance can be attributed to large fleet purchases for pumpers and tankers.

For long-term sustainability, staff will continue to review the annual contribution to the various reserves with each budget cycle to ensure it reflects the needs of this portfolio. Failure to implement these increases could result in localized reductions to service such as increased maintenance costs, inconvenience to staff, and the inability to deliver services effectively.

Bridges and Culverts

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1.0 Introduction

The Township maintains a diverse transportation network to provide safe and effective means to keep our community moving and connected. Roads located within the Township are under the care of either the Township of Norwich or the County of Oxford. The Township is responsible for the construction and maintenance of all roads under their jurisdiction. This network includes bridges and culverts which help provide continuous efficient movement of traffic.

The Township's transportation services – bridges and culverts assets are categorized into various components, as a result of differing life spans and maintenance strategies. They are bridges (including pedestrian bridges), structural culverts with a span of 3 meters or greater, culverts with spans less than 3 meters (both road crossing and driveway culverts), and guide rails related to the structure approaches that protect road users from underlying and/or roadside hazards.

Like many of our assets, our bridge and culvert assets are facing increased challenges as a result of aging assets, increased costs, climate change and increasing demand due to growth in our communities. Our investment in these assets must therefore be balanced to optimize investment for renewal with the growing needs of our community.

1.1 Improvement Plan

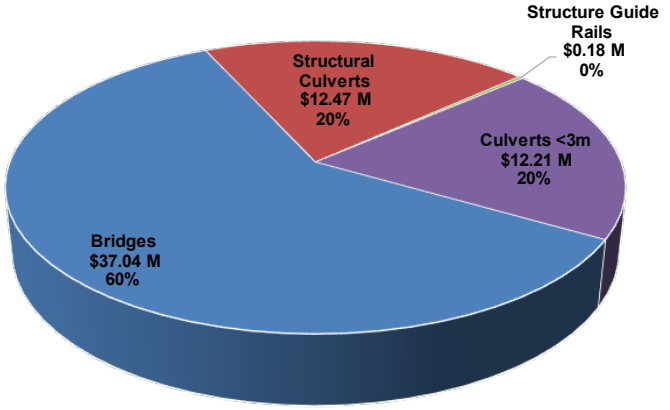
The following recommendations are based on the review of current management practices, inventory, valuation and condition analysis.

- Continue to improve data confidence.
- Document lifecycle history on asset components within the asset management systems.
- Incorporate climate change resiliency as part of capital replacement/renewal projects in accordance with applicable emerging guidelines and design standards.
- Update attributes to further enhance the risk profile in the asset management system.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the Township's current inventory and the associated replacement costs, average age and anticipated useful life for each component. The anticipated useful lives exclude the management strategies that the Township utilizes to extend the overall life beyond this estimate.



Due to the varying structure types and material, the replacement costs are not easily defined as a value per square meter of bridge/culvert deck area. Replacement costs were provided within the 2023 Bridge Needs Study. The replacement cost valuation for guide rails and culverts less than 3m is based on current tender prices, where available. The cost of guide rail end treatments can have a significant impact on the overall cost per meter.

On January 1, 2022, as part of the road rationalization strategy with the County of Oxford, New Durham Road was transferred to the County, which included a bridge, a structural culvert and various culverts less than 3m. Since the last AMP, one bridge structure was determined to be under the rail authority and was removed from the Township's inventory.

Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Bridges	each	32	$37,037,451	56	60
Structural Culverts (>3m)	each	22	12,468,750	39	50-65
Structure Guide Rails	length (m)	498	180,341	13	30
Culverts (<3m)	length (m)	19,540	12,212,146	40	50-80
Total Replacement Cost			**$61,898,688**		

2.2 Condition Assessment Approach

The assessment approach for the assets in this portfolio utilizes a combination of physical assessments, asset attributes, such as material, as well as established anticipated useful lives. Given the complexities and accessibility of some assets, not all assets allow for a visual or performance-based condition assessment. For assets which have not been visually inspected an age-based condition rating is being used based on anticipated useful lives.

A Bridge Needs Study is required to be carried out every two years to comply with the Public Transportation and Highway Improvement Act and Ontario Regulation 104/97, as amended. Structure inspections are to be performed under the direction of a professional engineer. The study evaluates the structural and serviceability of individual elements and recommends required improvements. The Ministry of Transportation (MTO) has developed an Ontario Structure Inspection Manual (OSIM), which is used to complete the inspections. The OSIM has specified condition states for each material type and where required, for specialized elements. Once inspections have been completed, the Bridge Condition Index (BCI) for each structure is determined based on the MTO methodology. The BCI determined helps to schedule maintenance and rehabilitation work and is not a direct indication of the safety of the bridge. In general, for a bridge with a BCI value:

- Greater than 70 - Repair work is not usually required within the next five years.
- Between 60 and 70 - Repair work is usually recommended within the next five years.
- Less than 60 - Repair work is usually recommended within the next year.

A new structure would have a BCI value of 100 and the value will decline over time. Monitoring the rate of decline in the BCI and comparing this with the anticipated rate provides valuable long-term asset management information. The reduction in BCI, in theory is a function of many factors, including traffic volume, heavy transport vehicles, use of de-icing chemicals, exposure to the elements and the type of structure. Each structure will decline at its own rate; however, it is reasonable to expect that the decline begins slowly and accelerates as the structure gets older.

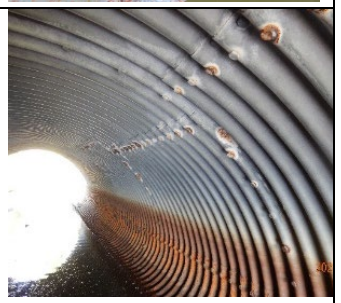
Other factors are also considered in the prioritization of our structure rehabilitation recommendations including:

- State of deterioration and estimated length of prolonged useful life are considered against asset management needs through a cost/benefit analysis.
- Impacts of rehabilitation methods on users based on the length of detour or alternate access.

During OSIM inspections, the condition and effectiveness of roadside safety measures on the approaches to the structures is reviewed. Where no roadside safety systems are present, recommendations are made to identify whether consideration should be given to installing roadside safety systems, (i.e., guide rail and end treatments).

Table 2.2.1 illustrates how the BCI score ratings align with the Township's standard condition scale.

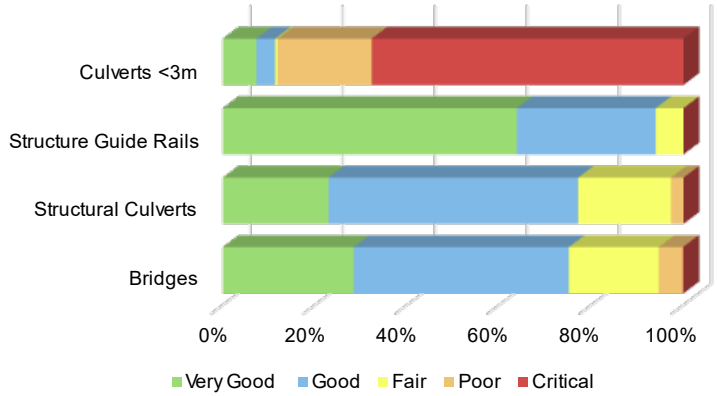
Table 2.2.1 - BCI Score Ratings[1]

Asset Component	Very Good BCI Score of 90-100	Good BCI Score of 70-89	Fair BCI Score of 50-69	Poor BCI Score of 40-49	Critical BCI Score of 0-39
Bridges					
Structural Culverts				 Non-Township owned structure	 Non-Township owned structure

[1] Unless otherwise noted, all images are of Township assets, and are general representations of the condition at the time the photo was taken. Assets may have undergone lifecycle strategies since the date of the image impacting its condition.

2.3 Current Condition

The condition profile is shown in table 2.3.1, based on the projected condition as of December 31, 2023. The indicator measure in each condition is based on percentage of replacement costs as opposed to the number of structures, given the variability of structure sizes.



Continued completion of lifecycle strategies identified through the Bridge Needs Study will help maintain the overall condition rating of structures.

The MTO has established a goal of maintaining 85% of their structures in good condition, with a BCI greater than 70. Of the Township's 53 structures, 38 (72%) have a projected BCI at 70 or greater as of December 31, 2023. It should be noted that it is not sustainable or practical for the Township to maintain structures to the level of the MTO, as the Townships structures are located on lower class roads, seeing less traffic and therefore do not carry the same level of criticality as MTO structures. The Township will be establishing it's goal as part of the proposed levels of service requirements for the 2025 AMP.

Accurate age and condition data was unavailable for many of the Culverts <3m, and therefor an assumed installation date of 1975 based on Norwich Township's incorporation was applied, attributing to the large critical condition rating. Many of these assets, such as driveway culverts, are on a run to failure model.

Table 2.3.1 - Condition Profile

Asset Component	Very Good	Good	Fair	Poor	Critical	Average Condition Rating
Bridges	28%	48%	19%	5%	0%	Good
Structural Culverts (>3m)	23%	54%	20%	3%	0%	Good
Structure Guide Rails	64%	30%	6%	0%	0%	Very Good
Culverts (<3m)	7%	4%	1%	20%	68%	Poor
Overall Total	**23%**	**40%**	**16%**	**8%**	**13%**	

3.0 Levels of Service

Table 3.1.1 includes metrics required under the Infrastructure for Jobs and Prosperity Act, 2015 - O.Reg. 588/17, as well as additional metrics the County has included.

Corporate Objective

The objective of Transportation Services is to ensure people and goods are able to move safely and efficiently throughout the Township. The inventory includes a number of assets located on boundary roads with neighbouring municipalities in which the Township and the neighbouring municipality share in the maintenance activity costs. Service agreements are in place to ensure that service levels are maintained.

Legislative Requirements

In addition to Ontario Regulation 104/97, as amended, specifying the requirements for biennial inspections, Ontario Regulation 239/02 specifies the Maintenance Standards for bridge decks. The maintenance requirement is based on the highway classification associated with the bridge or structural culvert.

Customer Levels of Service

The following statements form our qualitative descriptions of the customer level metrics required under O.Reg. 588/17.

- *The Township's bridges and structural culverts are used by all types of vehicles on the road, including heavy transport vehicles, motor vehicles, farm equipment, horse and buggy, emergency vehicles, pedestrians, and cyclists.*
- *Included in Table 2.2.1 are images illustrating each condition category for structures.*
- *Bridge assets that are not maintained in a state of good repair could result in bridge weight restrictions, which significantly impact goods movements.*
- *Culverts, which are typically used for water conveyance, that are not maintained in a state of good repair, could negatively impact drainage of adjacent lands by reducing flood resilience and increasing flooding susceptibility that results in property damage, crop failure, and damage to the road asset. Culvert failure can compromise the structural integrity of the road and become a significant risk to public safety and negatively impact other essential services (emergency services) that rely on the road network.*

Table 3.1.1 - Performance Measures

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
Safety	Providing safe bridges and culverts for users	% of bridges in the municipality with loading or dimensional restrictions.	15.6%	12.5%	N/A
Quality	Maintaining transportation network in a state of good repair	For bridges in the municipality, the average bridge condition index value	75.5	75.9	TBD
		For structural culverts >3m in the municipality, the average bridge condition index value	79.2	79.0	TBD
Reliability	Providing a transportation network that is reliable	% of culverts <3m in poor or critical condition	70%	88%	TBD
		% of structural culverts >3m in poor or critical condition	-	3%	TBD
		% of bridges in poor or critical condition	-	9%	TBD

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

Routine maintenance requires minimal effort to maintain the useful life of the structure, provided maintenance is completed within 1-2 years as identified in the Bridge Needs Study. Safety critical elements are identified during the inspection process if in immediate need of repair. All safety concerns are addressed in a timely manner.

The most effective improvement in a structure's useful life can be achieved by completing rehabilitations while the structure has a BCI between 50 and 69. Depending on the span size, structures may undergo one or two rehabilitations, or replacement if rehabilitation is not cost effective. Weather factors may also influence the actual life achieved. It is possible to have assets exceed the anticipated useful lives defined, as well as assets that require replacement prior to the end of their anticipated useful life.

The rehabilitation and replacement activities impacting condition and useful life are contained within profiles in the Township's asset management system and align with OSIM curves from the Ministry of Transportation (MTO). Examples of lifecycle activities considered in the overall sustainable management of structures are described in table 4.1.1.

For culverts <3m, replacement needs are based on a run to failure strategy, as this is typically the most economical. Staff will continue to monitor industry trends and best practices, evaluating any lifecycle activities to determine if there is value to implementing them.

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Bridge Needs Study (BNS) **Trigger: Ongoing**
Maintenance	• Washing and collection of debris • Minor repairs include slope erosion, potholes, cracking, damaged guide rails • Other maintenance items noted in the BNS **Trigger: Ongoing**
Rehabilitation / Renewal	• Major & minor structure rehabilitations **Trigger: BCI = 50-69, Poor/Critical**
Replacement	• Occurs at the end of the useful life and/or when rehabilitation is no longer an option • May also occur to increase service levels **Trigger: BCI < 50, Poor/Critical**
Disposal	• Activities associated with disposing of an asset once it has reached the end of its useful life, often completed in conjunction with a replacement project • Includes coordination with contractors to ensure safe removal and environmental compliance **Trigger: Poor/Critical**
Expansion / Growth	• Provide additional driving lanes • Expansion to accommodate active transportation options **Trigger: Development**

4.2 Risk Strategy

For this portfolio the probability of failure is based on the projected condition. The consequence of failure for structures contains economic consequences (weighted at 20% of the overall consequence scoring) and operational consequences (weighted at 60% of the overall consequence scoring) and Health and Safety consequences (weighted at 20% of the overall consequence scoring). Staff are working to further enhance the risk profiles as not all attributes recommended for inclusion are currently tracked within the asset management systems.

Table 4.2.1 illustrates the risk ratings at a summary level. While a significant percentage of bridges and structural culverts have a high or very high-risk rating, this in and of itself is not a direct indication that these structures are at a high risk of failure (refer to section 2.3 for information on the condition of the assets in this portfolio). As a lower tier municipality, the structures in this portfolio are located on local and collector roads which see a lower traffic volume, resulting in a reduced impact to residents, businesses and the ability to perform other services. There are two bridge structures rated as very high with projected condition scores of 42 & 49, which are anticipated to have additional studies and rehabilitation within the next 10 years. There is one structural culvert rated as very high with a projected condition of 65, which will continue to be monitored with future inspections. Township staff will continue to monitor high risk assets, review and/or complete physical inspections to further validate needs and plan for lifecycle strategies accordingly.

Table 4.2.1 - Risk Profile

Asset Component	Very High	High	Moderate	Low	Very Low	Average Risk Rating
Bridges	5%	18%	46%	1%	30%	Moderate
Structural Culverts (>3m)	8%	35%	7%	31%	19%	Low
Structure Guide Rails	0%	0%	0%	0%	100%	Very Low
Culverts (<3m)	0%	3%	2%	65%	30%	Low
	5%	**20%**	**28%**	**20%**	**27%**	

4.3 Climate Change

As part of the asset management planning process, the Township will consider the risks and vulnerabilities of capital assets to climate change and the resulting actions that may be required. Commitment will be made to the development of tailored actions that make the best use of our resources to mitigate and adapt to climate change, in accordance with our local reduction targets, financial capacity and stakeholder support.

Climate change resiliency will be identified as a design criterion for asset renewal/replacement projects as part of the Township's capital plan.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded through an annual levy contribution to the Bridges and Culverts reserve.

Based on the lifecycle strategies identified to maintain current levels of service, the financial estimates over the next 100-years are determined in current dollars and summarized in Table 5.1.1. Staff will review the current lifecycle requirements with each budget cycle to ensure that the 10-year capital plan reflects the most current information available. The 10-year capital plan may not reflect all lifecycle needs identified by the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

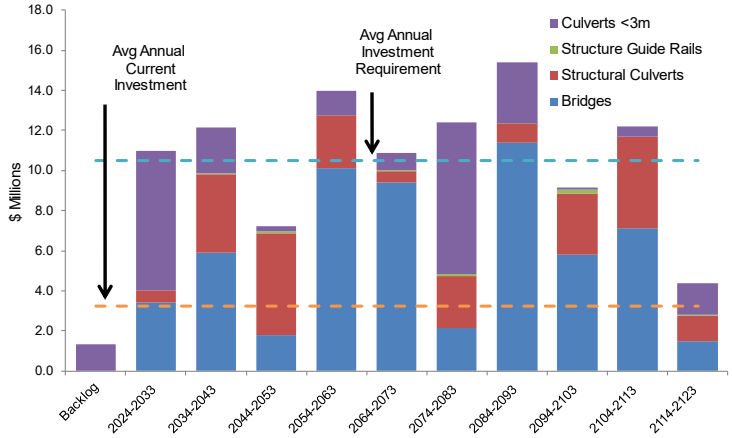


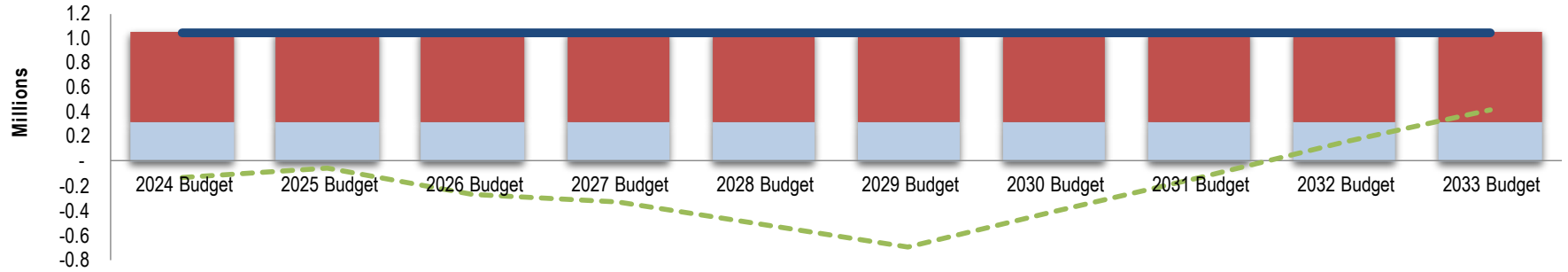
Table 5.1.1 - Lifecycle Requirements (millions)

Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Bridges	$-	$3.41	$5.90	$1.81	$10.11	$9.39	$2.15	$11.39	$5.78	$7.11	$1.49
Structural Culverts (>3m)	-	0.61	3.89	5.04	2.64	0.56	2.57	0.97	3.09	4.58	1.27
Structure Guide Rails	-	-	0.07	0.12	0.01	0.05	0.12	0.01	0.17	-	0.07
Culverts (<3m)	1.32	6.95	2.28	0.26	1.23	0.87	7.54	3.05	0.09	0.51	1.57
Totals	**$1.32**	**$10.97**	**$12.14**	**$7.23**	**$13.99**	**$10.87**	**$12.38**	**$15.42**	**$9.13**	**$12.20**	**$4.40**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the current funding noted within the 2024 Approved Budget. The reserve balances noted in Table 5.1.2 reflect the projects identified in the 10-year capital plan and may not reflect all the lifecycle needs identified in Table 5.1.1.

Table 5.1.2 - Budgeted Funding

	Key	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget	2030 Budget	2031 Budget	2032 Budget	2033 Budget
Annual Required Investment		$1,052,000	$1,052,000	$1,052,000	$1,052,000	$1,052,000	$1,052,000	$1,052,000	$1,052,000	$1,052,000	$1,052,000
Current Investment		325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000	325,000
Funding Deficit		727,000	727,000	727,000	727,000	727,000	727,000	727,000	727,000	727,000	727,000
Funding Surplus		-	-	-	-	-	-	-	-	-	-
Reserve Balance		(139,723)	(50,223)	(271,223)	(327,223)	(518,223)	(698,223)	(408,223)	(138,223)	151,777	421,777



5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the 10-year period of 2024-2033. The asset management system calculates the optimal expenditures based on theoretical asset lifecycle needs, including information from the 2023 Bridge Needs Study, the latest study available in the preparation of this report. Table 5.3.1 reflects an approximate $8.6 million deficit in funding availability over the period 2024-2033.

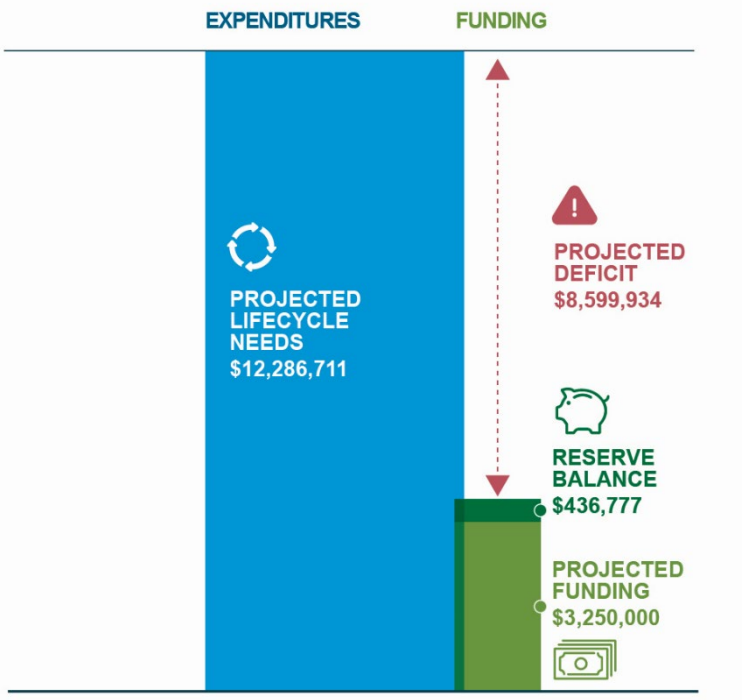


Table 5.3.1 - Funding Gap

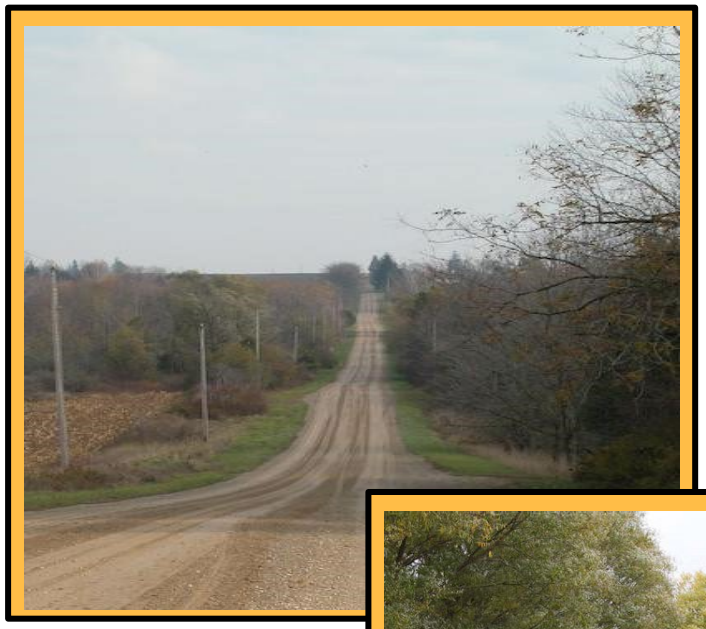
2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$12,286,711	-
Reserve Balance	-	$436,777
Projected Funding	-	3,250,000
Total	**$12,286,711**	**$3,686,777**
Deficit (Surplus)		**$8,599,934**

This portfolio has a 2024-2033 and annual required investment funding deficit. Annual contributions to reserve should increase annually with inflation and additional increases should be considered. 43% of the projected lifecycle needs relate to Bridges and Structural Culverts, with the remainder related to the small Culverts (<3m). Although some small culverts such as driveway crossings are based on a run to failure strategy, road crossing culverts are a higher risk and can impact more residents and damage the roadway.

The inventory of the Townships small culverts typically uses a default 1975 install date, with the inventory and condition data being based on student visual inspections from approximately 2008. It is recommended that the inventory be verified, and updated condition data obtained for the road crossing culverts to verify the projected lifecycle needs. An annual capital program has been budgeted for the regular replacement of these small culverts.

Regardless of this, there would be a funding deficit even if small culverts were removed from this portfolio. The deficit in funding availability may be partially managed through the issuance of debentures. The issuance of debentures results in a higher overall cost resulting from the inclusion of interest, however, would defer a portion of the funding needs beyond the 2024 to 2033 period. Consideration also needs to be given to the funding requirements of subsequent periods when deferring current obligations through the issuance of debentures.

Transportation Services



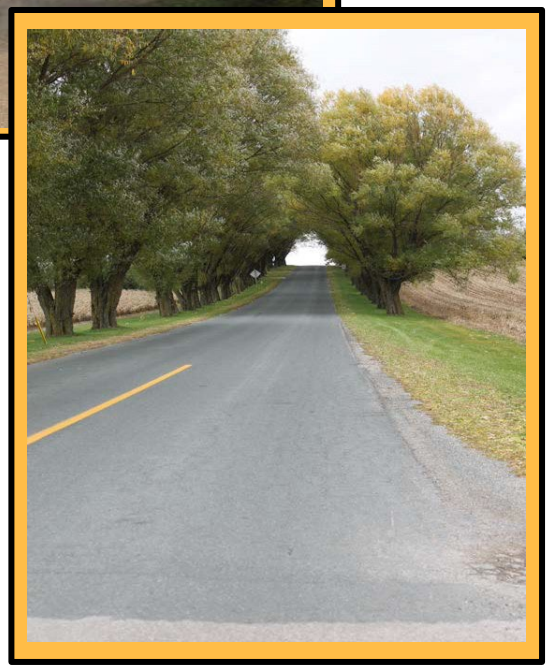


Table of Contents

1.0 Introduction

The Township maintains a diverse transportation network to provide safe and effective means to keep our communities moving and connected. Roads located within the Township are under the care of either the Township of Norwich or the County of Oxford. The Township is responsible for the construction and maintenance of all roads under their jurisdiction. The Township has shared ownership of boundary roads with the neighbouring municipality. Replacements costs noted throughout this appendix relate to the Township's share of the costs.

The Township's transportation services assets are categorized into various components, as a result of differing life spans and maintenance strategies. They are collector and local roads (including paved and un-paved surfaces); road appurtenances which include guide rails, street lights, sidewalks and retaining walls; parking lots; works yards; fleet and equipment; and stormwater assets including catchbasins, storm pipes and stormwater management facilities. Bridges, structural culverts, and culverts <3m are included within the Bridges and Culverts appendix.

Like many of our assets, our transportation services assets are facing increased challenges as a result of aging assets, climate change, increasing costs and increasing demand due to growth in our communities. Our investment in these assets must therefore be balanced to optimize investment for renewal with the growing needs of our community.

The Township has 153.4 centreline km of gravel roads throughout the area. The current lifecycle management for gravel roads includes the addition of gravel as well as regular grading and calcium addition which are not captured as capital expenses. This will change in the 2025 budget year, as this program is being moved to the capital budget. The Township is currently investigating a gravel road conversion to hardtop program and this AMP will be updated accordingly in 2025.

1.1 Improvement Plan

The following recommendations are based on the review of current management practices, inventory, valuation and condition analysis.

- Incorporate maintenance requirements into lifecycle strategies.
- Continue to work to reduce asset data gaps.
- Document lifecycle history on asset components within the asset management systems.
- Update attributes to further enhance the risk profile in the asset management system.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the Township's current inventory and the associated replacement costs, average age and anticipated useful life for each component. The anticipated useful lives exclude the management strategies that the Township utilizes to extend the overall life beyond this estimate. On January 1, 2022, as part of the road rationalization strategy with the County of Oxford, New Durham Road was transferred to the County.

The replacement cost valuation for collector and local roads are based on the 2023/2024 Road Needs Study utilizing existing surface type. The replacement cost valuation for facilities is based on the 2023 Building Condition Assessment, with replacement costs for other assets based on current tender prices where available and inflation.

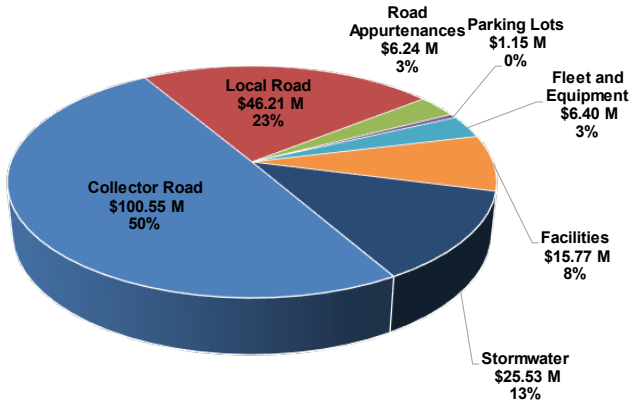


Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Collector Road[1]	lane-km	497.31	$100,548,009	31	25
Local Road[2]	lane-km	187.75	46,207,238	31	25
Roadside Appurtenances	each	9	281,903	45	50
Street Lights	each Lights/Poles	682 / 200	1,678,430	13	30
Sidewalks	length (m)	32,489	4,284,663	37	30
Parking Lots	square meter	6,277	1,145,687	11	30
Fleet and Equipment	each	14	6,404,600	9	5-10
Facilities	each	3	15,771,000	7	10-50
Catchbasins	each	983	4,163,000	32	90
Storm Pipes	length (m)	29,052	19,720,124	23	90
Stormwater Management Facilities	each	12	1,650,000	10	90
Total Replacement Cost			**$201,854,652**		

[1] "Collector Roads" means Class 3 and Class 4 highways as determined under the Table to section 1 of Ontario Regulation 239/02
[2] "Local Roads" means Class 5 and Class 6 highways as determined under the Table to section 1 of Ontario Regulation 239/02

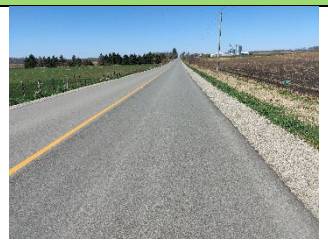
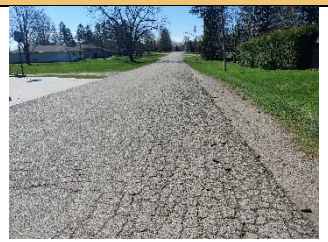
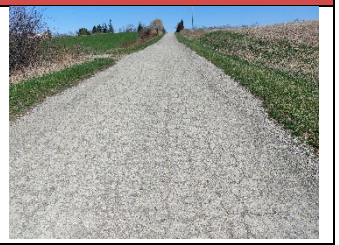
2.2 Condition Assessment Approach

The assessment approach for the assets in this portfolio utilizes a combination of physical assessments, asset attributes, such as material, as well as established anticipated useful lives. Given the complexities and accessibility of some assets, not all assets allow for a visual or performance-based condition assessment. For assets which have not been visually inspected an age-based condition rating is being used based on anticipated useful lives.

The state of the collector and local road assets is determined based on the Pavement Condition Index (PCI). The PCI is calculated from the Ride Comfort Rating (RCR) and the Distress Manifestation Index (DMI). The Ministry of Transportation developed a formula to determine the cumulative impacts of the various surface distresses, to determine the DMI for each road section. The higher the calculated DMI the better overall condition of the road surface. The PCI tells us what the current condition of the road segment is and can help determine the rate of deterioration of that segment by comparing PCI values over time. It helps to identify immediate maintenance and rehabilitation requirements, as well as provide a base for establishing a long-term maintenance strategy. Table 2.2.1 illustrates how the PCI values align with the Township's standard condition scale.

The Township conducts a Road Needs Study every five years to provide an overview of the condition of the various road segments. The condition information utilized is based on the 2023/2024 Road Needs Study, prepared by RJ Burnside & Associates Ltd. Conditions have been adjusted for road segments that have had work completed since being evaluated in the study.

Table 2.2.1 - PCI Score Ratings[3]

Asset Component	Very Good PCI Score of 85-100	Good PCI Score of 70-84	Fair PCI Score of 55-69	Poor PCI Score of 40-54	Critical PCI Score of 0-39
Collector and Local roads					

[3] Unless otherwise noted, all images are of Township assets, and are general representations of the condition at the time the photo was taken. Assets may have undergone lifecycle strategies since the date of the image impacting its condition.

The Pipeline Assessment Certificate Program (PACP) is the North American Standard for pipeline defect identification and assessment[4]. Closed-circuit television (CCTV) is the principal method of inspecting drains and sewers. In this process, a small robotic crawler vehicle with the CCTV camera attached is lowered into the pipe to complete the inspections. A structural rating, on a scale of 0-5, is assigned using sewer condition assessment standards, with 0 representing an asset with minimal structural deficiencies and 5 representing assets on the verge of failure. Table 2.2.2 illustrates how the PACP score ratings align with the Township's standard condition scale.

The Township has completed limited CCTV inspections of its stormwater mains, typically on an as needed bases when looking at reconstruction projects. Due to a lack of sewer ratings, the age and material of the assets are used to assign conditions to our stormwater network assets.

Table 2.2.2 - PACP Score Ratings[5]

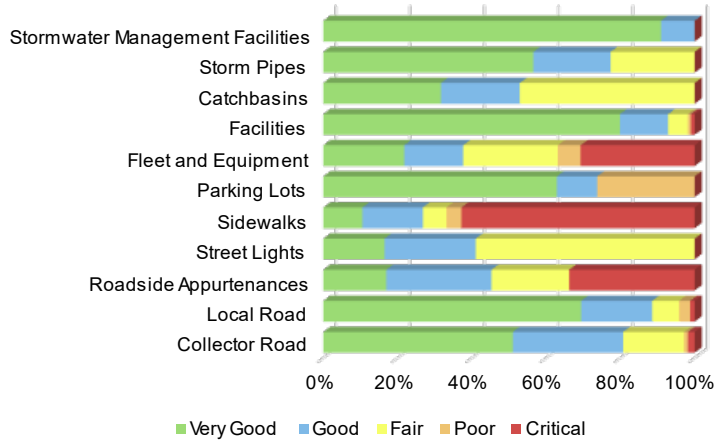
Asset Component	Very Good PACP Score of 0 or 1	Good PACP Score of 2	Fair PACP Score of 3	Poor PACP Score of 4	Critical PACP Score of 5
Storm Pipes					

The Township has completed building condition assessments (BCA). The BCAs assess and document the current condition of facilities to identify capital repairs and replacements which may affect the continued operation of the property over the next ten (10) years, and to provide an assessment as to the level of accessibility for each property. Replacement costs are also requested as a part of this process. A BCA was completed on facilities in 2023.

[4] https://www.nassco.org/content/pipeline-assessment-pacp
[5] All images are of Non-Township assets and are general representations of the condition at the time the photo was taken.

2.3 Current Condition

The condition profile is shown in table 2.3.1, based on the projected condition as of December 31, 2023. The indicator measure in each condition is based on percentage of replacement costs as opposed to the number of assets. Continued completion of lifecycle strategies identified through the Road Needs Study will help maintain the overall condition rating of the roads.



It should be noted that it is not sustainable or practical for the Township to maintain assets to a high level, as the Townships roadways are considered lower class roads, seeing less traffic and therefore do not carry the same level of criticality as County or MTO roads. The Township will be establishing it's goal as part of the proposed levels of service requirements for the 2025 AMP.

Accurate age and condition data was unavailable for many of the sidewalks, and therefor an assumed installation date of 1975 based on Norwich Townships incorporation was applied, attributing to the large critical condition rating.

Table 2.3.1 - Condition Profile

Asset Component	Very Good	Good	Fair	Poor	Critical	Average Condition Rating
Collector Road	51%	30%	16%	1%	2%	Good
Local Road	70%	19%	7%	3%	1%	Good
Roadside Appurtenances	17%	28%	21%	0%	34%	Poor
Street Lights	16%	25%	59%	0%	0%	Fair
Sidewalks	11%	16%	6%	4%	63%	Critical
Parking Lots	63%	11%	0%	26%	0%	Good
Fleet and Equipment	22%	16%	25%	6%	31%	Poor
Facilities	80%	13%	5%	1%	1%	Good
Catchbasins	32%	21%	47%	0%	0%	Fair
Storm Pipes	56%	21%	23%	0%	0%	Good
Stormwater Management Facilities	91%	9%	0%	0%	0%	Very Good
Overall Total	**55%**	**24%**	**15%**	**2%**	**4%**	

3.0 Levels of Service

Table 3.1.1 includes metrics required under the Infrastructure for Jobs and Prosperity Act, 2015 - O.Reg. 588/17, as well as additional metrics the Township has included.

Corporate Objective

The objective of Transportation Services, which includes the collection of stormwater, is to ensure people and goods are able to move safely and efficiently throughout the Township and to efficiently provide reliable stormwater services and protect the community from flooding and associated property damage. The inventory includes a number of assets located on boundary roads with neighbouring municipalities in which the Township and the neighbouring municipality share in the maintenance activity costs. Service agreements are in place to ensure that service levels are maintained.

Legislative Requirements

Ontario Regulation 239/02[6] specifies the Maintenance Standards for Municipal Highways. It covers such items as, but not limited to, patrolling frequency, snow accumulation, potholes, and regulatory/warning signs and traffic signals. The level of service provided by the Township for winter maintenance meets the level required by Ontario Regulation 239/02.

Ontario does not currently have a regulation specifically for stormwater management. Under the Ontario Water Resources Act (OWRA) Section 53, stormwater infrastructure requires an Environmental Compliance Approval (ECA), formerly a Certificate of Approval (C of A), for its establishment, alteration, extension, and replacement. Operations, maintenance, and reporting requirements are typically identified in ECA condition(s) if applicable.

The Township is required to maintain minimum standards based on governing directives. These include, but are not limited to, Technical Standards & Safety Authority (TSSA), Electrical Safety Authority (ESA), National Plumbing Code of Canada (NPC), Fire Code, Ontario Building Code, Designated Substance List (DSL) and additional Ministry of Labour (MOL) requirements.

The Accessibility for Ontarians with Disabilities Act, 2005[7] was developed with the purpose of ensuring that accessibility for Ontarians with disabilities is achieved on or before January 1, 2025. The Township ensures that each new build / renovation complies with the standards developed under this Act.

[6] https://www.ontario.ca/laws/regulation/020239
[7] https://www.ontario.ca/laws/statute/05a11

Based on the vehicles contained within the Township's fleet we are required to carry a Commercial Vehicle Operator's Registration (CVOR) certificate[8]. Operator responsibilities include the mechanical safety condition of the vehicle. Commercial Vehicle Safety Alliance (CVSA) safety inspections are completed annually and are included as part of the CVOR record.

Customer Levels of Service

The following statements form our qualitative descriptions of the customer level metrics required under O.Reg. 588/17.

- *The Township's transportation network provides a safe and efficient multi-modal transportation system, which moves people and goods into and through the Township while meeting the present and future needs of residents and businesses.*
- *The Township's stormwater network works to mitigate the risk of flooding throughout the township, in combination with Oxford County systems.*
- *Stormwater infrastructure, which is resilient to the 5-year storm, will be considered as any Township stormwater main which has been designed to convey/treat/detain runoff from storm events up to the 5-year event.*
- *The township has undertaken a two-part analysis to determine properties resilient to the 100-year storm. Properties that have structures that lie within 1.5m of the 100-year floodline are considered not resilient. Outside of the 100-year floodline, overland flow routes were determined, ultimately directing runoff from the 100-year event to a downstream receiver. Where there are instances of sags in the road profile, all properties which front the road within the sag limits are considered as non-resilient. Also, properties which have an entrance leading to a structure at a lower elevation than the road grade is considered as non-resilient.*

As a further illustrative example of our community levels of service, maps are included as figure 3.1.2 showing the connectivity of our road network and figure 3.1.3 showing the resiliency to a 100-year storm.

Table 3.1.1 - Performance Measures

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
Safety	Providing an operational and accessible transportation network that is safe for all modes and uses of the transportation network	# of lane-kilometers of collector roads as a proportion of square kilometers of land area of the municipality	3,423 lane-km to 425.5 km^2 of land area	3,423 lane-km to 425.5 km^2 of land area	N/A
		# of lane-kilometers of local roads as a proportion of square kilometers of land area of the municipality	1,292 lane-km to 425.5 km^2 of land area	1,292 lane-km to 425.5 km^2 of land area	N/A

[8] http://www.mto.gov.on.ca/english/trucks/commercial-vehicle-operators-registration.shtml

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
		% of properties in municipality resilient to a 100-year storm	99.5%	99.5%	TBD
		% of the municipal stormwater management system resilient to a 5-year storm (urban areas and settlement villages)	86.8%	86.8%	TBD
Quality	Maintaining transportation network in a state of good repair	% of roads with surfaces in good or very good condition (PCI >= 70)	-	83%	TBD
		Average Pavement Condition Index (for collector paved roads)	-	79.7	TBD
		Average Pavement Condition Index (for local paved roads)	-	84.5	TBD
		Average Surface Condition (for unpaved roads)	-	80.5	TBD
Reliability	Providing a transportation network that is reliable	% of roads with surface area in poor or critical condition (PCI < 55)	-	7%	TBD
		% of all Transportation Assets in poor or critical condition	-	5%	TBD

Figure 3.1.2 Road Network Connectivity

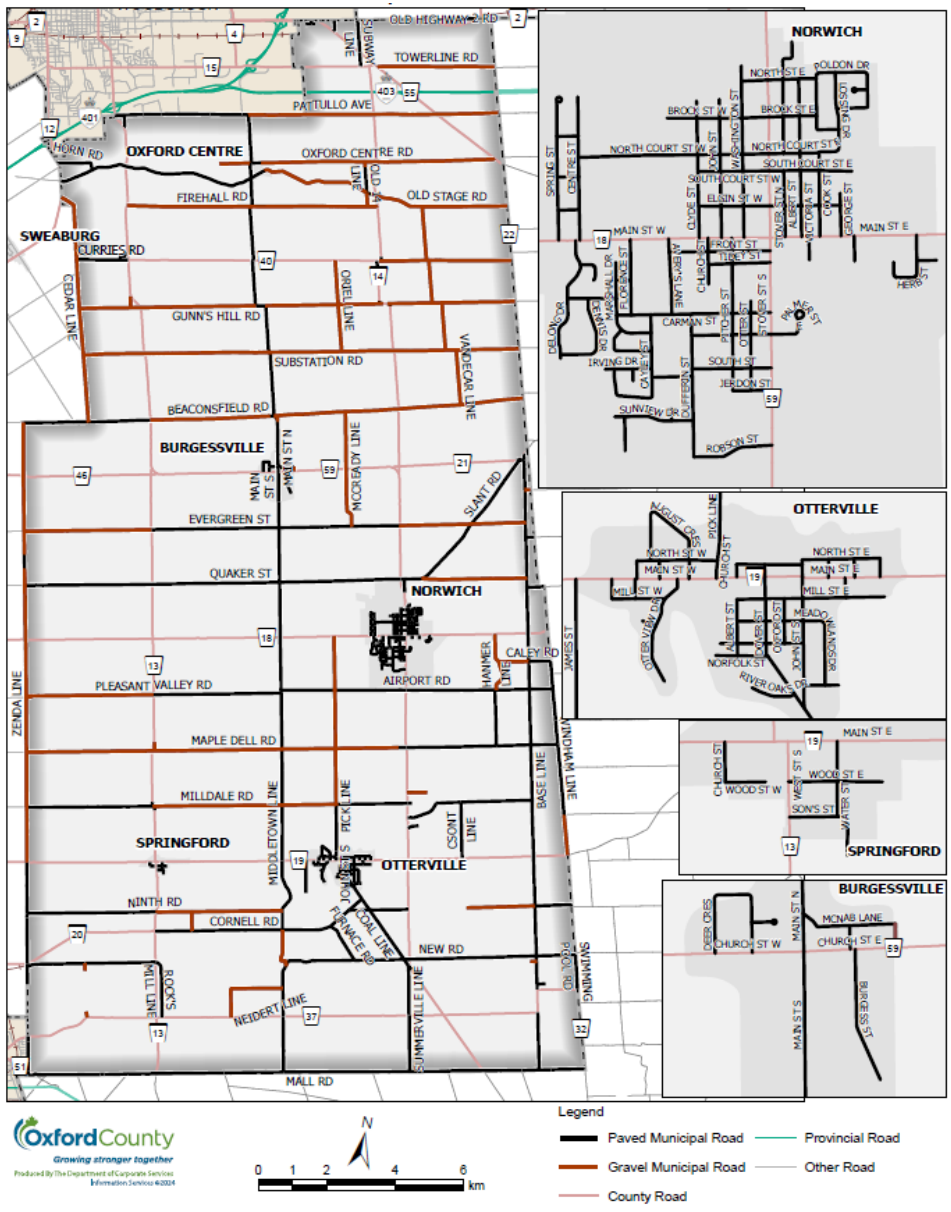
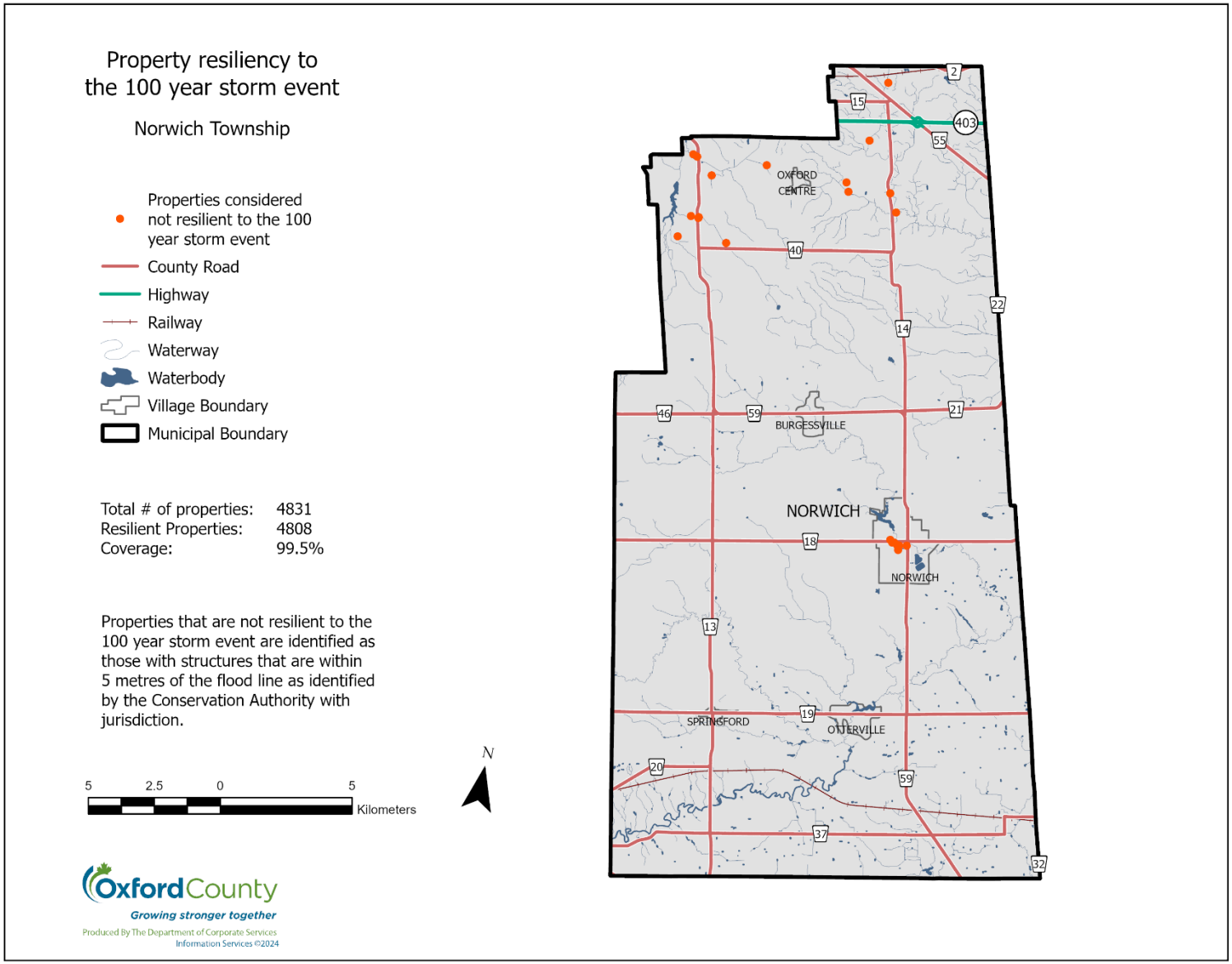


Figure 3.1.3 100-Year Storm Resiliency



4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

The Township has developed various maintenance strategies depending on the asset component and type of surface. These strategies align with the Road Needs Study.

Routine maintenance requires minimal effort to maintain the useful life of our road network. Safety critical elements are identified during the inspection process to determine if any assets are in need of immediate repair. All safety concerns are addressed in alignment with minimum maintenance standard requirements.

The most effective improvement in a road's useful life can be achieved by completing rehabilitations while the roadway has a PCI between 45 and 65. Although PCI is a measure of the overall condition of the roadway surface, other factors are considered when prioritizing maintenance.

Weather factors and actual traffic flow will also influence the actual life achieved. It is possible to have segments that exceed the anticipated useful lives defined, as well as, segments that require replacement prior to the end of their anticipated useful life.

For stormwater assets, replacement needs are based on a run to failure strategy, as this is typically the most economical. Township staff will continue to monitor industry trends and best practices, evaluating any lifecycle activities to determine if there is value to implementing them.

As part of capital works project analysis, determinations of whether the roadway replacement or rehabilitation should occur is reviewed. This process is fully integrated with the renewal needs of the underground assets, such as drinking water, wastewater and stormwater. This integrated approach ensures the renewal projects for these service areas are delivered with optimal timing to increase value and minimize disruption to our communities.

Examples of lifecycle activities considered in the overall sustainable management of this portfolio are described in table 4.1.1.

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• CCTV inspections • Roads needs study **Trigger: Ongoing**
Maintenance	• Pothole repairs • Catchbasin cleaning **Trigger: Ongoing**
Rehabilitation / Renewal	• Partial depth asphalt removal / repaving • Storm main lining **Trigger: PCI between 45 and 65 or Fair/Poor**
Replacement	• Occurs at the end of the useful life and/or when rehabilitation is no longer an option • May also occur to increase service levels **Trigger: PCI < 50, Poor/Critical**
Disposal	• Activities associated with disposing of an asset once it has reached the end of its useful life **Trigger: Poor/Critical**
Expansion / Growth	• New roads & storm sewers as part of subdivision development **Trigger: Development/Storm Resiliency**

4.2 Risk Strategy

For this portfolio the probability of failure is based on the projected condition. The consequence of failure for many of the transportation assets contains economic consequences (weighted at 60% of the overall consequence scoring), operational consequences (weighted at 20% of the overall consequence scoring) and Health and Safety consequences (weighted at 20% of the overall consequence scoring). Staff are working to further enhance the risk profiles as not all attributes recommended for inclusion are currently tracked within the asset management systems.

Table 4.2.1 illustrates the risk ratings at a summary level. In addition to the Road Needs Study and BCA process, staff complete regular inspections. Areas of concern are addressed through demand maintenance or included in the subsequent budget cycle as appropriate. There are five dump trucks between 12 and 19 years old rated as very high, which are anticipated to be replaced within the next 5 years. The inspection and review process helps mitigate the likelihood of any unanticipated asset failures. Staff will continue to monitor the higher risk assets, review, and/or complete physical inspections to further validate needs and plan for lifecycle strategies accordingly.

Table 4.2.1 - Risk Profile

Asset Component	Very High	High	Moderate	Low	Very Low	Average Risk Rating
Collector Road	1%	11%	9%	20%	59%	Low
Local Road	2%	1%	2%	9%	86%	Very Low
Roadside Appurtenances	0%	0%	0%	34%	66%	Very Low
Street Lights	0%	0%	0%	0%	100%	Very Low
Sidewalks	0%	0%	0%	63%	37%	Very Low
Parking Lots	0%	26%	0%	0%	74%	Low
Fleet and Equipment	30%	13%	12%	19%	26%	Moderate
Facilities	0%	0%	12%	5%	83%	Low
Catchbasins	0%	0%	0%	0%	100%	Very Low
Storm Pipes	0%	0%	0%	5%	95%	Very Low
Stormwater Management Facilities	0%	0%	0%	0%	100%	Very Low
	2%	**6%**	**6%**	**15%**	**71%**	

4.3 Climate Change

As part of the asset management planning process, the Township will consider the risks and vulnerabilities of capital assets to climate change and the resulting actions that may be required. Commitment will be made to the development of tailored actions that make the best use of our resources to mitigate and adapt to climate change, in accordance with our local reduction targets, financial capacity and stakeholder support.

Climate change resiliency will be identified as a design criterion for asset renewal/replacement projects as part of the Township's capital plan.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded through an annual levy contribution to the Road Construction, Parking Lots, Sidewalks, Streetlights, Road Equipment / Buildings reserves, and the use of Ontario Community Infrastructure Funding (OCIF) and Canada Community-Building Fund (CCBF).

Based on the lifecycle strategies identified to maintain current levels of service, the financial estimates over the next 100-years are determined in current dollars and summarized in Table 5.1.1. Staff will review the current lifecycle requirements with each budget cycle to ensure that the 10-year capital plan reflects the most current information available. The 10-year capital plan may not reflect all lifecycle needs identified by the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

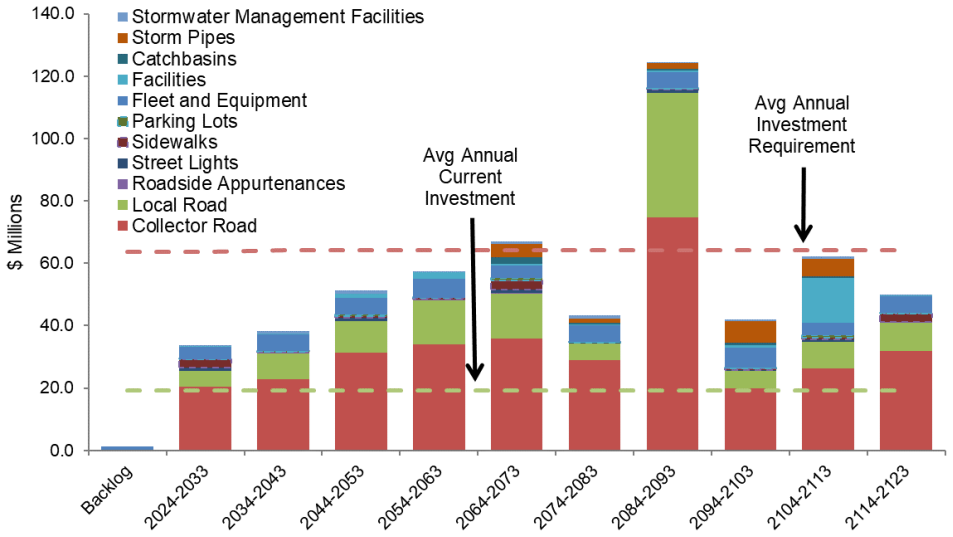


Table 5.1.1 - Lifecycle Requirements (millions)

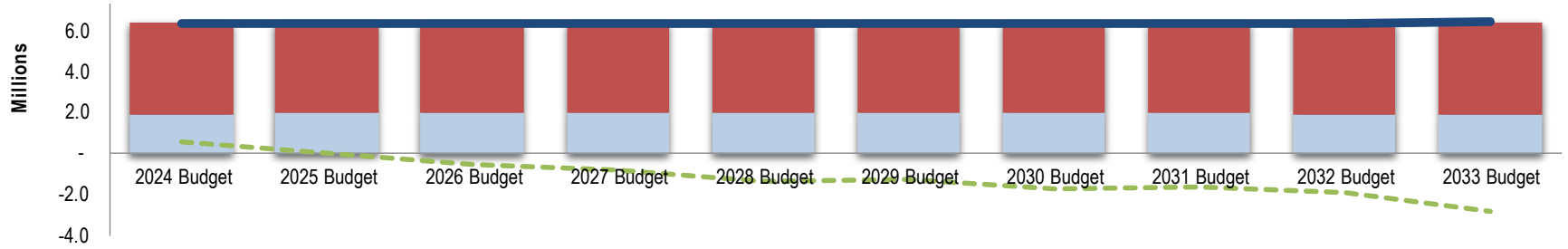
Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Collector Road	$-	$20.33	$22.70	$31.41	$33.93	$35.84	$28.97	$74.63	$19.80	$26.32	$31.84
Local Road	-	5.18	8.48	10.07	14.26	14.38	5.18	39.95	5.67	8.39	9.02
Roadside Appurtenances	0.08	0.02	0.14	0.07	0.06	0.15	0.07	0.06	0.08	0.07	0.21
Street Lights	-	0.90	0.08	1.03	0.11	1.27	0.25	0.99	0.07	0.94	0.12
Sidewalks	-	2.74	0.20	0.59	0.52	2.94	0.17	0.27	0.70	0.45	2.74
Parking Lots	-	0.08	0.23	0.30	0.12	0.80	0.03	0.20	0.30	0.84	0.08
Fleet and Equipment	1.15	3.89	5.46	5.49	6.09	3.95	5.47	5.05	6.42	3.83	5.37
Facilities	-	0.30	0.21	1.20	2.13	0.55	0.34	0.60	0.66	14.48	0.34
Catchbasins	-	-	-	-	-	1.92	0.31	0.48	0.89	0.57	-

Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Storm Pipes	-	-	-	-	-	4.32	1.34	1.90	6.77	5.39	-
Stormwater Management Facilities	-	0.09	0.84	1.14	0.09	0.84	1.14	0.09	0.73	1.01	0.09
Totals	**$1.23**	**$33.53**	**$38.34**	**$51.30**	**$57.31**	**$66.96**	**$43.27**	**$124.2**	**$42.09**	**$62.29**	**$49.81**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the current funding noted within the 2024 Approved Budget. The reserve balances noted in Table 5.1.2 reflect the projects identified in the 10-year capital plan and may not reflect all the lifecycle needs identified in Table 5.1.1.

Table 5.1.2 - Budgeted Funding

	Key	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget	2030 Budget	2031 Budget	2032 Budget	2033 Budget
Annual Required Investment		$6,364,000	$6,364,000	$6,364,000	$6,364,000	$6,364,000	$6,364,000	$6,364,000	$6,364,000	$6,364,000	$6,411,000
Current Investment		1,843,348	1,956,202	1,955,108	1,954,013	1,952,958	1,951,824	1,950,730	1,949,635	1,897,895	1,896,773
Funding Deficit		4,520,652	4,407,798	4,408,892	4,409,987	4,411,042	4,412,176	4,413,270	4,414,365	4,466,105	4,514,227
Funding Surplus		-	-	-	-	-	-	-	-	-	-
Reserve Balance		557,827	(10,380)	(559,887)	(814,394)	(1,408,251)	(1,293,558)	(1,717,765)	(1,628,772)	(1,928,079)	(2,878,186)

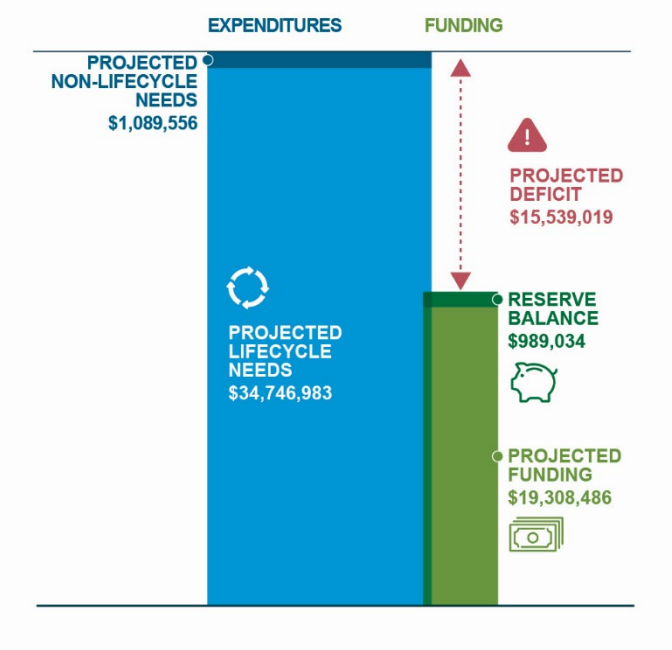


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the 10-year period of 2024-2033. The Township's asset management system calculates the optimal expenditures based on theoretical asset lifecycle needs, including information from the 2023/2024 Road Needs Study, the latest study available in the preparation of this report. The projected non-lifecycle needs included in Table 5.3.1 reflect ongoing debenture payment obligations. Table 5.3.1 reflects an approximate $15.5 million deficit in funding availability over the period 2024-2033.

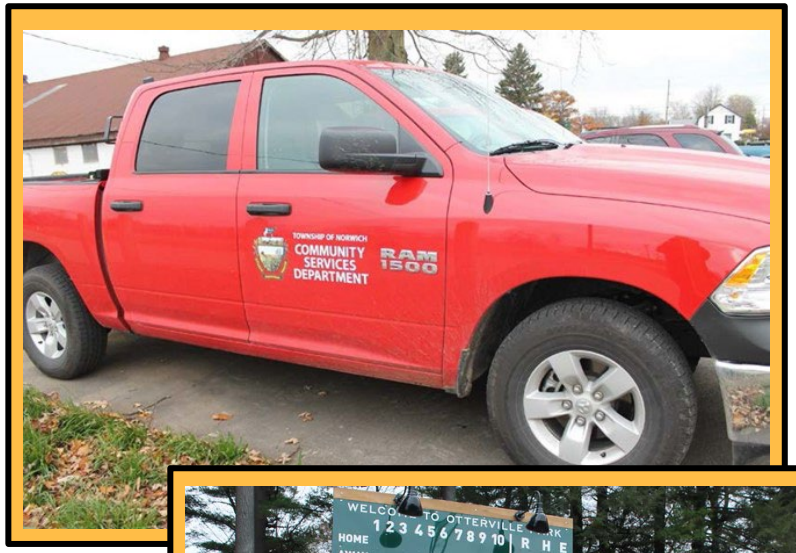
Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$34,746,983	-
Projected Non-Lifecycle Needs	1,089,556	-
Reserve Balance	-	$989,034
Projected Funding	-	19,308,486
Total	**$35,836,539**	**$20,297,520**
Deficit (Surplus)		**$15,539,019**



Annual contributions to reserve should increase annually with inflation and additional increases should be considered. As existing debentures end, the Township should consider reallocating the amount as reserve contributions to assist with closing the funding gap. The Township will review projected lifecycle needs to determine if projects may be pushed beyond the 2024 to 2033 period at low risk to the Township. Impacts to the subsequent period will be reviewed as part of this decision-making process.

The majority (70%) of the projected lifecycle needs are related to existing hard top local and collector roadways as identified in the 2023-2024 Road Needs Study. Additional stormwater work within urban areas will typically have costs which exceed the projected replacement costs as they may not be serviced or sized appropriately, these costs would be in addition to the expenditures listed in Table 5.3.1. There are no projected replacement needs on gravel roads within the 2024 to 2033 period. Any costs related to conversion of roads from gravel to hard top would be in addition to the expenditures listed in Table 5.3.1.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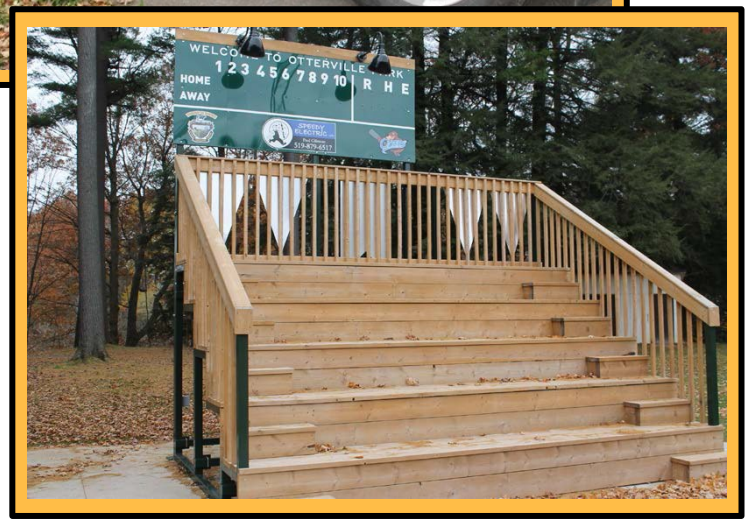
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AWAY
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Table of Contents

1.0 Introduction

The Community Services Department of the Township of Norwich offers many different avenues for individuals to improve or enjoy their quality of life. Together with our community partners, we deliver recreational programs and services, and maintain and operate a variety of facilities such as municipal parks and sports fields, the Nor-Del Arena, Otterville Outdoor Pool, Opti-mist Splashzone and various banquet facilities.

The Township's community services assets are categorized into various components, as a result of differing life spans and maintenance strategies. They are assets related to our facilities (arena's, community halls, etc.), the Otterville Pool, fleet/equipment, and various park amenities.

Like many of our assets, our community services assets are facing increased challenges as a result of aging assets, increased costs and increasing demand due to growth in our communities. Our investment in these assets must therefore be balanced to optimize investment for renewal with the growing needs of our community.

1.1 Improvement Plan

The following recommendations are based on the review of current management practices, inventory, valuation and condition analysis.

- Incorporate maintenance requirements into lifecycle strategies.
- Continue to work to reduce asset data gaps.
- Document lifecycle history on asset components within the asset management systems.
- Update attributes to further enhance the risk profile in the asset management system.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the Township's current inventory and the associated replacement costs, average age and anticipated useful life for each component. The anticipated useful lives exclude the management strategies that the Township utilizes to extend the overall life beyond this estimate.

Replacement costs for facilities were determined by Building Condition Assessments (BCA) completed by Facility Risk Solutions in 2023. For other assets in this portfolio, the replacement costs were estimated based on staff reviews, historical construction costs and inflation rates.

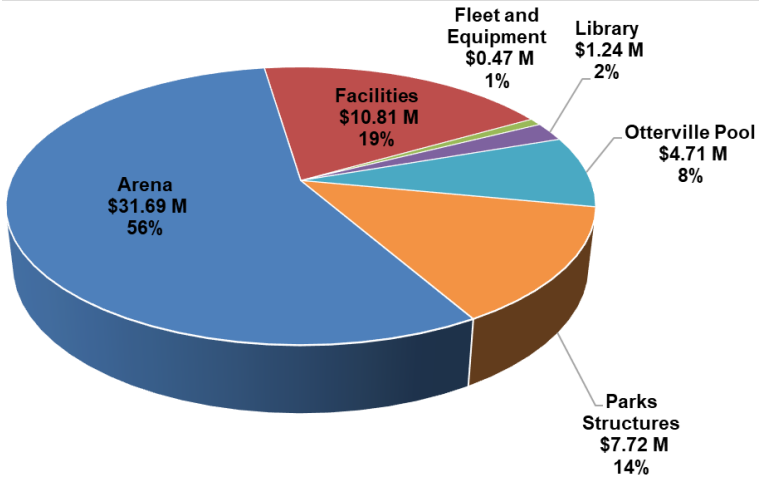


Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Arena	each	1	$31,691,213	18	20-100
Facilities	each	15	10,809,399	95	20-100
Fleet and Equipment	each	7	466,840	6	7-20
Library	each	1	1,239,174	48	20-100
Otterville Pool	each	2	4,708,701	50	20-100
Parks Structures	each	81	7,716,776	20	10-40
Total Replacement Cost			**$56,632,103**		

2.2 Condition Assessment Approach

The assessment approach utilizes a combination of physical assessments, asset attributes, as well as established anticipated useful lives.

The Township has completed building condition assessments (BCA) on all recreational facilities in 2023. The BCAs assess and document the current condition of facilities to identify capital repairs and replacements which may affect the continued operation of the property over the next ten (10) years, and to provide an assessment as to the level of accessibility for each property. Replacement costs are also requested as a part of this process.

2.3 Current Condition

The condition profile is shown in table 2.3.1, based on the projected condition as of December 31, 2023. The indicator measure in each condition is based on percentage of replacement costs as opposed to the number of assets.

The Otterville Pool is an aging facility that was last rehabilitated in 2011. The Burgessville library is also an aging facility, originally constructed in 1967.

Many of the parks structures follow a run to failure strategy and it is therefore normal to see a distribution between various conditions.

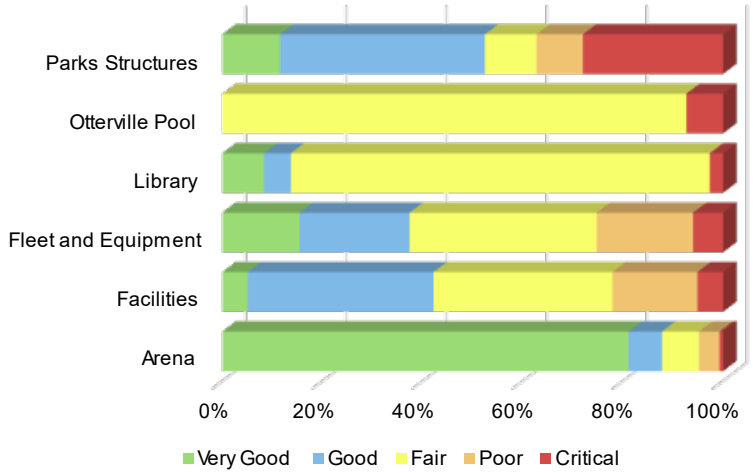


Table 2.3.1 - Condition Profile

Asset Component	Very Good	Good	Fair	Poor	Critical	Average Condition Rating
Arena	81%	7%	7%	4%	1%	Good
Facilities	5%	37%	36%	17%	5%	Fair
Fleet and Equipment	15%	22%	37%	20%	6%	Fair
Library	8%	5%	84%	0%	3%	Fair
Otterville Pool	0%	0%	93%	0%	7%	Fair
Parks Structures	12%	41%	10%	9%	28%	Fair
Overall Total	**48%**	**17%**	**22%**	**7%**	**6%**	

3.0 Levels of Service

The Infrastructure for Jobs and Prosperity Act, 2015 - O.Reg. 588/17, requires the Township to establish metrics to evaluate this portfolio. Table 3.1.1 includes metrics the Township has included in the framework.

Corporate Objective

The corporate objective of community services is to deliver recreational programs and services and maintain and operate a variety of facilities such as municipal parks and sports fields, the Nor-Del Arena, Otterville Outdoor Pool, Opti-mist Splashzone and various banquet facilities.

Legislative Requirements

The Township is required to maintain minimum standards based on governing directives. These include, but are not limited to, Technical Standards & Safety Authority (TSSA), Electrical Safety Authority (ESA), National Plumbing Code of Canada (NPC), Fire Code, Ontario Building Code, Designated Substance List (DSL) and additional Ministry of Labour (MOL) requirements.

The Accessibility for Ontarians with Disabilities Act, 2005[1] was developed with the purpose of ensuring that accessibility for Ontarians with disabilities is achieved on or before January 1, 2025. The Township ensures that each new build / renovation complies with the standards developed under this Act.

The Township has facilities including the Otterville Mill, Woodlawn Place, and Railway Station Museum which are designated as having historical significance and are therefore subject to the requirements within the Ontario Heritage Act. Section 33 of the Ontario Heritage Act[2] addresses the alteration process to ensure that the heritage attributes of a designated property are conserved.

Customer Levels of Service

The following statements form our qualitative descriptions of the customer level metrics required under O.Reg. 588/17.

- *The Township's community services portfolio provides different avenues for individuals to improve or enjoy their quality of life.*

[1] https://www.ontario.ca/laws/statute/05a11
[2] https://www.ontario.ca/laws/statute/90o18

Table 3.1.1 - Performance Measures

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
Quality	Providing facilities and amenities in acceptable condition.	% of assets in good or better condition	-	65%	TBD
Reliability	Providing facilities and amenities that are reliable and accessible.	% of assets in poor or critical condition	-	13%	TBD

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

To cost effectively maintain assets at the established service levels, the right maintenance or rehabilitation activity needs to be completed at the ideal time throughout the asset's lifecycle. The use of the facility also plays a role in when maintenance is completed. Staff will also complete similar lifecycle activities across buildings in this portfolio and others where possible to maximize economies of scale and achieve the best benefit to the Township.

For many community services assets, replacement needs typically follow a "run to failure" strategy as long as the assets remain safe for users. This is usually the most cost-effective approach and follows provincial and federal standards. Staff will constantly monitor industry trends and best practices, assessing lifecycle activities to ascertain if implementing them would add value.

Examples of lifecycle activities considered in the overall sustainable management of this portfolio are described in table 4.1.1.

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Inspections • Building Condition Assessments **Trigger: Ongoing**
Maintenance	• Routine and preventative maintenance programs • Equipment cleaning **Trigger: Ongoing**
Rehabilitation / Renewal	• Major & minor rehabilitations, based on asset component where cost effective **Trigger: Fair/Poor**
Replacement	• Occurs at the end of the useful life • May also occur to increase service levels **Trigger: Poor/Critical**
Disposal	• Activities associated with disposing of an asset once it has reached the end of its useful life **Trigger: Poor/Critical**
Expansion / Growth	• New facilities as part of subdivision development • Changes to accessibility requirements **Trigger: Development**

4.2 Risk Strategy

For this portfolio, the probability of failure is based on the projected condition and the consequence of failure is based on the replacement cost of the asset and health and safety criticality. Staff are working to further enhance the risk profiles as not all attributes recommended for inclusion (including social and environmental metrics) are currently tracked within the asset management systems.

Table 4.2.1 illustrates the risk ratings at a summary level. In addition to the BCA process, staff complete regular inspections. Areas of concern are addressed through demand maintenance or included in the subsequent budget cycle as appropriate. The inspection and review process helps mitigate the likelihood of any unanticipated asset failures. Staff will continue to monitor the higher risk assets, review, and/or complete physical inspections to further validate needs and plan for lifecycle strategies accordingly.

Table 4.2.1 - Risk Profile

Asset Component	Very High	High	Moderate	Low	Very Low	Average Risk Rating
Arena	0%	6%	4%	7%	83%	Low
Facilities	11%	30%	31%	5%	23%	Moderate
Fleet and Equipment	0%	0%	0%	57%	43%	Very Low
Library	0%	77%	0%	3%	20%	High
Otterville Pool	6%	92%	0%	2%	0%	High
Parks Structures	0%	18%	36%	16%	30%	Low
	3%	**21%**	**13%**	**7%**	**56%**	

4.3 Climate Change

As part of the asset management planning process, the Township will consider the risks and vulnerabilities of capital assets to climate change and the resulting actions that may be required. Commitment will be made to the development of tailored actions that make the best use of our resources to mitigate and adapt to climate change, in accordance with our local reduction targets, financial capacity and stakeholder support.

Climate change resiliency will be identified as a design criterion for asset renewal/replacement projects as part of the Township's capital plan.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded through an annual levy contribution to the Otterville Pool, Arena, Library and various parks reserves.

Based on the lifecycle strategies identified to maintain current levels of service, the financial estimates over the next 100-years are determined in current dollars and summarized in Table 5.1.1. Staff will review the current lifecycle requirements with each budget cycle to ensure that the 10-year capital plan reflects the most current information available. The 10-year capital plan may not reflect all lifecycle needs identified by the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

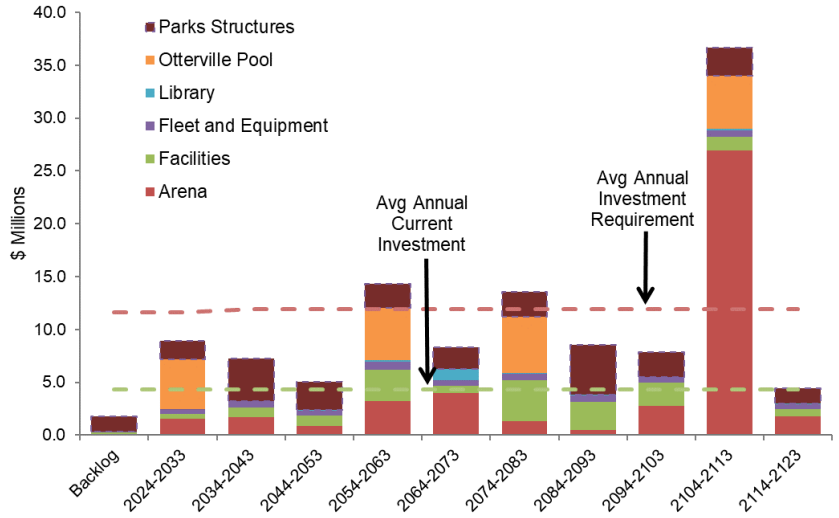


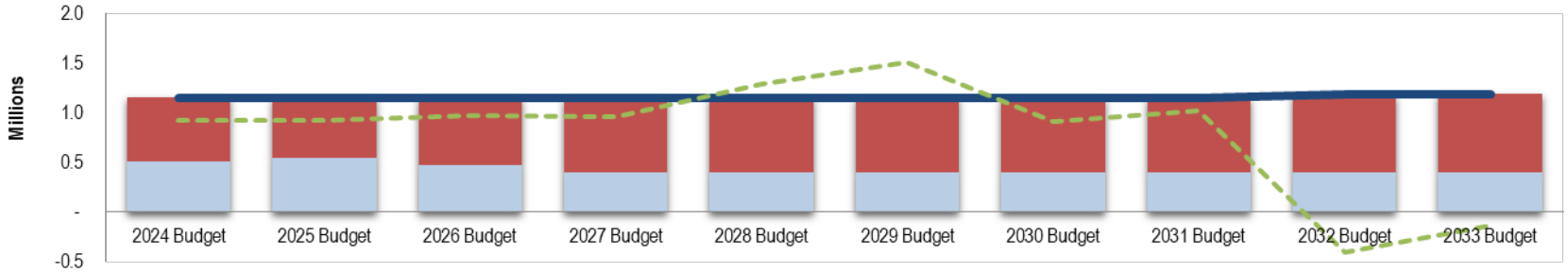
Table 5.1.1 - Lifecycle Requirements (millions)

Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Arena	$0.01	$1.52	$1.70	$0.86	$3.18	$3.95	$1.31	$0.48	$2.79	$26.96	$1.76
Facilities	0.26	0.51	0.89	0.96	2.98	0.70	3.87	2.68	2.16	1.27	0.68
Fleet & Equipment	0.03	0.43	0.61	0.50	0.78	0.51	0.61	0.59	0.55	0.63	0.50
Library	-	0.03	0.05	0.08	0.12	1.06	0.06	0.07	0.03	0.16	0.07
Otterville Pool	-	4.71	-	-	5.00	-	5.35	-	-	5.00	-
Parks Structures	1.51	1.69	3.98	2.64	2.26	2.07	2.33	4.75	2.35	2.65	1.39
Totals	**$1.81**	**$8.89**	**$7.23**	**$5.04**	**$14.32**	**$8.29**	**$13.53**	**$8.57**	**$7.88**	**$36.67**	**$4.40**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the current funding noted within the 2024 Approved Budget. The reserve balances noted in Table 5.1.2 reflect the projects identified in the 10-year capital plan and may not reflect all the lifecycle needs identified in Table 5.1.1.

Table 5.1.2 - Budgeted Funding

	Key	2024 Budget	2025 Budget	2026 Budget	2027 Budget	2028 Budget	2029 Budget	2030 Budget	2031 Budget	2032 Budget	2033 Budget
Annual Required Investment		$1,156,000	$1,156,000	$1,156,000	$1,156,000	$1,156,000	$1,156,000	$1,156,000	$1,156,000	$1,182,000	$1,190,000
Current Investment		504,982	548,309	471,673	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Funding Deficit		651,018	607,691	684,327	756,000	756,000	756,000	756,000	756,000	782,000	790,000
Funding Surplus		-	-	-	-	-	-	-	-	-	-
Reserve Balance		921,711	924,711	972,711	961,211	1,287,711	1,516,211	911,211	1,023,711	(402,789)	(138,289)



5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the current 10-year period of 2024 to 2033. The Township's asset management system calculates the optimal expenditures based on theoretical asset lifecycle needs. The projected non-lifecycle needs included in Table 5.3.1 reflect ongoing debenture payment obligations. Table 5.3.1 reflects an approximate $5.9 million deficit in funding availability over the 2024 to 2033 period.

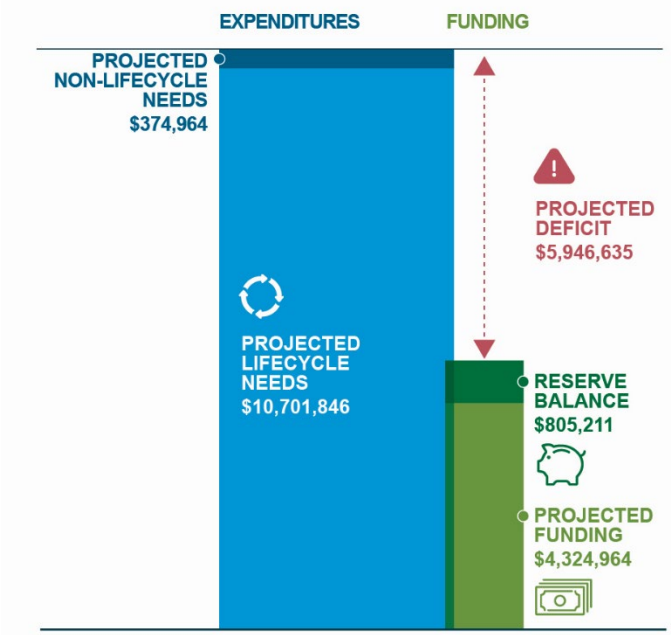


Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$10,701,846	-
Projected Non-Lifecycle Needs	374,964	-
Reserve Balance	-	$805,211
Projected Funding	-	4,324,964
Total	**$11,076,810**	**$5,130,175**
Deficit (Surplus)		**$5,946,635**

This portfolio has a funding deficit; annual contributions to reserve should increase annually with inflation and additional increases should be considered. As existing debentures end, the Township should investigate re-allocating those funds as reserve contributions to assist with closing the funding gap. This portfolio contains many facilities, with the eventual replacement of the facilities needing to be planned for.

The Otterville Pool replacement is one of the driving factors of the 10-year funding deficit, with a projected lifecycle need of $4.4 million.

The deficit in funding availability may be partially managed through the issuance of debentures. The issuance of debentures results in a higher overall cost resulting from the inclusion of interest, however, would defer a portion of the funding needs beyond the 2024 to 2033 period. Consideration also needs to be given to the funding requirements of subsequent periods when deferring current obligations through the issuance of debentures.