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Township of
SOUTH-WEST
OXFORD
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1.0 Executive Summary

1.1 Background

Nestled in the heart of rural South-Western Ontario, the Township of South-West Oxford offers many of the conveniences of urban living while enjoying the serenity of country life. The Township includes the communities of Beachville, Brownsville, Centreville, Culloden, Delmer, Dereham Centre, Foldens, Mount Elgin, Ostrander, Salford, Sweaburg and Verschoyle. The Township has a strategic location with and proximity to many large economic centers via Highway 401 which runs across the north end of the Township and Highway 19 which connects the Township to the Town of Ingersoll to the north and the Town of Tillsonburg to the south.

This Asset Management Plan (AMP) supports the Township's 2023 to 2026 Strategic Plan of a welcoming, safe and inclusive rural community for life. 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 will form the basis for annual contributions into capital reserves, helping smooth the impact on property taxes, for 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, apart from natural assets as Township staff continue to work through identifying assets and related asset management planning practices for this area.

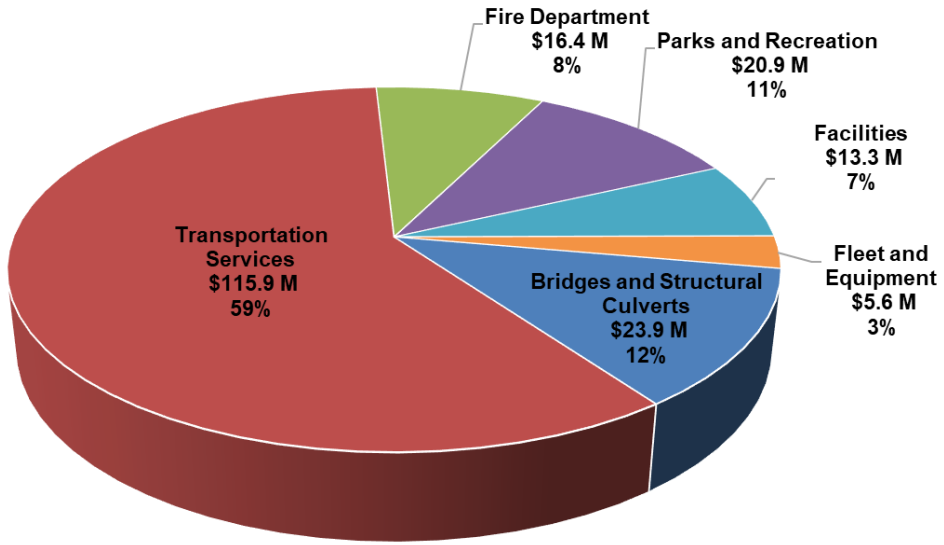
In addition to meeting the provincially mandated AMP requirements, this AMP establishes a strategic framework for managing these assets, aligning assets with service objectives, documenting core practices and procedures, and guiding the action and investment needed to meet key business goals. To be eligible for certain capital grants, municipalities must have an AMP and demonstrate the 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 $196 million.

Table 1.1.1 Consolidated Replacement Value

Asset Appendix	Replacement Cost
Bridges and Structural Culverts	$23,937,500
Transportation Services	115,902,579
Fire Department	16,366,020
Parks and Recreation	20,922,067
Facilities	13,270,725
Fleet and Equipment	5,618,074
Total Replacement Cost	**$196,016,965**



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, using 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 values and strategic directions as set out in the 2023-2026 Strategic Plan.

- A connected, compassionate, and engaged community Through asset management engagement activities we will gather valuable feedback from residents to make informed decisions on our long-term asset needs.
- A healthy and active community Asset management planning processes ensure assets are maintained in a manner that provides the required level of service to enhance the quality of life for all our citizens.
- A safe and secure community Providing assets that are reliable to ensure we are able to be there for our citizens in a time of need.
- A thriving and sustainable community The asset management planning process helps ensure we grow in a sustainable manner, with each AMP appendix documenting ways climate change and environmental sustainability are incorporated into asset management practices.
- A trusted township, that delivers values for the communities it serves 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.

2.3 Alignment to Other Plans and Policies

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

- Official Plan The Oxford County 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, built in alignment with asset lifecycle needs. The plan identifies capital projects 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 this AMP is to set out how the Township's assets will be managed in accordance with the Strategic 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 long-term capital plan, including reconstruction and rehabilitation strategies, maintenance, repair activities, ongoing operations, and financial planning.

The asset management planning process begins with the Strategic 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, facilities, parks, fire, 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;
- Maintenance management system to assess maintenance, operation and replacement activities of existing assets;

- Asset accounting for Public Sector Accounting Board (PSAB) purposes in accordance with PSAB 3150; and
- 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 stormwater assets, 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. It is the objective of Council that new development necessary to accommodate growth must be wisely managed to ensure that patterns of development and types of land uses are efficient, environmentally sound, financially responsible and meet the needs of residents.

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 Growth Projections

	2026	2031	2036	2041	2046
Population	8,380	8,650	8,910	9,120	9,330
Households	2,900	2,990	3,080	3,150	3,220
Employment	2,960	2,990	3,040	3,090	3,150

2.9 Commitment to Engagement

The Strategic Plan commits to ensuring residents are actively engaged in decision making. We 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 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. The Township generally assumes ownership of these assets approximately two years after full operation. 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 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 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:

- Excellent - 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 lifecycle curves 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 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 general 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.

- Enhanced environmental stewardship: an increased demand of environmentally responsible alternatives (i.e. battery electric vehicles); the Township's requirement to look at environmental sustainability with each asset lifecycle need could increase timelines and costs.
- 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 us 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.
- Active transportation: increases in the use of alternative transportation results in increased pressure to maintain a safe and reliable transportation network.

5.0 Asset Management Strategy

5.1 Procurement Methods

The Township's Purchasing Policy sets out guidelines for the Township to obtain the best value when purchasing goods or contracting services for the Township.

The key objectives of the purchasing policy are to:

- ensure that procurement decisions will be made using a competitive process that is open, transparent and fair;
- encourage innovation and the use of technology which meets the Township's specifications and industry standards in order to ensure the utilization of the most efficient and effective procurement processes and practices; and
- promote and maintain the integrity of the purchasing process and protect Council, vendors and staff involved in the process by providing clear direction and 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 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 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 and deterioration modelling. 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.

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 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 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.

Risks associated with lifecycle activities include:

- Insufficient funding and/or staff to complete activities.
- Construction risks including scope creep.
- Escalating or unanticipated costs.
- Unanticipated deterioration.
- Delays in receiving required materials / components.

6.0 Financial Strategy

6.1 Financing Strategies

A financial plan is a critical component of the AMP as it 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 needed to meet growing demands through population increases or demand for new services. 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 projects will be prioritized 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 take into account 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. This information is utilized 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 operating and capital budgets. Sound financial analysis will be encompassed in asset management planning for the AMP to be a sought-after guide to staff 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.

6.3 Funding Gap Analysis

Using the anticipated 10-year asset lifecycle needs, along with the current capital investment level, and beginning of year reserve balance, the Township is able to determine if there is an anticipated funding gap within each appendix over the current 10-year period.

Drawing reserve balances to zero may result in increased capital reserve contribution requirements in the subsequent 10-year period to fund 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. 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 deficit 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 appendix and will be incorporated into future budget cycles as appropriate.

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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 of South-West Oxford are under the care of either the Township or the County of Oxford. The Township is responsible for the construction and maintenance of all the transportation network assets under their jurisdiction. This includes bridges and culverts which help provide continuous efficient movement of traffic.

Bridges and structural culverts are categorized into two components; bridges and structural culverts with a span of 3 meters or greater (culverts with spans less than 3 meters are included in the Transportation AMP). Staff are working to identify the guide rails inventory and will include these needs in a future AMP.

Assets face increased challenges as a result of aging, climate change and increasing demand due to growth. 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 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 systems.
- Continue to improve data confidence.
- Document lifecycle history on asset components within the asset management systems.

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 as part of the 2023 Bridge Needs Study. Replacement costs identified reflect only the Township's portion of shared boundary road structures.

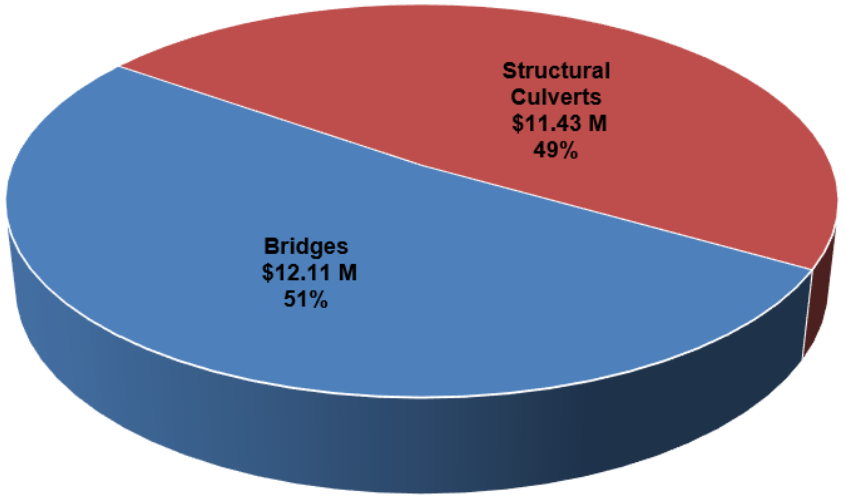


Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Bridges	each	14	$12,110,000	56	60
Structural Culverts	each	32	11,427,500	51	50-65
Total Replacement Cost			**$23,537,500**		

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.

A Bridge Needs Study is required to be conducted 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.

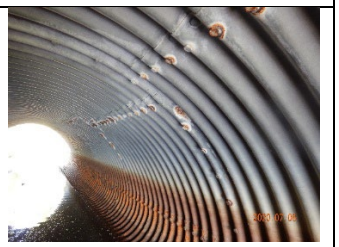
Other factors are also considered in the prioritization of our structure rehabilitation recommendations including:

- 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.

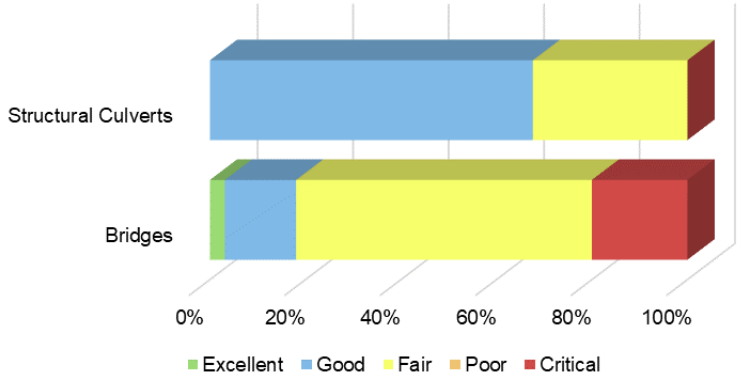
Table 2.2.1 - BCI Score Ratings[1]

Asset Component	**Excellent** 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				 Non-Township owned structure	
Structural Culverts					 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 46 structures, 24 (52%) 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 or Oxford County, as the Township structures are located on lower class roads, seeing less traffic and therefore do not carry the same level of criticality as County or MTO structures. The Township will be establishing it's goal as part of the proposed levels of service requirements for the 2025 AMP.

Table 2.3.1 - Condition Profile

Asset Component	Excellent	Good	Fair	Poor	Critical	Average Condition Rating
Bridges	3%	15%	62%	0%	20%	Fair
Structural Culverts	0%	68%	32%	0%	0%	Good
Overall Total	**2%**	**40%**	**48%**	**0%**	**10%**	

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 the transportation service, which includes the maintenance of the Township's bridges and structural culverts, is to ensure people and goods are able to move safely and efficiently throughout the Township. The transportation network includes a number of 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.*
- *Structural 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.	2%	2%	N/A
Quality	Providing a bridge and culvert network at the appropriate material quality	For bridges in the municipality, the average bridge condition index value	65.27	63.11	TBD
		For structural culverts in the municipality, the average bridge condition index value	75.30	74.65	TBD
Reliability	Providing a bridge and culvert network that is reliable	% of structural culverts in poor or critical condition	3%	3%	TBD
		% of bridges in poor or critical condition	20%	20%	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.

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.

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Climate change adaptation and mitigation planning • 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**
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 **Trigger: Development**

4.2 Risk Strategy

For this portfolio the probability of failure is based on the projected condition. The consequence of failure contains economic consequences (weighted at 57% of the overall consequence scoring) and social consequences (weighted at 43% 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 have a major 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). There is one bridge structure (Domtar bridge) rated as severe with a projected condition score of 35.54. This structure and its anticipated future usage will be closely monitored to ensure safety is maintained. 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	Severe	Major	Moderate	Minor	Insignificant	Average Risk Rating
Bridges	17%	45%	11%	17%	10%	Major
Structural Culverts	0%	0%	6%	64%	30%	Minor

4.3 Climate Change

As part of the asset management planning process, the risks and vulnerabilities of capital assets to climate change will be assessed. Commitment will be made to the utilization of climate adaptation tools, guidelines, and standards as published by Provincial, Federal and/or other regulatory agencies, and included as design criterion for bridge and structural culvert renewal/replacement projects.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded by a balance in the Roads-Bridges reserve along with levy contributions for capital projects as they arise.

Based on the lifecycle strategies identified to maintain current levels of service, the cost estimates to support the lifecycle needs 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 business plan and budget cycle to ensure that the capital projects selected for completion align with the most current information available. The capital plan may not reflect all lifecycle needs identified from the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

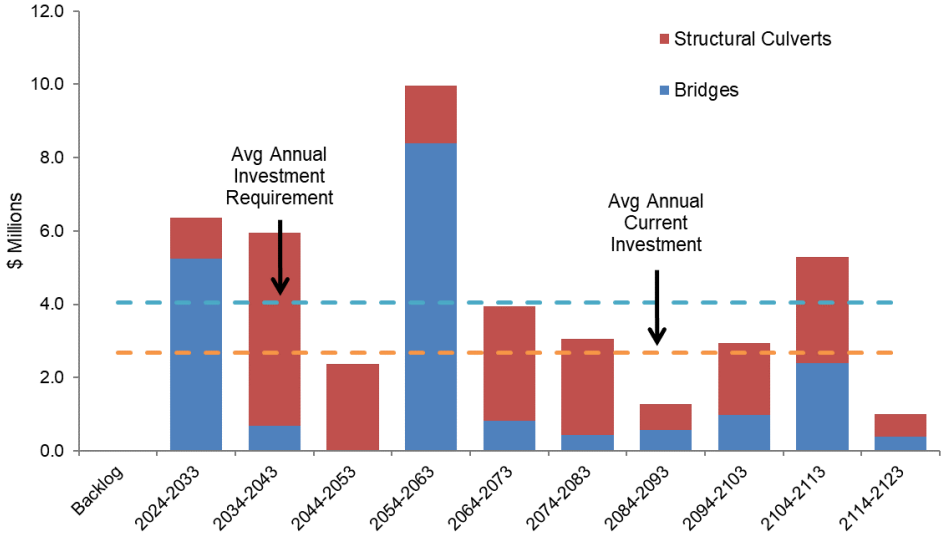


Table 5.1.1 - Lifecycle Requirements (millions)

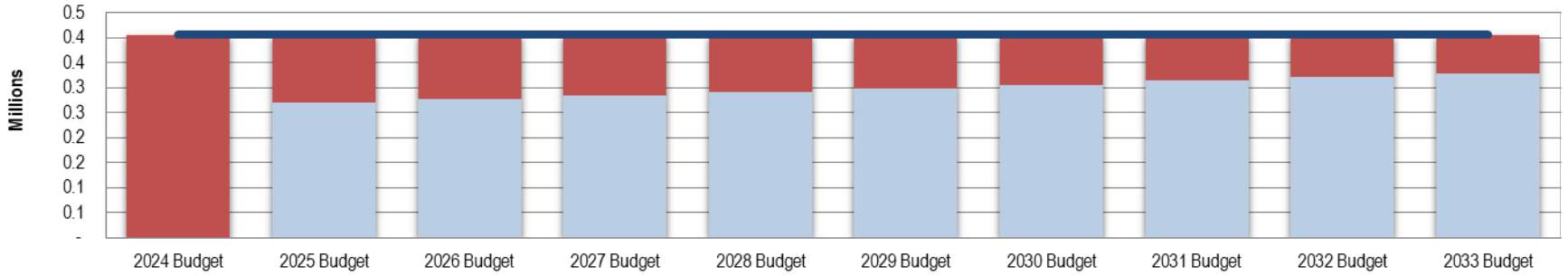
Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Bridges	$-	$5.25	$0.69	$-	$8.40	$0.83	$0.43	$0.57	$0.98	$2.40	$0.39
Structural Culverts	-	1.11	5.26	2.37	1.56	3.12	2.63	0.71	1.96	2.88	0.61
Totals	**$-**	**$6.36**	**$5.95**	**$2.37**	**$9.96**	**$3.95**	**$3.06**	**$1.28**	**$2.94**	**$5.28**	**$1.00**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the funding noted within the 2024 approved budget, along with the following assumption:

- The 2025 contribution towards lifecycle needs is anticipated at 50% of the average 5 year spend and will increase at 2.5% annually thereafter.

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		$405,000	$405,000	$405,000	$405,000	$405,000	$405,000	$405,000	$405,000	$405,000	$405,000
Current Investment		-	270,000	276,750	283,669	290,760	298,029	305,480	313,117	320,945	328,969
Funding Deficit		405,000	135,000	128,250	121,331	114,240	106,971	99,520	91,883	84,055	76,031
Funding Surplus		-	-	-	-	-	-	-	-	-	-

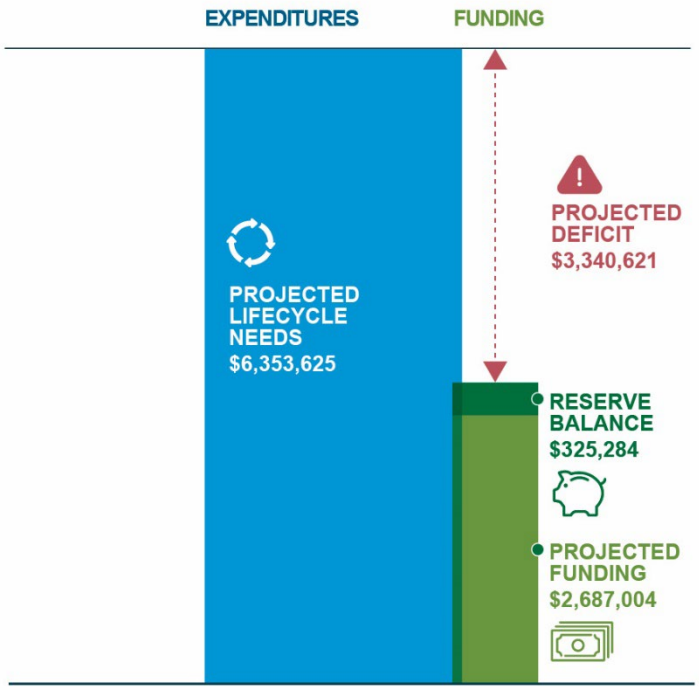


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the 10-year period of 2024 to 2033. The reserve balance is based on the forecasted 2023 closing balance; as a result, does not reflect final 2023 information. The asset management system calculates the optimal expenditures based on theoretical asset lifecycle needs. Table 5.3.1 reflects an approximate $3.3 million deficit in funding availability over the period 2024 to 2033.

Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$6,353,625	-
Reserve Balance	-	$325,284
Projected Funding	-	2,687,720
Total	**$6,353,625**	**$3,013,004**
Deficit (Surplus)		**$3,340,621**



In alignment with the assumption made within Table 5.1.2. it is recommended that annual contributions to the Roads-Bridges reserve commence with the 2025 budget. Subsequently, the annual amount should increase by the amount of inflation, along with another increase to aid in closing the gap.

This portfolio should be reviewed in conjunction with the transportation services portfolio to determine if Ontario Community Infrastructure Funds, or Canada Community-Building Funds could be re-directed to complete key lifecycle needs within this portfolio.

Projected levels of service will also be reviewed and determined in preparation for an updated AMP in 2025 in accordance with the requirements from O.Reg. 588/17. Impacts to the annual requirements will be determined once projected levels of service are established.

Table of Contents

1.0 Introduction

South-West Oxford 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 South-West Oxford Township or the County of Oxford with the township responsible for the construction and maintenance of all roads under their jurisdiction. The township has shared ownership of boundary roads with the neighbouring municipality, with financial information throughout relating to only the townships share.

Transportation services also maintains a diverse stormwater network comprised of natural and built environments. Due to the interconnected nature of stormwater assets throughout Oxford County, analysis on stormwater flows is completed holistically.

Transportation services assets are categorized into various components, each tailored to different life spans and maintenance strategies; collector roads, local roads, guide rails, street lights, sidewalks, parking lots and fleet and equipment, culverts with spans less than 3 meters, catchbasins, catchbasin leads, and storm mains.

Like many of our assets, our transportation services assets are facing increased challenges as a result of aging assets, climate fluctuations, increased replacement 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

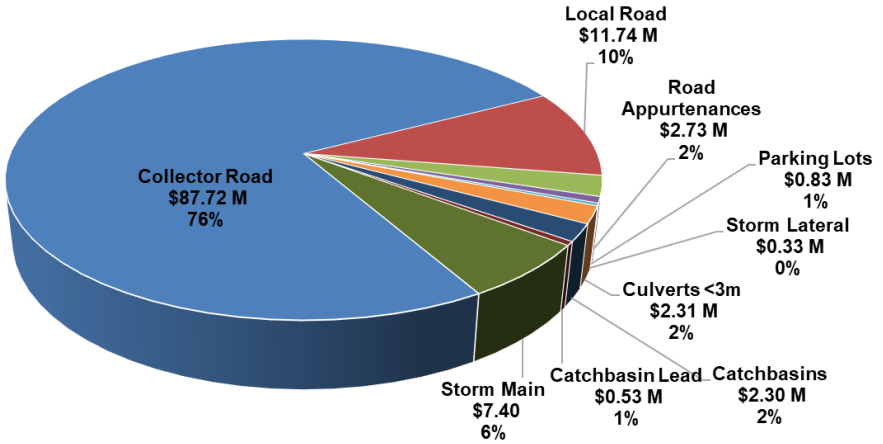
The following recommendations are based on the review of current management practices, inventory, valuation, and condition analysis.

- Update attributes to further enhance the risk profile in the asset management systems.
- Continue to improve data confidence.
- Document lifecycle history on asset components within the asset management systems.
- Establish a procedure for integrating consultant and staff asset inspections into the condition rating process.

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. The lengths identified for collector and local roads reflect only the Township's share of boundary roads.



Staff members are actively addressing data gaps, by using road reconstruction dates as a proxy for estimating the age of the stormwater assets associated with each road section, where in-service dates are unavailable.

Of the collector and local roads listed in Table 2.1.1, approximately 294 lane-km are gravel roads. The replacement cost for gravel roads represents either the cost related to a complete reconstruction of the gravel road or the costs for conversion to a surface treated road, if recommended in the last Roads Needs Study. Gravel roads require replacement on an infrequent basis, and replacement is generally completed to improve service levels or resulting from structural deficiencies.

The replacement cost valuation of stormwater components relies on current tender prices, where available. These replacement values assume that work is completed concurrently with other lifecycle projects, such as road rehabilitation and the replacement of linear water and wastewater assets owned by Oxford County.

Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Collector Road[1]	lane-km	497.55	$87,723,289	54	25

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

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Local Road[2]	lane-km	57.34	11,744,199	40	25
Guide Rails	length (m)	96	68,677	14	30
Street Lights	each	573	1,007,467	17	30
Sidewalks	length (m)	14,667	1,655,797	22	30
Parking Lots	each	22	828,670	40	30
Storm Lateral	length (m)	567	331,858	10	90
Culverts <3m	length (m)	6,595	2,313,272	34	50-90
Catchbasins	each	494	2,295,000	42	90
Catchbasin Lead	length (m)	1,097	531,900	20	90
Storm Main	length (m)	7,751	7,402,449	18	90
Total Replacement Cost			**$115,902,579**		

2.2 Condition Assessment Approach

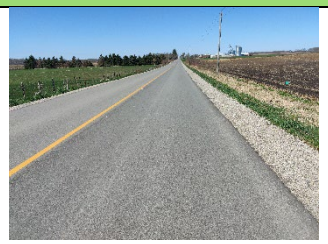
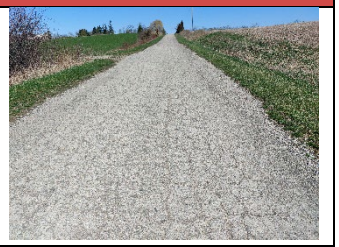
The assessment approach for the assets in this portfolio utilizes a combination of physical assessments, asset attributes, such as material, as well as established anticipated useful lives. Given the complexities and accessibility of some assets, not all assets allow for a visual or performance-based 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), through a Road Needs Study completed every five years, with the next study due in 2024. 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 County's standard condition scale.

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

Table 2.2.1 - PCI Score Ratings[3]

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

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 standard condition scale. The township has conducted selective CCTV inspections of its storm mains, typically in newer development areas, and this is not currently part of the planning process when considering reconstruction projects.

Table 2.2.2 – PACP Score Ratings[5]

Asset Component	Excellent 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 Main					

[3] All images are of non-township owned assets and are general representations of the condition at the time the photo was taken.
[4] https://www.nassco.org/content/pipeline-assessment-pacp
[5] All images are of non-township owned 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 roadway assets to a level similar to the County, 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.

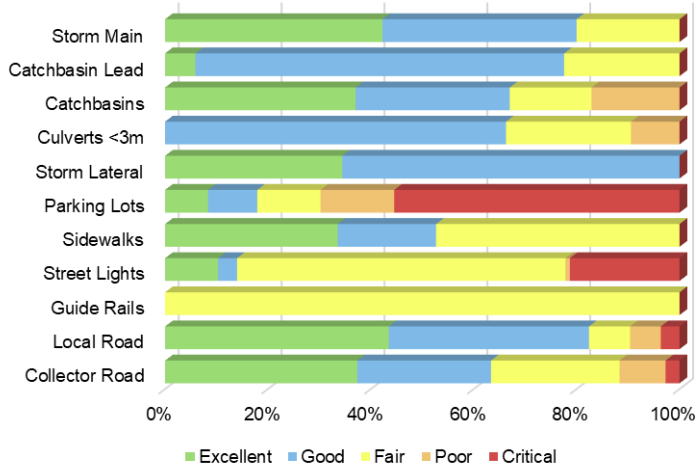


Table 2.3.1 - Condition Profile

Asset Component	Excellent	Good	Fair	Poor	Critical	Average Condition Rating
Collector Road	37%	26%	25%	9%	3%	Good
Local Road	43%	39%	8%	6%	4%	Good
Guide Rails	0%	0%	100%	0%	0%	Fair
Street Lights	10%	4%	64%	1%	21%	Fair
Sidewalks	34%	19%	47%	0%	0%	Good
Parking Lots	8%	10%	12%	14%	56%	Poor
Storm Lateral	34%	66%	0%	0%	0%	Excellent
Culverts <3m	0%	66%	25%	9%	0%	Fair
Catchbasins	37%	30%	16%	17%	0%	Good
Catchbasin Lead	6%	72%	22%	0%	0%	Good
Storm Main	42%	38%	20%	0%	0%	Good
Overall Total	**37%**	**29%**	**23%**	**8%**	**3%**	

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 is to ensure people and goods move safely and efficiently throughout the township, and to efficiently provide reliable stormwater services to protect the community from flooding. The inventory includes 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.

Customer Levels of Service

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

- *The 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 township residents and businesses.*
- *The 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.*

[6] https://www.ontario.ca/laws/regulation/020239

- *A two-part analysis has been undertaken 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 flood line, 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	497.6 lane-km to 365.82 km^2 of land area	497.6 lane-km to 365.82 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	57.3 lane-km to 365.82 km^2 of land area	57.3 lane-km to 365.82 km^2 of land area	N/A
		% of properties in municipality resilient to a 100-year storm	N/A	97.3%	TBD
		% of the municipal stormwater management system resilient to a 5-year storm	-	9.7%	TBD
Quality	Maintaining transportation network in a state of good repair	% of collector roads with surfaces in fair or better condition	N/A	88%	TBD
		% of local roads with surfaces in fair or better condition	N/A	90%	TBD
		Average Pavement Condition Index (for paved collector roads)	N/A	84.5	TBD
		Average Pavement Condition Index (for paved local roads)	N/A	77.9	TBD

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
		Average Surface Condition (for unpaved collector roads)	N/A	62.6	TBD
		Average Surface Condition (for unpaved local roads)	N/A	80.1	TBD
Reliability	Providing a transportation network that is reliable	% of roads surface in poor or critical condition	N/A	12%	TBD
		% of other Transportation Assets in poor or critical condition	9%	23%	TBD
		% of storm mains in poor or critical condition	0%	0%	TBD
		% of stormwater culverts in poor or critical condition	4%	9%	TBD

Figure 3.1.2 Road Network Connectivity

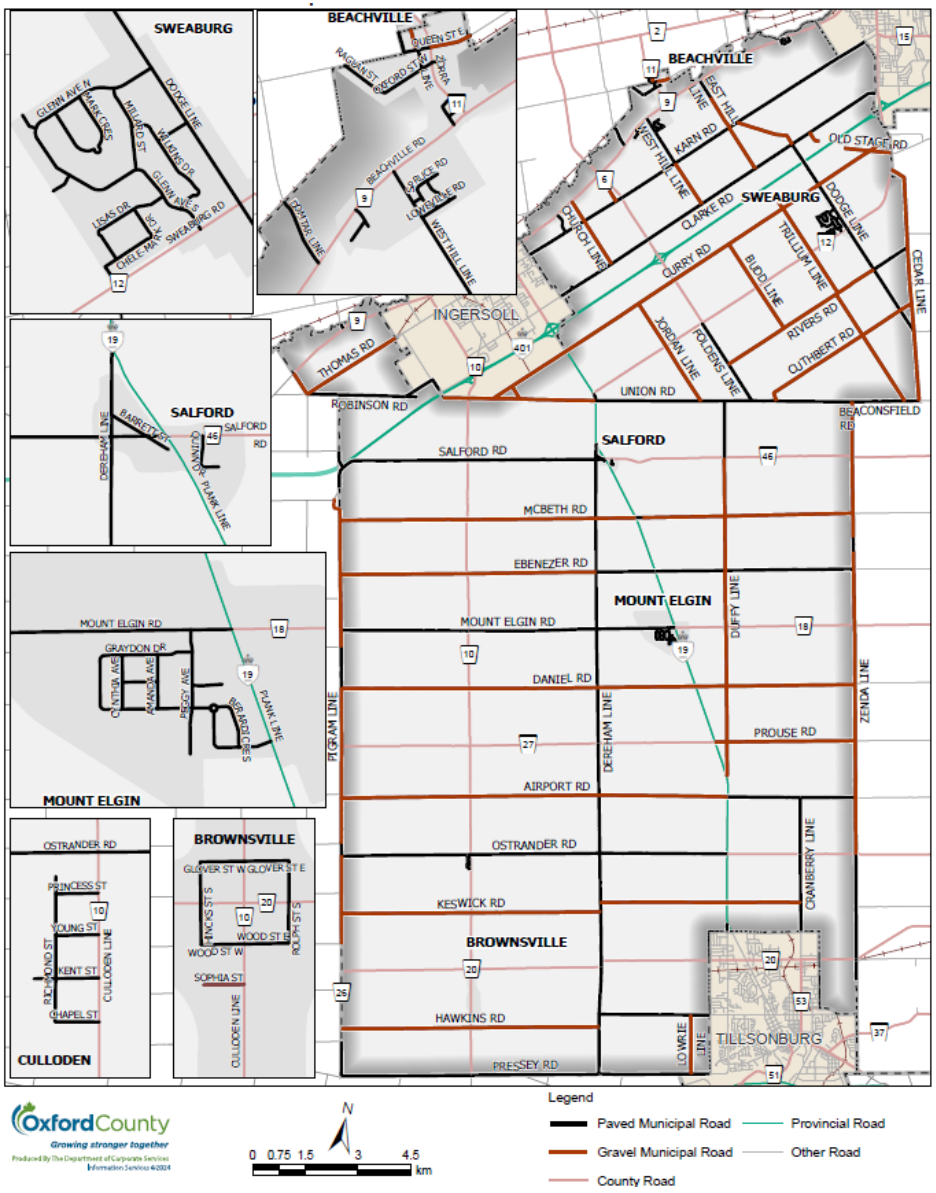
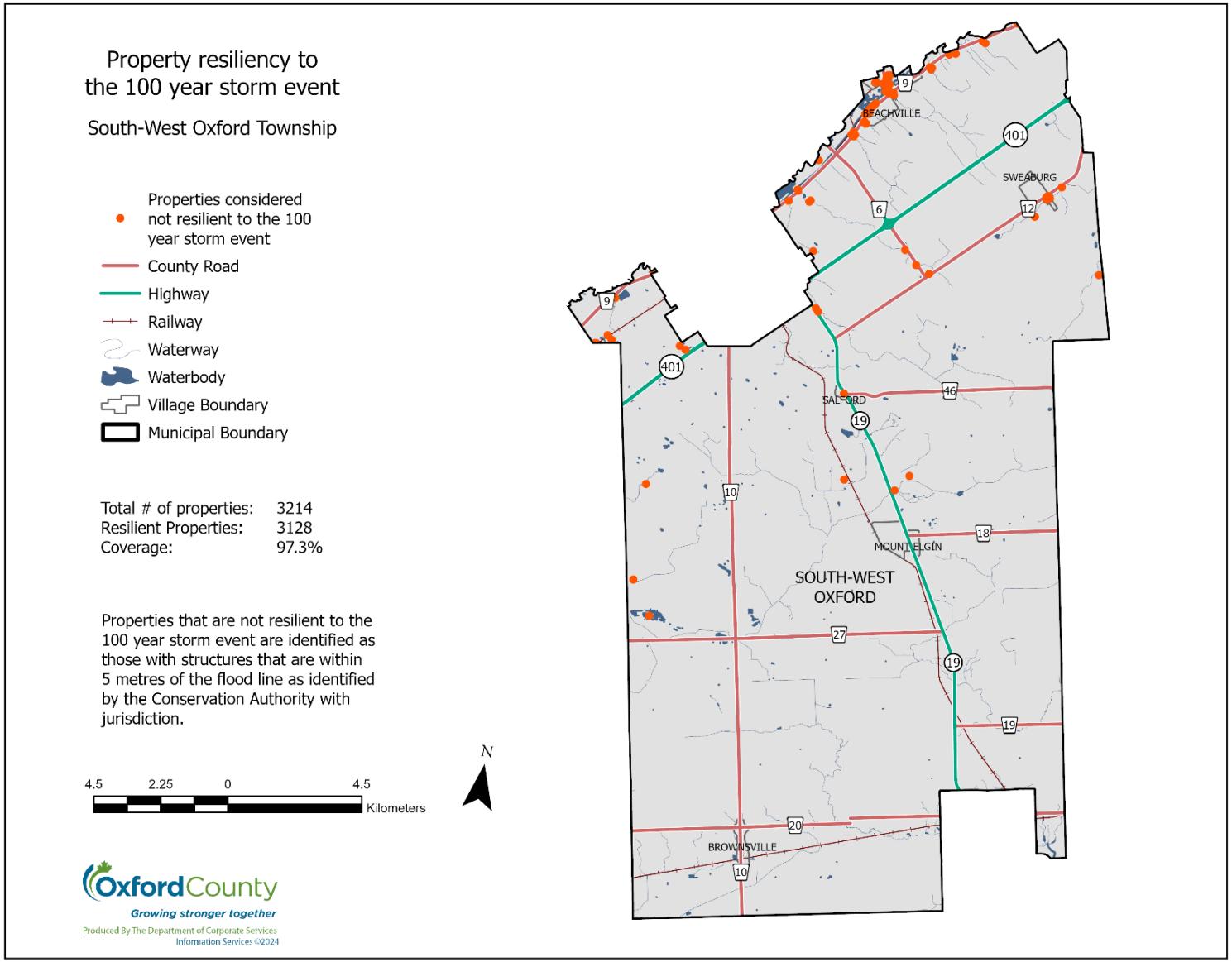


Figure 3.1.3 100-Year Storm Resiliency



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.

Stormwater collection assets undergo regular maintenance and inspection. In analysing capital works projects, decisions regarding the replacement or relining of stormwater pipes are carefully considered.

Weather factors and actual traffic flow will also influence the actual life achieved. Processes are seamlessly integrated with the renewal requirements of other assets, including drinking water and wastewater systems. By taking this comprehensive approach, we ensure that our renewal projects in these service areas are executed with optimal timing, maximizing value while minimizing 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	• Climate change planning • Roads needs study • CCTV Inspections **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, 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 • Storm main upsizing to accommodate increased storm resiliency **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 roads contains economic consequences (weighted at 60% of the overall consequence scoring) and social consequences (weighted at 40% of the overall consequence scoring). For the remaining assets, the consequence of failure is currently based only on the replacement cost of the asset. 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. Most assets within this portfolio have minor or insignificant consequences in the event of failure; assets may be replaced within a short period at a low cost and may be able to be completed utilizing internal staff. The Brownsville Park parking lot is shown as a severe risk of failure as a result of its age-based condition rating. 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	Severe	Major	Moderate	Minor	Insignificant	Average Risk Rating
Collector Road	12%	27%	11%	25%	25%	Moderate
Local Road	0%	18%	5%	17%	60%	Insignificant
Guide Rails	0%	0%	0%	0%	100%	Insignificant
Street Lights	0%	10%	0%	11%	79%	Insignificant
Sidewalks	0%	0%	0%	33%	67%	Insignificant
Parking Lots	40%	0%	0%	17%	43%	Moderate
Storm Lateral	0%	0%	0%	0%	100%	Insignificant
Culverts <3m	0%	0%	0%	0%	100%	Insignificant
Catchbasins	0%	0%	0%	0%	100%	Insignificant
Catchbasin Lead	0%	0%	0%	0%	100%	Insignificant
Storm Main	0%	0%	0%	16%	84%	Insignificant

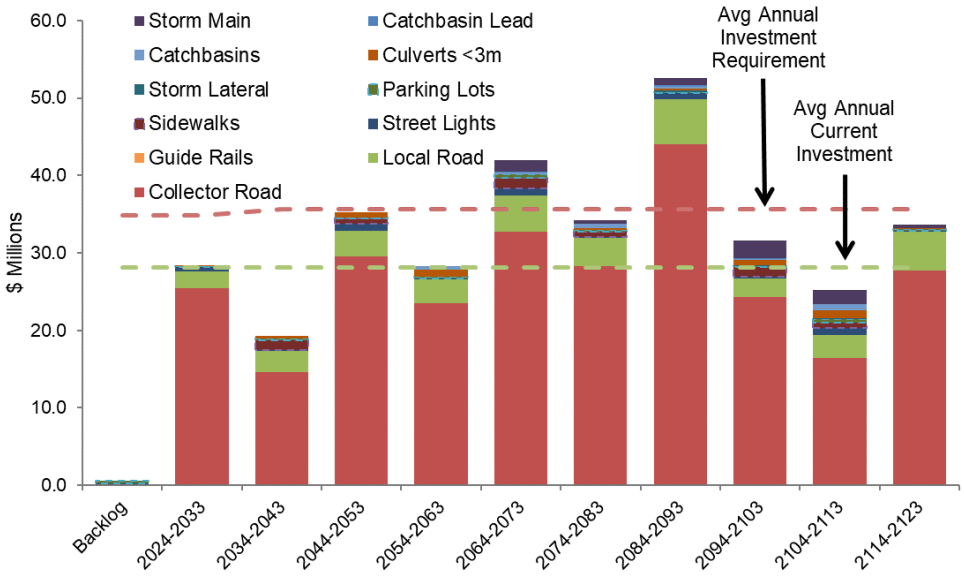
4.3 Climate Change

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 (including sizing stormwater infrastructure to ensure resilience to future storms), in accordance with our local reduction targets, financial capacity and stakeholder support.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded through a levy contribution to 3 transportation services reserves, direct levy charges towards capital needs, Ontario Community Infrastructure Funds (OCIF) and Canada Community-Building Funds (CCBF).



Based on the lifecycle strategies identified to maintain current levels of service, the capital cost estimates to support the lifecycle needs over the next 100-years are determined in current dollars and summarized in Table 5.1.1. Lifecycle costs related to gravelling of roads are considered a maintenance cost and are funded through the annual operating budget and not included in Table 5.1.1.

Staff will review the current lifecycle requirements with each business plan and budget cycle to ensure that the capital projects selected for completion align with the most current information available. The 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	$-	$25.46	$14.63	$29.51	$23.45	$32.71	$28.29	$43.99	$24.27	$16.45	$27.67
Local Road	-	2.12	2.70	3.39	3.15	4.68	3.64	5.83	2.40	2.99	5.12
Guide Rails	-	-	0.07	-	-	0.07	-	-	0.07	-	-
Street Lights	0.21	0.65	0.07	0.87	0.13	0.88	0.07	0.87	0.13	0.88	0.07
Sidewalks	-	-	1.30	0.71	-	1.30	0.71	-	1.30	0.71	-
Parking Lots	0.43	0.04	0.22	0.09	0.16	0.47	0.22	0.09	0.16	0.47	0.22
Storm Lateral	-	-	-	-	-	-	-	0.17	0.05	0.11	-
Culverts <3m	-	0.07	0.31	0.72	0.96	-	0.31	0.31	0.72	0.94	0.07

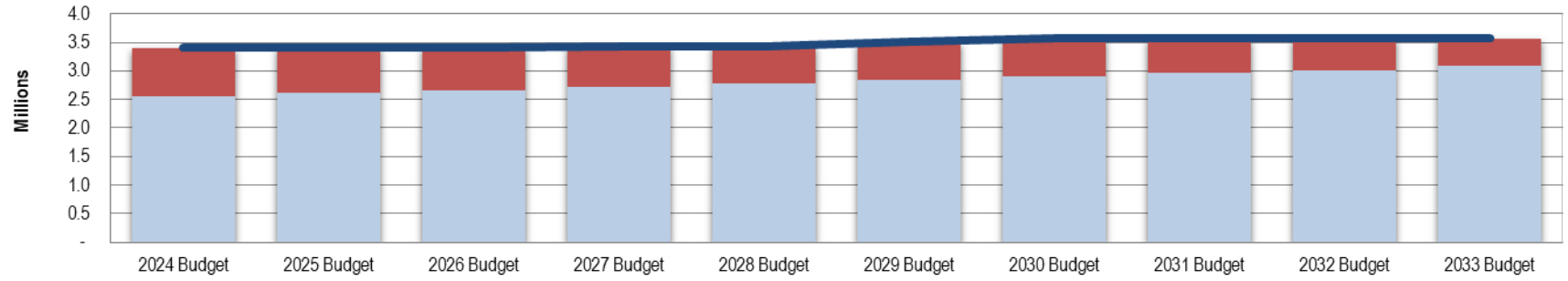
Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Catchbasins	-	-	-	-	0.39	0.23	0.48	0.25	0.12	0.84	-
Catchbasin Lead	-	-	-	-	-	0.12	0.05	0.20	0.13	0.02	-
Storm Main	-	-	-	-	-	1.48	0.44	0.84	2.26	1.86	0.52
Totals	**$0.64**	**$28.34**	**$19.30**	**$35.29**	**$28.24**	**$41.94**	**$34.21**	**$52.55**	**$31.61**	**$25.27**	**$33.67**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the funding noted within the 2024 approved budget, along with the following assumptions:

- OCIF Funds will continue at the 2024 level for the entire 2024 to 2033 period;
- CCBF Funds are as announced for the 2024 to 2028 period with 2029 to 2033 at the same level as 2028; and
- The 2024 contribution towards lifecycle needs will increase at 2.5% annually.

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		$3,408,000	$3,414,000	$3,414,000	$3,431,000	$3,431,000	$3,502,000	$3,566,000	$3,566,000	$3,566,000	$3,566,000
Current Investment		2,564,213	2,620,203	2,667,306	2,725,622	2,781,063	2,837,890	2,896,137	2,955,841	3,017,037	3,079,764
Funding Deficit		843,787	793,797	746,694	705,378	649,937	664,110	669,863	610,159	548,963	486,236
Funding Surplus		-	-	-	-	-	-	-	-	-	-

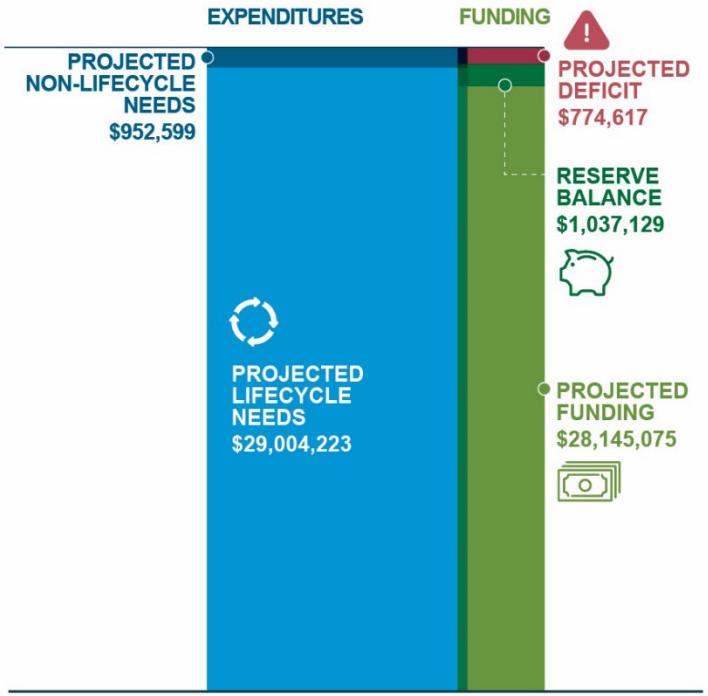


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the 10-year period of 2024 to 2033. The reserve balance is based on the forecasted 2023 closing balance; as a result, does not reflect final 2023 information. The 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 $0.8 million deficit in funding availability over the period 2024 to 2033.

Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$29,004,223	-
Projected Non-Lifecycle Needs	952,599	-
Reserve Balance	-	$1,037,129
Projected Funding	-	28,145,075
Total	**$29,956,822**	**$29,182,204**
Deficit (Surplus)		**$774,617**



There are no projected replacement needs on gravel roads within the 2024 to 2033 period. All costs related to conversion of roads from gravel to hard top are included in the projected lifecycle needs listed in Table 5.3.1.

The annual contribution to lifecycle needs within this portfolio should increase by the amount of inflation. Additional contributions to close the funding gap will also be considered. Consideration will be given to the consolidation of the transportation services reserves to provide for greater flexibility in meeting lifecycle needs as they arise.

This portfolio should see its reserve balance increase over the next 20-years in anticipation of higher needs projected for the 2044 through 2053 period.


TOWNSHIP OF SOUTH-WEST OXFORD
FIRE AND RESCUE
HALL 2


SOUTH-WEST OXFORD FIRE & EMERGENCY SERVICES

Table of Contents

1.0 Introduction

The South-West Oxford Fire and Emergency Services consists of 3 stations located in Brownsville, Mount Elgin, and Beachville that service a population of approximately 7,544 residents spanning across 370.48 square kilometres. Between the 3 stations (Brownsville, Mount Elgin and Beachville), the fire department responds to an average of 270 emergency calls per year in a variety of disciplines. These emergencies are responded to by our 63 volunteer firefighters utilizing the 9 apparatus and a variety of specialized equipment. The foundation of the department's tasks is organized into operations, training, fire prevention, risk management, emergency management and administration aspects, which are all in place to support the delivery of critical fire suppression and emergency services.

This portfolio is categorized into three components due to differing life spans and maintenance strategies. They are stations, fleet and equipment. Equipment includes bunker gear, extrication tools, hoses, SCBA systems, thermal imaging cameras, communication tools and other general fire equipment. Fleet includes tankers, pumpers, rescue trucks, a SUV for the fire chief, and a pickup truck.

Like many of our assets, our Fire Department faces escalating challenges due to aging infrastructure, climate fluctuations and rising demand spurred by community growth. Consequently, we must carefully balance our investment in these assets to prioritize both infrastructure renewal and the overall welfare 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 working to reduce asset data gaps and increase data confidence.
- Incorporate climate change resiliency as part of capital replacement/renewal projects in accordance with applicable emerging guidelines and design standards.
- Determine process to incorporate consultant and staff asset inspections into condition rating.
- Update attributes to further enhance the risk profile in the asset management software.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the 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 are utilized to extend the overall life beyond this estimate.

The replacement cost valuation relies on a mixture of current tender prices, inflation based on of historical costs, and research of market prices.

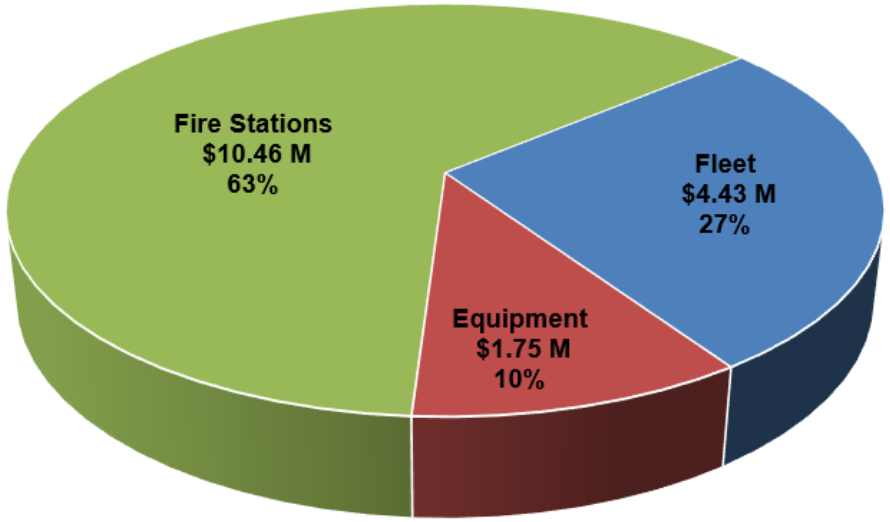


Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Fleet	each	11	$4,430,000	13	5-20
Equipment	total	N/A	1,748,790	8	5-40
Fire Stations	each	3	10,463,078	12	10-100
Total Replacement Cost			**$16,641,078**		

2.2 Condition Assessment Approach

The Township inspects all equipment on a yearly basis with increased frequency for higher risk equipment, utilizing a combination of physical assessments, asset attributes such as material and sizing, and established useful lives. The Township follows the Fire Underwriters Survey and other insurance and fire department organizations to determine minimum requirements. The Ontario Fire Marshalls collect data on fire equipment and fleet used in fires, and equipment is automatically replaced if it fails a test.

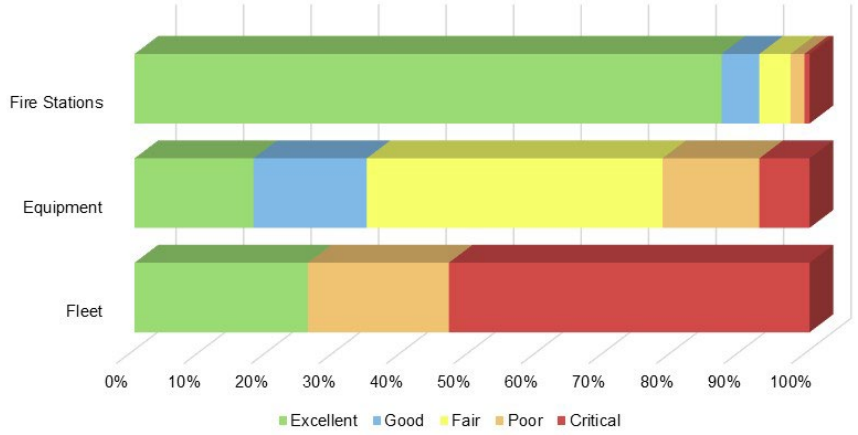
Hoses undergo an annual pressure test and complete visual inspection, and sections of hose are disposed if they fail either test. Ladders undergo similar annual checks replaced as necessary. An annual pump test and service is done for all portable and truck pumps. Extrication tools are serviced and tested annually, and all self-contained breathing apparatus (SCBA) units are inspected annually, and flow tested. All personal protective equipment including all bunker gear is inspected and cleaned monthly, a 6 month in house cleaning is mandated by the department, and all bunker gear undergoes third party hydrostatic testing annually. SCBA cylinders are hydrostatically inspected every 5 years, inspected after every use, and have fresh air added every 6 months with a fully air replacement occurring annually. Breathing air compressor has its air samples and the unit serviced every 6 months. The generators at the stations are load tested monthly, with some done weekly. The communications system is tested weekly including dispatch pagers.

The fleet has ongoing preventative maintenance checks after every use and additional monthly checks and maintenance. All vehicles also undergo an annual full inspection based on Ministry of Transportation standards for commercial vehicles. All vehicles and equipment are inspected after every emergency or training use.

The Township has completed building condition assessments (BCA) in 2023 that 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.



The Beachville Fire Hall was constructed in 2019 with most components still in excellent condition. The critical fleet assets relate to an older pumper, budgeted for replacement in 2024 and tankers that are used as backup assets for the Fire Department. While these assets are anticipated to be replaced over the next five years, the intent of the department is to maintain some older assets as backups for redundancy and risk management. Furthermore, fleet and equipment delivery times have significantly increased as a result of the pandemic, reducing the overall average condition rating of these assets. The longer delivery times are anticipated to continue for the next few years, after which the Township will see a more normalized replacement cycle with the average condition rating returning to pre-pandemic levels.

Table 2.3.1 - Condition Profile

Asset Component	Excellent	Good	Fair	Poor	Critical	Average Condition Rating
Fleet	26%	0%	0%	21%	53%	Poor
Equipment	18%	17%	44%	14%	7%	Fair
Fire Stations	86%	6%	5%	2%	1%	Excellent
Overall Total	**64%**	**5%**	**8%**	**8%**	**15%**	

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. The Township will continue to build on the metrics as the asset management program matures for this service area.

Corporate Objective

The objective of South-West Oxford Fire and Emergency Services is to save lives and protect property through emergency services, fire and rescue response, and fire prevention.

Legislative Requirements

Ontario firefighters are governed by the Fire Protection and Prevention Act, 1997 and Ontario Regulation 213/07: Fire Code. Amongst other regulations and guidelines from other industry sources, the Fire Department is required to operate with a total of 63 volunteer firefighters spread across 3 stations and one permanent Fire Chief. The five Townships in Oxford County also share a Fire Prevention Officer and a Training Officer between them.

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.

- *South-West Oxford Fire and Emergency Services aims to be a leader in the development and delivery of fire and emergency services for the growth and well-being of the community.*

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

- *Fire personnel train on a continuous basis to ensure their ability to respond to emergencies with the Township and handle them in a fast and efficient manner is maintained.*

Table 3.1.1 - Performance Measures

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
Quality	Maintaining fire stations in a state of good repair and at an acceptable condition	% of building components in fair or better condition	97%	97%	TBD
Reliability	Providing a fire department with reliable equipment.	% of equipment in poor or critical condition	25%	25%	TBD
		% of fleet in poor or critical condition	69%	73%	TBD

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

The fire department ensures all equipment and fleet used to prevent and reduce the impact of fires is in good shape and maintains a preventative maintenance program that meets or exceeds the requirements of the Fire Underwriters Survey and the Insurance Board of Canada; national organizations that set guidelines for firefighter's equipment, and fleet.

The Township employs a variety of lifecycle activities to maintain levels of service while striving to optimize costs based on defined risk. This includes activities for maintenance, rehabilitation, replacement, and disposal, while continuing to prepare for growth and introduce service improvements. The use of the facility also plays a role in when maintenance is completed.

This strategy is not static. Lifecycle activities chosen to apply to assets are selected, reviewed, and modified based on continual industry benchmarking, staff training, professional networking, online reviews, consultant recommendations, and trial and error through scenarios and pilot programs.

Equipment and fleet asset replacement needs follow a "run to failure" strategy provided assets consistently pass their annual inspections. This is generally the most cost-effective approach and follows provincial and federal standards.

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

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Ongoing collaboration meetings • Building Condition Assessments (BCA's) • Annual inspections **Trigger: Ongoing**
Maintenance	• Routine and preventative maintenance programs • Snow removal and landscaping at facilities **Trigger: Ongoing**
Rehabilitation / Renewal	• Major & minor rehabilitations • Equipment is generally not rehabilitated, while some minor vehicles rehabs are completed **Trigger: Fair/Poor**
Replacement	• Occurs at the end of the useful life and/or when unexpected events occur • 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 • Includes coordination with contractors to ensure safe removal and environmental compliance **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. The consequence of failure contains economic consequences (weighted at 57% of the overall consequence scoring) and social consequences (weighted at 43% 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 provides an overview of the risk ratings. Most equipment assets in this portfolio pose minor consequences in the event of a failure, as redundancies are in place, while the vehicles pose major consequences due to their value and lead time to replace. Staff will continue to monitor the higher-risk assets, conducting physical inspections to validate needs and plan lifecycle strategies accordingly.

Table 4.2.1 - Risk Profile

Asset Component	Severe	Major	Moderate	Minor	Insignificant	Average Risk Rating
Fleet	50%	11%	0%	13%	26%	Major
Equipment	0%	0%	12%	41%	47%	Insignificant
Fire Stations	0%	0%	0%	74%	26%	Insignificant

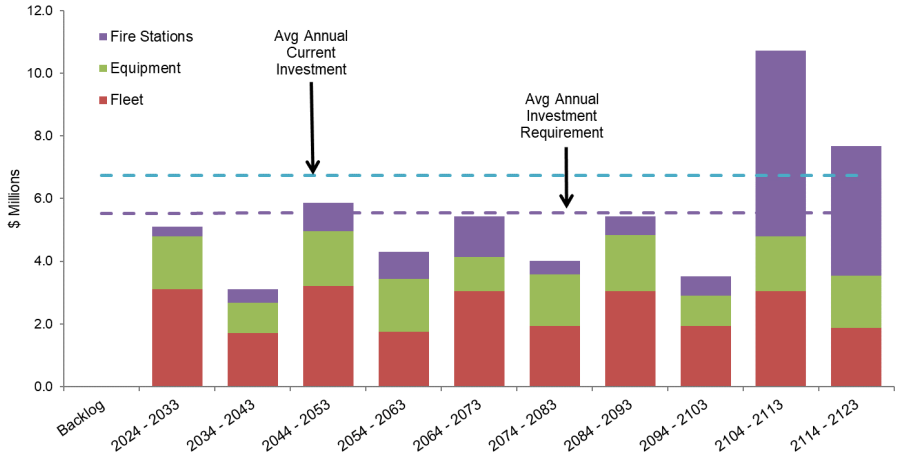
4.3 Climate Change

In the asset management planning process, the Township will evaluate the risks and vulnerabilities posed by climate change to its capital assets, and the necessary actions that may follow. We are dedicated to crafting customized strategies that optimize our resources to both mitigate and adapt to climate change impact. This includes building strategies to handle higher heat fires due to the prevalence of electric vehicles, and the potential for more fires due to seasonal droughts increasing in intensity and frequency. Our efforts will align with local reduction targets, financial capacities, and stakeholder support.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded through a levy contribution to 4 fire services reserves, and direct levy charges towards capital needs.



Based on the lifecycle strategies identified to maintain current levels of service, the cost estimates to support the lifecycle needs 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 business plan and budget cycle to ensure that the capital projects selected for completion align with the most current information available. The capital plan may not reflect all lifecycle needs identified from 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)

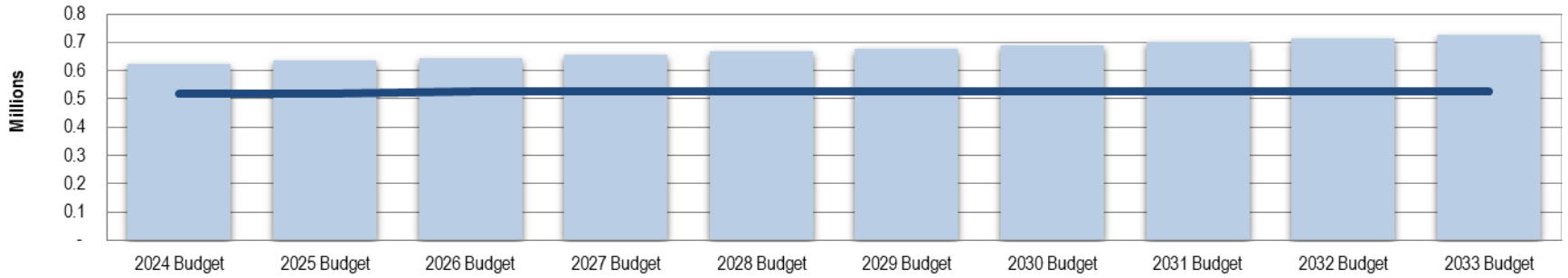
Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Fleet	-	$3.10	$1.70	$3.21	$1.76	$3.04	$1.94	$3.04	$1.94	$3.04	$1.88
Equipment	-	1.70	0.97	1.76	1.67	1.09	1.64	1.79	0.97	1.76	1.67
Fire Stations	-	0.31	0.43	0.90	0.87	1.31	0.44	0.60	0.60	5.93	4.12
Totals	**$-**	**$5.11**	**$3.10**	**$5.87**	**$4.30**	**$5.44**	**$4.02**	**$5.43**	**$3.51**	**$10.73**	**$7.67**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the funding noted within the 2024 approved budget, along with the following assumption:

- The 2024 contribution towards lifecycle needs will increase at 2.5% annually.

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		$545,000	$545,000	$554,000	$554,000	$554,000	$554,000	$554,000	$554,000	$554,000	$554,000
Current Investment		625,087	634,859	645,055	655,572	666,499	677,598	689,124	701,004	713,300	725,860
Funding Deficit		-	-	-	-	-	-	-	-	-	-
Funding Surplus		80,087	89,859	91,055	101,572	112,499	123,598	135,124	147,004	159,300	171,860

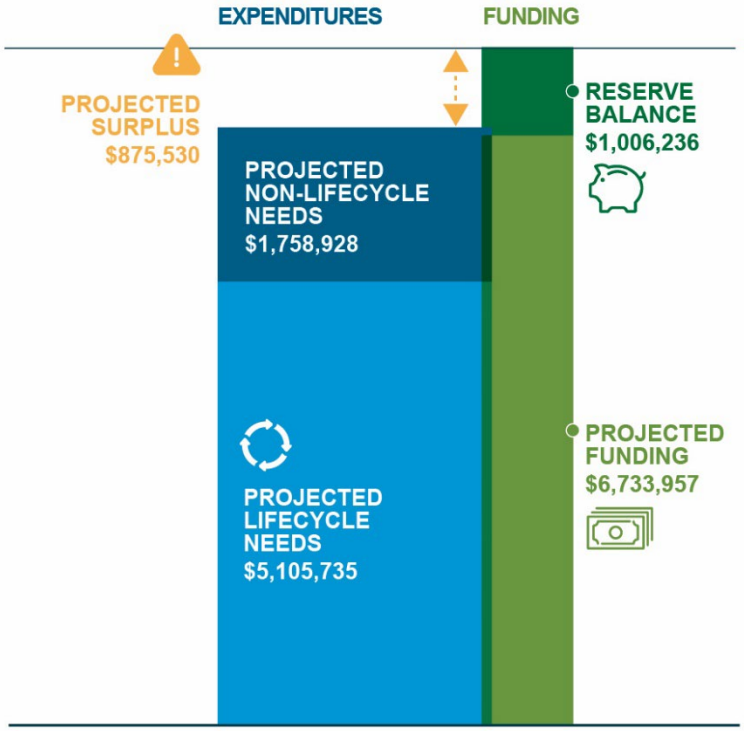


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the 10-year period of 2024 to 2033. The reserve balance is based on the forecasted 2023 closing balance; as a result, does not reflect final 2023 information. The 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, and initial costs for new assets where another funding source is not available. Table 5.3.1 reflects an approximate $0.9 million surplus in funding availability over the period 2024 to 2033.

Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$5,105,735	-
Projected Non-Lifecycle Needs	1,758,928	-
Reserve Balance	-	$1,006,236
Projected Funding	-	6,733,957
Total	**$6,864,663**	**$7,740,193**
Deficit (Surplus)		**($875,530)**



As illustrated in Table 5.1.2 the annual contributions required for this portfolio appears to be over funded, however a portion of the current investment is restricted to meet ongoing debenture obligations. As the annual debenture obligations decline, funds may be re-directed to other service areas in need. Further changes to the current investment level projected is not recommended at this time.

Projected levels of service will also be reviewed and determined in preparation for an updated AMP in 2025 in accordance with the requirements from O.Reg. 588/17. Impacts to the annual requirements will be determined once projected levels of service are established.

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1.0 Introduction

The Township of South-West Oxford is a leader in the development and delivery of municipal services for the growth and well-being of our community. The Township is committed to the provision of green space and community facilities for the enjoyment of all and is dedicated to providing community facilities for members of the public including children, adults, seniors, and people with disabilities. We pride ourselves on our many public meeting spaces. In many of our small rural villages, our community parks and facilities are the some of the only public meeting spaces for residents to engage in the community. The Township has 12 parks and playground areas which total approximately 50 acres available for community enjoyment.

Assets are categorized into various components; community halls, museum, park infrastructure, park buildings and playgrounds.

Like many of our assets, our parks and recreation assets are facing increased challenges as a result of aging assets, increased costs, meeting accessibility requirements 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 working to reduce asset data gaps and increase data confidence.
- Update attributes to further enhance the risk profile in the asset management system.
- Establish a procedure for integrating consultant and staff asset inspections into the condition rating process.
- Document lifecycle history on asset components within the asset management systems.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the 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.

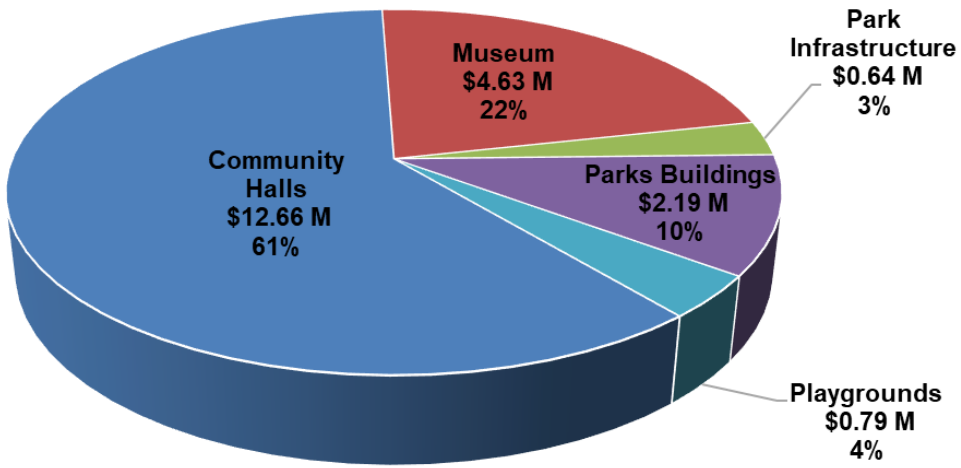


Table 2.1.1 - Inventory

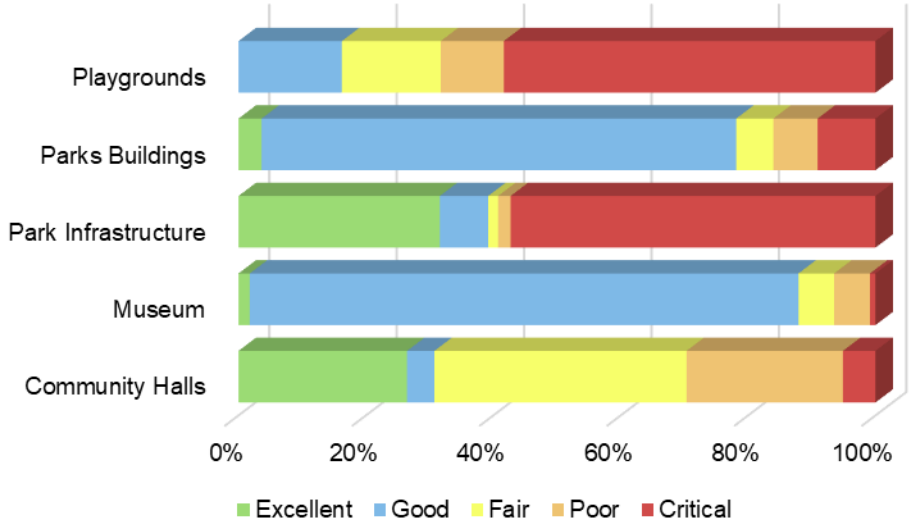
Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Community Halls	bldg	5	$12,662,984	47	10-100
Museum	bldg	1	4,634,615	67	10-100
Park Infrastructure	total	N/A	642,417	24	15-35
Park Buildings	bldg	9	2,189,991	33	10-100
Playgrounds	each	10	792,060	16	15
Total Replacement Cost			**$20,922,067**		

2.2 Condition Assessment Approach

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

Township staff inspect parks monthly - during the spring, summer, and fall - to identify any health and safety issues.

The Township completed building condition assessments (BCA) on its 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.

Table 2.3.1 - Condition Profile

Asset Component	Excellent	Good	Fair	Poor	Critical	Average Condition Rating
Community Halls	26%	4%	40%	25%	5%	Fair
Museum	2%	85%	6%	6%	1%	Good
Park Infrastructure	32%	8%	2%	2%	56%	Poor
Park Buildings	4%	74%	6%	7%	9%	Fair
Playgrounds	0%	16%	16%	10%	58%	Poor
Overall Total	**18%**	**30%**	**26%**	**18%**	**8%**	

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. The Township will continue to build on the metrics as the asset management program matures for this service area.

Corporate Objective

The objective of the parks and recreation services is to offer many services, programs, activities and facilities for residents to live and play in South-West Oxford.

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 that 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 Park and recreation services provides different avenues for individuals to improve or enjoy their quality of life.*
- *All the parks and playgrounds are run by volunteer boards.*

[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	Maintaining parks and recreation facilities in a state of good repair and at an acceptable condition	% of community hall components in fair or better condition	71%	70%	TBD
		% of museum components in fair or better condition	93%	93%	TBD
		% of park building components in fair or better condition	84%	84%	TBD
Safety	Maintaining recreation assets that are safe for all users	Number of unplanned closures (not weather related)	-	0	TBD
Reliability	Providing facilities that are reliable and accessible.	% of community hall in poor or critical condition	29%	30%	TBD
		% of museum in poor or critical condition	7%	7%	TBD
		% of park building in poor or critical condition	16%	16%	TBD
		% of park infrastructure in poor or critical condition	61%	59%	TBD
		% of playgrounds in poor or critical condition	68%	68%	TBD

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

To cost effectively maintain facilities 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 complete similar lifecycle activities across sites 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 facility is vacant. Where this is not possible staff will attempt to work with tenants to minimize disruption or conduct work outside of regular operating hours.

The Township employs a variety of lifecycle activities to maintain levels of service while striving to optimize costs based on defined risk. This includes activities for maintenance, rehabilitation, replacement, and disposal, while continuing to prepare for growth and introduce service improvements.

For many assets in this portfolio, 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 structures are described in table 4.1.1.

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Building Condition Assessments (BCA) **Trigger: Ongoing**
Maintenance	• Routine and preventative maintenance programs, including grass cutting • 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 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 • Includes coordination with contractors to ensure safe removal and environmental compliance **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. 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. The severe risk rating for community halls and the museum is largely driven by the significant replacement cost for the main structure at these locations. 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	Severe	Major	Moderate	Minor	Insignificant	Average Risk Rating
Community Halls	51%	1%	2%	26%	20%	Major
Museum	81%	0%	3%	1%	15%	Severe
Park Infrastructure	0%	0%	0%	51%	49%	Insignificant
Park Buildings	0%	56%	10%	14%	20%	Minor
Playgrounds	0%	0%	0%	35%	65%	Insignificant

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 is included as a design criterion for facilities as part of capital planning, as well as climate change mitigation by way of GHG emissions reductions.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded by an annual contribution to the recreation reserve, and direct levy charges towards capital needs.

Based on the lifecycle strategies identified to maintain current levels of service, the cost estimates to support the lifecycle needs 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 business plan and budget cycle to ensure that the capital projects selected for completion align with the most current information available. The capital plan may not reflect all lifecycle needs identified from the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

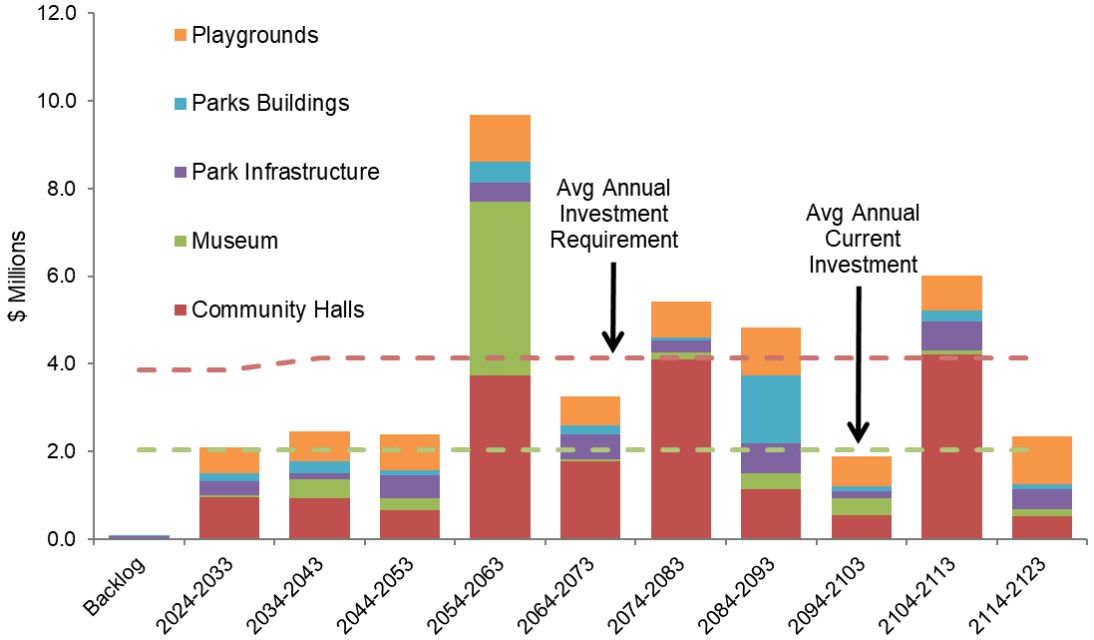


Table 5.1.1 - Lifecycle Requirements (millions)

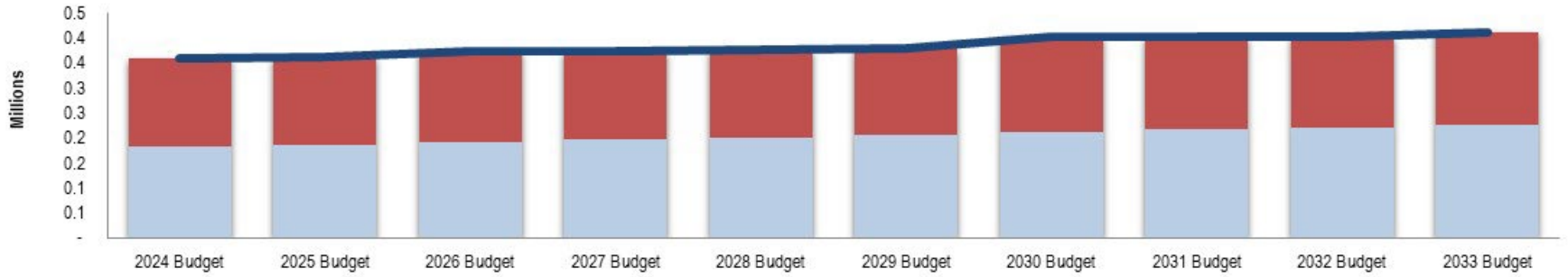
Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Community Halls	$-	$0.95	$0.94	$0.65	$3.73	$1.77	$4.1	$1.14	$0.55	$4.22	$0.53
Museum	0.01	0.04	0.42	0.28	3.97	0.06	0.17	0.36	0.39	0.08	0.16
Park Infrastructure	0.05	0.32	0.15	0.52	0.43	0.55	0.26	0.68	0.16	0.66	0.44
Park Buildings	0.04	0.19	0.27	0.12	0.48	0.21	0.08	1.56	0.11	0.25	0.13
Playgrounds	-	0.59	0.67	0.81	1.08	0.67	0.81	1.08	0.67	0.81	1.08
Totals	**$0.10**	**$2.09**	**$2.45**	**$2.38**	**$9.69**	**$3.26**	**$5.42**	**$4.82**	**$1.88**	**$6.02**	**$2.34**

Table 5. 1.2 links the average annual investment, based on the lifecycle requirements, to the funding noted within the 2024 approved budget, along with the following assumption:

- The 2024 contributions toward lifecycle needs will increase by 2.5% annually.

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		$359,000	$364,000	$373,000	$375,000	$376,000	$380,000	$403,000	$403,000	$403,000	$413,000
Current Investment		182,373	186,932	191,606	196,396	201,306	206,338	211,497	216,784	222,204	227,759
Funding Deficit		176,627	177,068	181,394	178,604	174,694	173,662	191,503	186,216	180,796	185,241
Funding Surplus		-	-	-	-	-	-	-	-	-	-

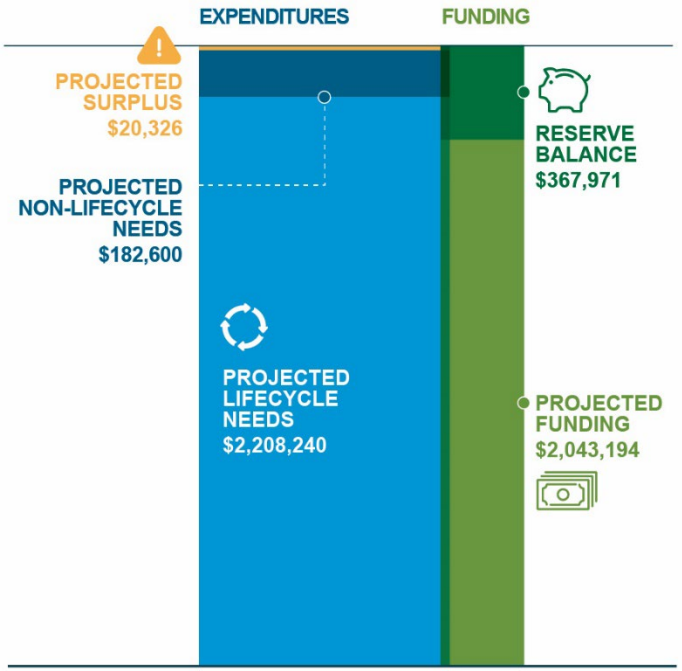


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the 10-year period of 2024 to 2033. The reserve balance is based on the forecasted 2023 closing balance; as a result, does not reflect final 2023 information. The 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 initial costs for new assets where another funding source is not available. Table 5.3.1 reflects an approximate $20,000 surplus in funding availability over the period 2024 to 2033.

Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$2,208,240	-
Projected Non-Lifecycle Needs	182,600	-
Reserve Balance	-	$367,971
Projected Funding	-	2,043,194
Total	**$2,390,840**	**$2,411,165**
Deficit (Surplus)		**($20,326)**



The annual contribution to lifecycle needs within this portfolio should increase by the amount of inflation. Additional contributions to close the funding gap will also be considered.

This portfolio should see its reserve balance increase over the next 30-years in anticipation of higher needs projected for the 2054 through 2063 period.

Projected levels of service will also be reviewed and determined in preparation for an updated AMP in 2025 in accordance with the requirements from O.Reg. 588/17. Impacts to the annual requirements will be determined once projected levels of service are established.


Municipal
Office
Township of South-West Oxford

Table of Contents

1.0 Introduction

Facilities provide safe and efficient work and meeting places for 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. Facilities 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. Facilities are grouped based on the service area supported.

Like many of our assets, our facilities face escalating challenges due to aging infrastructure, climate fluctuations and rising demand spurred by community growth. Consequently, we must carefully balance our investment in these assets to prioritize both infrastructure renewal and the overall welfare 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 working to reduce asset data gaps and increase data confidence.
- Update attributes to further enhance the risk profile in the asset management system.
- Establish a procedure for integrating consultant and staff asset inspections into the condition rating process.
- Refine asset components and lifecycle strategies.
- Document lifecycle history on asset components within the asset management systems.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the 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.

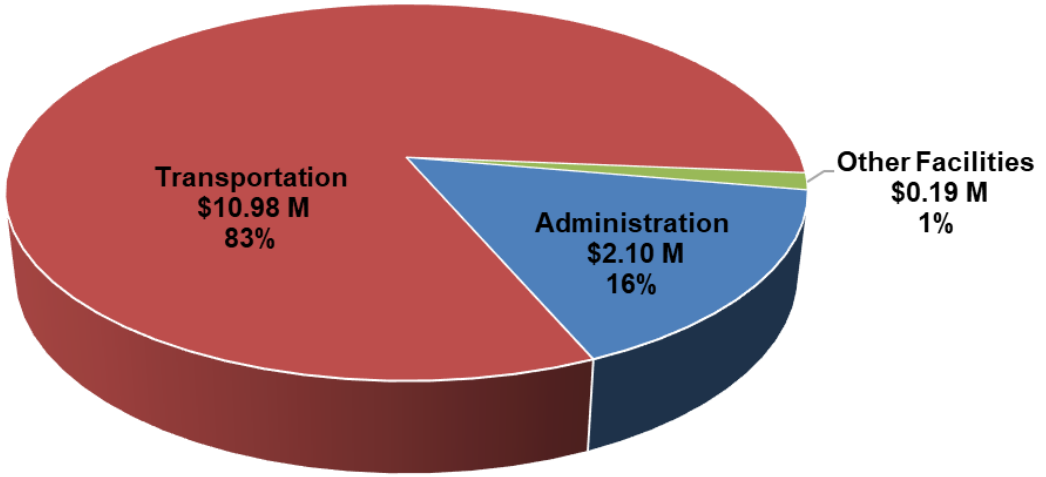


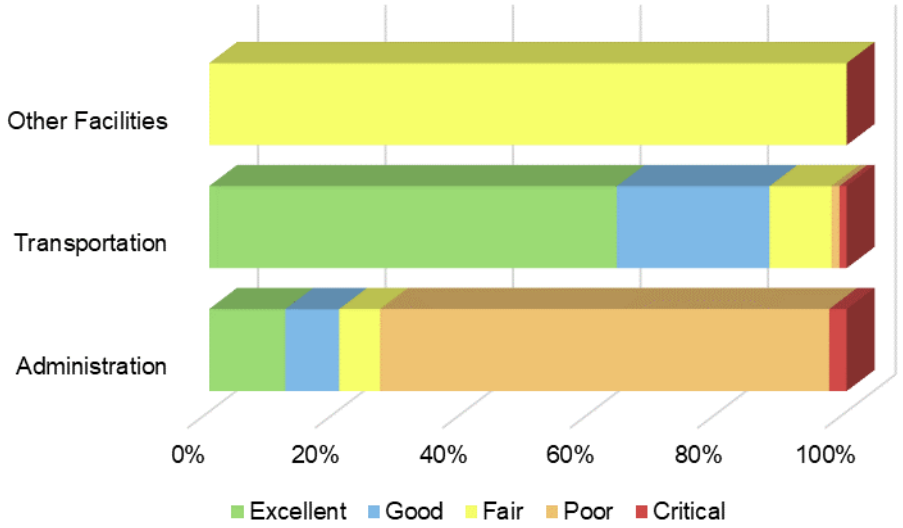
Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Administration	bldg	1	$2,096,400	59	10-100
Transportation	bldg	6	10,982,418	20	10-100
Other Facilities	total	N/A	191,907	21	10-100
Total Replacement Cost			**$13,270,725**		

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 completed building condition assessments (BCA) on its 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.

Table 2.3.1 - Condition Profile

Asset Component	Excellent	Good	Fair	Poor	Critical	Average Condition Rating
Administration	13%	8%	6%	70%	3%	Poor
Transportation	64%	24%	10%	1%	1%	Good
Other Facilities	0%	0%	100%	0%	0%	Fair
Overall Total	**55%**	**21%**	**11%**	**12%**	**1%**	

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. The Township will continue to build on the metrics as the asset management program matures for this service area.

Corporate Objective

The objective of the facilities service is to provide well maintained buildings, 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 Township's facilities are used by staff, Council, other organizations, and members of the public, with the Township committed to providing safe, and accessible spaces.*

[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	Maintaining facilities in a state of good repair and at an acceptable condition	% of building components in fair or better condition	87%	86%	TBD
Reliability	Providing facilities that are reliable and accessible.	% of administration facilities in poor or critical condition	74%	73%	TBD
		% of transportation facilities in poor or critical condition	2%	2%	TBD
		% of other facilities in poor or critical condition	0%	0%	TBD

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

To cost effectively maintain facilities 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 complete similar lifecycle activities across 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 facility is vacant. Where this is not possible staff will attempt to work with tenants to minimize disruption or conduct work outside of the building's regular operating hours.

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

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Building Condition Assessments (BCA) **Trigger: Ongoing**
Maintenance	• Routine and preventative maintenance programs • Snow removal and landscaping at facilities **Trigger: Ongoing**
Rehabilitation / Renewal	• Major & minor rehabilitations **Trigger: 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: Poor/Critical**
Disposal	• Activities associated with disposing of an asset once it has reached the end of its useful life • Includes coordination with contractors to ensure safe removal and environmental compliance **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. 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	Severe	Major	Moderate	Minor	Insignificant	Average Risk Rating
Administration	62%	0%	8%	3%	27%	Major
Transportation	0%	14%	8%	67%	11%	Minor
Other Facilities	0%	0%	0%	61%	39%	Insignificant

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 is included as a design criterion for facilities as part of capital planning, as well as climate change mitigation by way of GHG emissions reductions.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded by the transportation building reserve, and direct levy charges towards capital needs.

Based on the lifecycle strategies identified to maintain current levels of service, the cost estimates to support the lifecycle needs 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 business plan and budget cycle to ensure that the capital projects selected for completion align with the most current information available. The capital plan may not reflect all lifecycle needs identified from the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

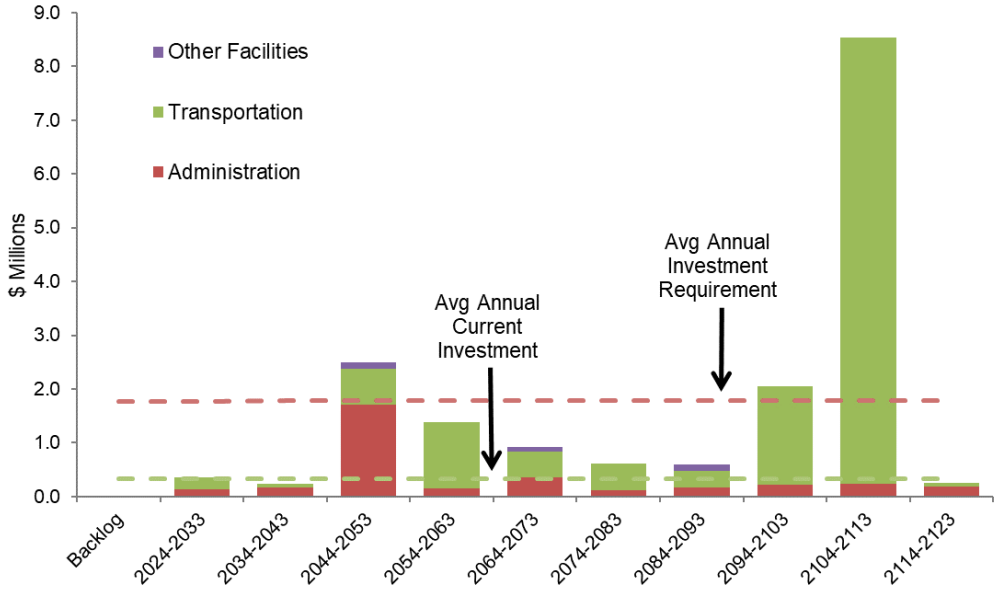


Table 5.1.1 - Lifecycle Requirements (millions)

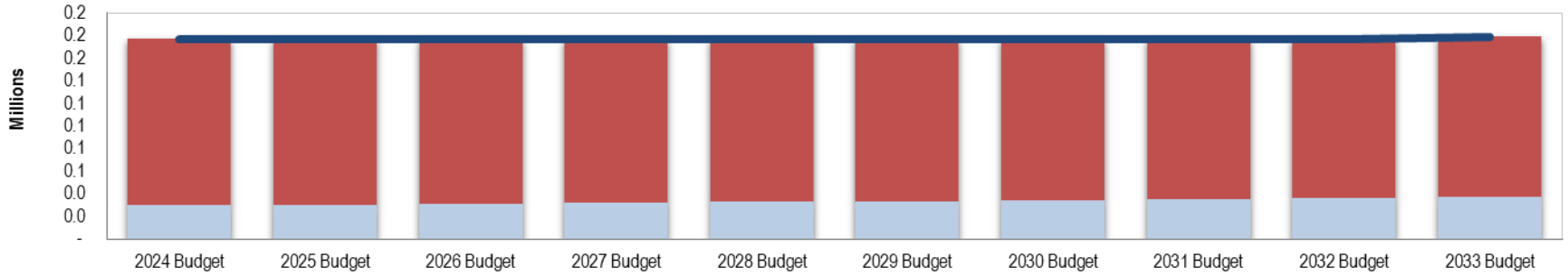
Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Administration	$-	$0.13	$0.16	$1.70	$0.15	$0.36	$0.11	$0.16	$0.21	$0.23	$0.18
Transportation	-	0.22	0.08	0.68	1.24	0.48	0.50	0.32	1.84	8.30	0.07
Other Facilities	-	-	-	0.12	-	0.08	-	0.12	-	-	-
Totals	**$-**	**$0.35**	**$0.24**	**$2.50**	**$1.39**	**$0.92**	**$0.61**	**$0.60**	**$2.05**	**$8.53**	**$0.25**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the funding noted within the 2024 approved budget, along with the following assumption:

- The 2024 contribution towards lifecycle needs will increase at 2.5% annually.

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		$177,000	$177,000	$177,000	$177,000	$177,000	$177,000	$177,000	$177,000	$177,000	$179,000
Current Investment		29,625	30,366	31,126	31,905	32,703	33,521	34,359	35,218	36,099	37,001
Funding Deficit		147,375	146,634	145,874	145,095	144,297	143,479	142,641	141,782	140,901	141,999
Funding Surplus		-	-	-	-	-	-	-	-	-	-

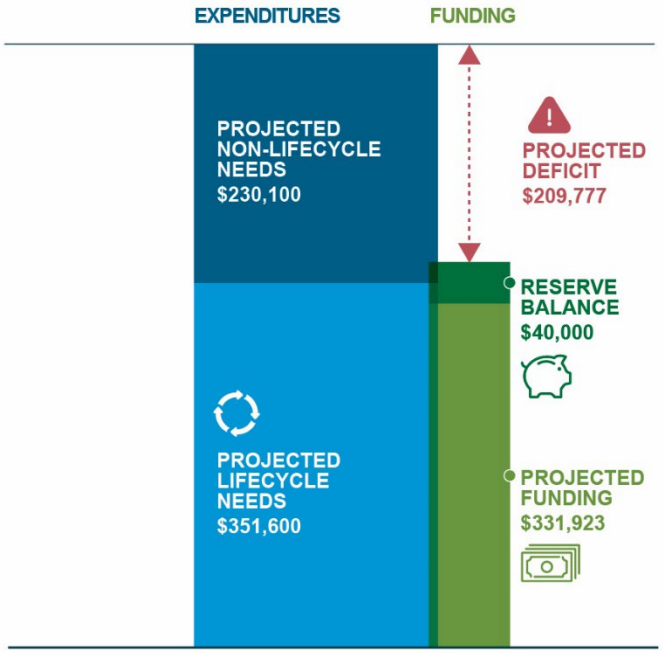


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the 10-year period of 2024 to 2033. The reserve balance is based on the forecasted 2023 closing balance; as a result, does not reflect final 2023 information. The 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 initial costs for new assets where another funding source is not available. Table 5.3.1 reflects an approximate $0.2 million deficit in funding availability over the period 2024 to 2033.

Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$351,600	-
Projected Non-Lifecycle Needs	230,100	-
Reserve Balance	-	$40,000
Projected Funding	-	331,923
Total	**$581,700**	**$371,923**
Deficit (Surplus)		**$209,777**



The deficit in funding over the 2024 to 2033 period is driven by the benefit to existing portion of the new sand dome as reflected in the 2024 Development Charge Background Study. Funds should be raised annually to contribute towards this need.

There are currently no contributions into reserves on an annual basis to plan for future lifecycle needs within this portfolio. While current lifecycle needs are low and are funded through direct levy contributions, a contribution to reserves, building towards the annual requirement outlined in Table 5.1.2 will assist in achieving long-term sustainability within this portfolio.

Through the 2025 budget staff will recommend an annual contribution along with recommended increases in future years to aid in closing the annual funding gap, while ensuring that the Township is sustainable and able to complete critical infrastructure projects.

Projected levels of service will also be reviewed and determined in preparation for an updated AMP in 2025 in accordance with the requirements from O.Reg. 588/17.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1.0 Introduction

Fleet services is an internal service that supplies right sized vehicles and equipment to program areas to support service delivery. Fleet services ensure all licensing and insurance is in place as required and works with various user groups to maintain a preventative maintenance program that meets or exceeds the Ministry of Transportation regulatory requirements.

This portfolio is categorized into four components: light duty fleet, garbage trucks, major equipment, and other equipment. While the transition of recycling systems to Producer Responsibility in Ontario is anticipated by the end of 2025, the assumption made in producing this AMP is that SWOX will continue with garbage and recycling collection in the community into the future. Future versions of this AMP will be updated as new information, resulting from this transition, becomes available.

1.1 Improvement Plan

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

- Update attributes to further enhance the risk profile in the asset management system.
- Establish a procedure for integrating consultant and staff asset inspections into the condition rating process.
- Investigate opportunities for processes to ensure asset management systems are able to produce accurate vehicle replacement ratings.
- Investigate opportunities for further componentization of assets within this portfolio.

2.0 State of Assets

2.1 Inventory

Table 2.1.1 displays the 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.

For assets in this portfolio, the replacement costs were estimated based on market research, historical costs and inflation rates.

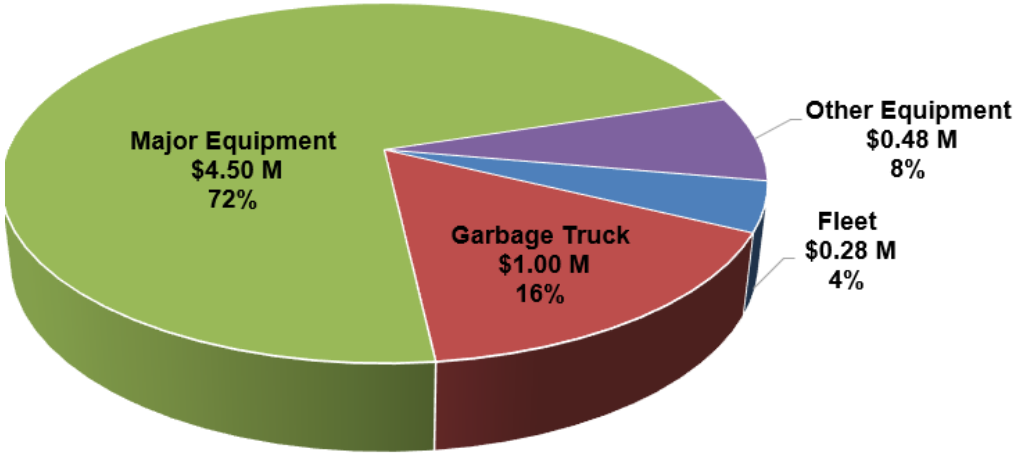


Table 2.1.1 - Inventory

Asset Component	Unit	Current Inventory	Replacement Cost	Average Age	Anticipated Useful Life (years)
Fleet	each	5	$280,000	2	7
Garbage Truck	each	2	1,000,000	7	10
Major Equipment	each	12	4,499,501	9	10-20
Other Equipment	each	7	481,618	7	10-20
Total Replacement Cost			**$6,261,119**		

2.2 Condition Assessment Approach

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

Vehicle Replacement Rating (VRR) are common in the industry and are used to assess the condition of fleet and equipment assets. They take into consideration age, distance travelled or hours of operation, cost expended on repair and maintenance, and reliability of a unit. The Township will consider implementing a VRR rating system.

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.

Some fleet and equipment delivery times have significantly increased as a result of the pandemic and have yet to return to pre-pandemic delivery times. The longer delivery times result in fleet remaining in service longer than originally anticipated, resulting in lower average condition ratings. This trend is anticipated to persist in the near future, after which a more normalized replacement cycle will return. The Township maintains a second garbage truck for redundancy.

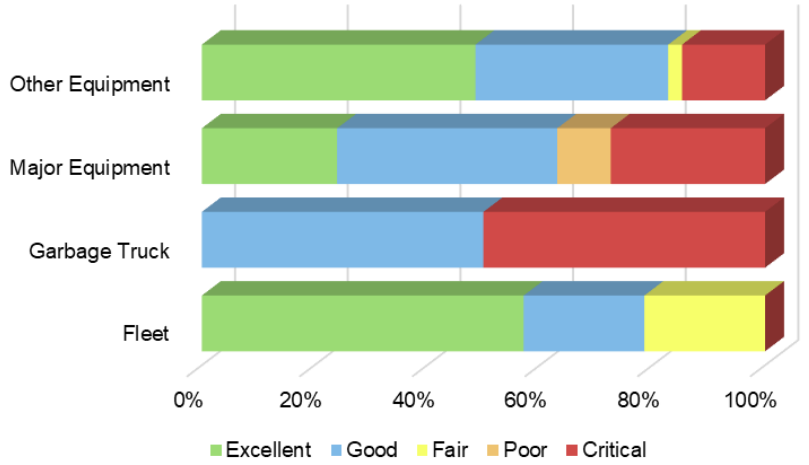


Table 2.3.1 - Condition Profile

Asset Component	Excellent	Good	Fair	Poor	Critical	Average Condition Rating
Fleet	58%	21%	21%	0%	0%	Good
Garbage Truck	0%	50%	0%	0%	50%	Poor
Major Equipment	25%	39%	0%	9%	27%	Fair
Other Equipment	49%	34%	2%	0%	15%	Good
Overall Total	**24%**	**40%**	**1%**	**7%**	**28%**	

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. The Township will continue to build on the metrics as the asset management program matures for this service area.

Corporate Objective

The objective of the fleet service is to supply fleet and equipment appropriate to the services being delivered.

Legislative Requirements

Based on the vehicles contained within the Township's fleet we are required to carry a Commercial Vehicle Operator's Registration (CVOR) certificate[1]. 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 fleet and equipment assets managed under this portfolio are used by a number of internal departments including public works, parks, waste management, drainage and building.*
- *Assets that are not maintained in a state of good repair could result in safety or operational reliability concerns.*

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

Table 3.1.1 - Performance Measures

Key Service Attribute	LOS Statement	Performance Measure	2022	2023	Target
Quality	Maintaining assets in an acceptable condition	% of assets in fair or better condition	65%	64%	TBD
Environmental Stewardship	Providing fleet services that are environmentally conscious	% of fleet using alternative fuels	20%	20%	TBD
Reliability	Providing safe and reliable vehicles and equipment	% of fleet in poor or critical condition	0%	0%	TBD
		% of garbage trucks in poor or critical condition	50%	50%	TBD
		% of major equipment in poor or critical condition	34%	37%	TBD
		% of other equipment in poor or critical condition	20%	15%	TBD

4.0 Asset Management Strategy

4.1 Lifecycle Activities and Planned Actions

Fleet and equipment encompass many different types of assets with varying uses and asset useful lives. The use of a vehicle can also play a role in when maintenance is completed. For example, most snowplow maintenance is completed in the off season in order to ensure minimal downtime during times of high need.

Replacements are planned based on optimum lifecycles to aid in ensuring assets are available for service delivery needs, maximizing resale value, and maintaining optimal greenhouse gas emissions.

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

Table 4.1.1 - Lifecycle Activities

Strategy	Lifecycle Activity
Non-Infrastructure Solutions	• Green Fleet Plan • Condition assessments **Trigger: Ongoing**
Maintenance	• Routine and preventative maintenance programs • Demand maintenance actions **Trigger: Ongoing**
Rehabilitation / Renewal	• Most activities are generally not cost effect for this portfolio **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 • New units required to service growth **Trigger: Development, increased or new service levels**

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. The type of vehicle can aid in determining the consequence of risk. For example, not having snow plows in good working order could have life or death implications and so they carry a high consequence, where a pickup truck would result in a very low impact on the ability to deliver a service. 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. The Township maintains an older garbage truck to provide redundancy. Major equipment assets have higher ratings due to their replacement value. A number of assets with a higher rating also form part of the backlog as shown in Table 5.1.1. 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	Severe	Major	Moderate	Minor	Insignificant	Average Risk Rating
Fleet	0%	0%	0%	21%	79%	Insignificant
Garbage Truck	50%	0%	0%	50%	0%	Major
Major Equipment	34%	3%	19%	20%	24%	Moderate
Other Equipment	0%	0%	0%	36%	64%	Insignificant

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. Currently, risks and potential impacts resulting from a changing climate pose minimal effects to fleet assets as they are designed to face all types of weather events. Climate change resiliency in the sense of mitigation actions is not needed within a fleet setting, however the advancements in actions that directly reduce emissions from fleet assets will help with climate change. This will be achieved through a combination of transitioning to lower emission alternative fuels where possible, more efficient internal combustion engine options, more effective operation of fleet assets, and conducting regular reviews to ensure the fleet is sized properly and utilized effectively to support service delivery.

5.0 Financial Strategy

5.1 Financing Strategy

This portfolio is currently funded by the waste management reserve, a contribution to the drainage vehicle reserve, and direct levy charges towards capital needs.

Based on the lifecycle strategies identified to maintain current levels of service, the cost estimates to support the lifecycle needs 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 business plan and budget cycle to ensure that the capital projects selected for completion align with the most current information available. The capital plan may not reflect all lifecycle needs identified from the asset management system due to internal resource limitations, limitations on external subject matter availability, and financial limitations.

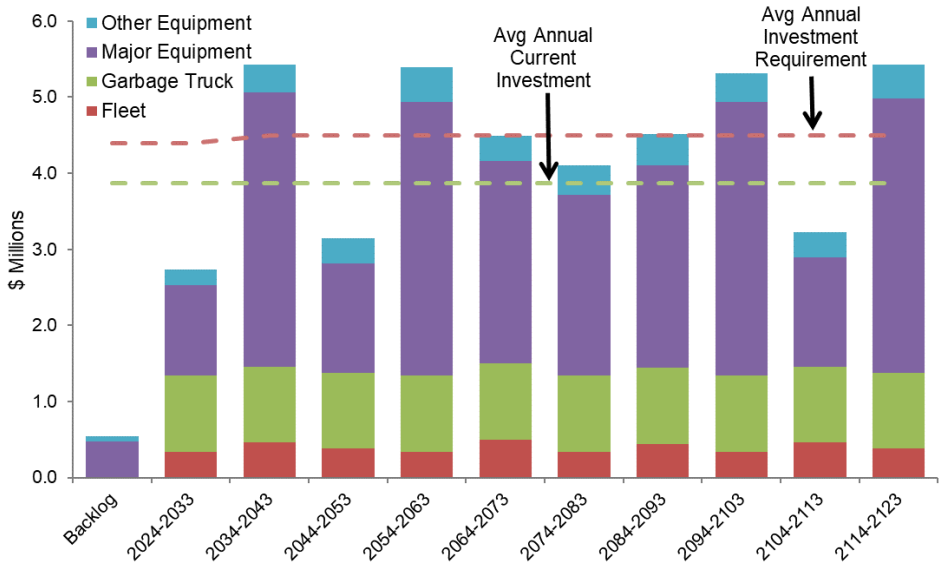


Table 5.1.1 - Lifecycle Requirements (millions)

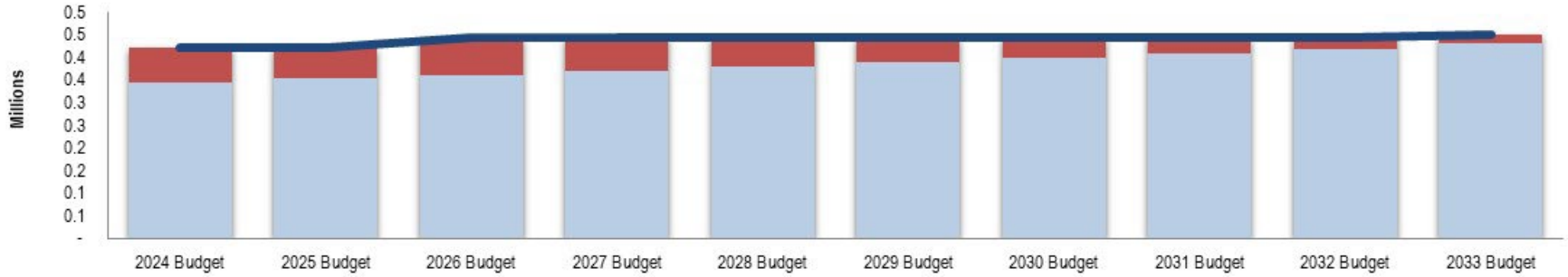
Asset Component	Backlog	2024-2033	2034-2043	2044-2053	2054-2063	2064-2073	2074-2083	2084-2093	2094-2103	2104-2113	2114-2123
Fleet	$-	$0.34	$0.46	$0.38	$0.34	$0.50	$0.34	$0.44	$0.34	$0.46	$0.38
Garbage Truck	-	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Major Equipment	0.47	1.19	3.60	1.43	3.60	2.66	2.38	2.66	3.60	1.43	3.60
Other Equipment	0.07	0.21	0.37	0.34	0.45	0.33	0.38	0.41	0.37	0.34	0.45
Totals	**$0.54**	**$2.74**	**$5.43**	**$3.15**	**$5.39**	**$4.49**	**$4.10**	**$4.51**	**$5.31**	**$3.23**	**$5.43**

Table 5.1.2 links the average annual investment, based on the lifecycle requirements, to the funding noted within the 2024 approved budget, along with the following assumption:

- The 2024 contribution towards lifecycle needs will increase by 2.5% annually.

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		$423,000	$423,000	$444,000	$444,000	$444,000	$444,000	$444,000	$444,000	$444,000	$450,000
Current Investment		345,000	353,625	362,466	371,527	380,815	390,336	400,094	410,097	420,349	430,858
Funding Deficit		78,000	69,375	81,534	72,473	63,185	53,664	43,906	33,903	23,651	19,142
Funding Surplus		-	-	-	-	-	-	-	-	-	-

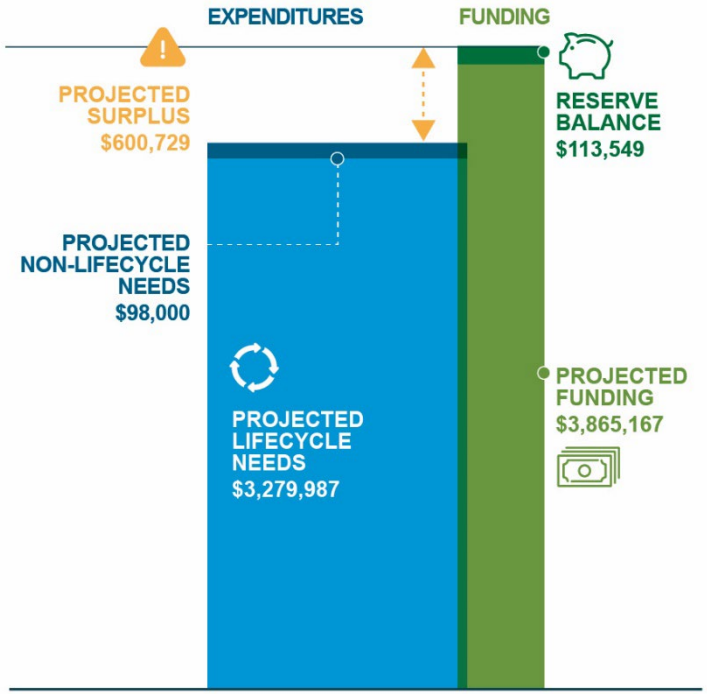


5.3 Funding Gap Analysis

Table 5.3.1 illustrates the anticipated asset management 10-year lifecycle needs (expenditures) and anticipated funding for the 10-year period of 2024 to 2033. The reserve balance is based on the forecasted 2023 closing balance; as a result, does not reflect final 2023 information. The 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 initial costs for new assets where another funding source is not available. Table 5.3.1 reflects an approximate $0.6 million surplus in funding availability over the period 2024 to 2033.

Table 5.3.1 - Funding Gap

2024-2033	Expenditures	Funding
Projected Lifecycle Needs	$3,279,987	-
Projected Non-Lifecycle Needs	98,000	-
Reserve Balance	-	$113,549
Projected Funding	-	3,865,167
Total	**$3,377,987**	**$3,978,716**
Deficit (Surplus)		**($600,729)**



As the current annual investment is below the required investment the annual contribution to lifecycle needs within this portfolio should increase by the amount of inflation. Additional contributions to close the funding gap will also be considered with each budget cycle. This portfolio should be in a surplus position over the 2024 to 2033 period as lifecycle needs increase significantly in the 2034 to 2043 period.

Projected levels of service will also be reviewed and determined in preparation for an updated AMP in 2025 in accordance with the requirements from O.Reg. 588/17. Impacts to the annual requirements will be determined once projected levels of service are established.