FINAL REPORT

PREPARED BY HEMSON FOR THE TOWNSHIP OF UXBRIDGE

ASSET MANAGEMENT PLAN FOR NON-CORE ASSETS

June 12, 2024

HEMSON

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Contents

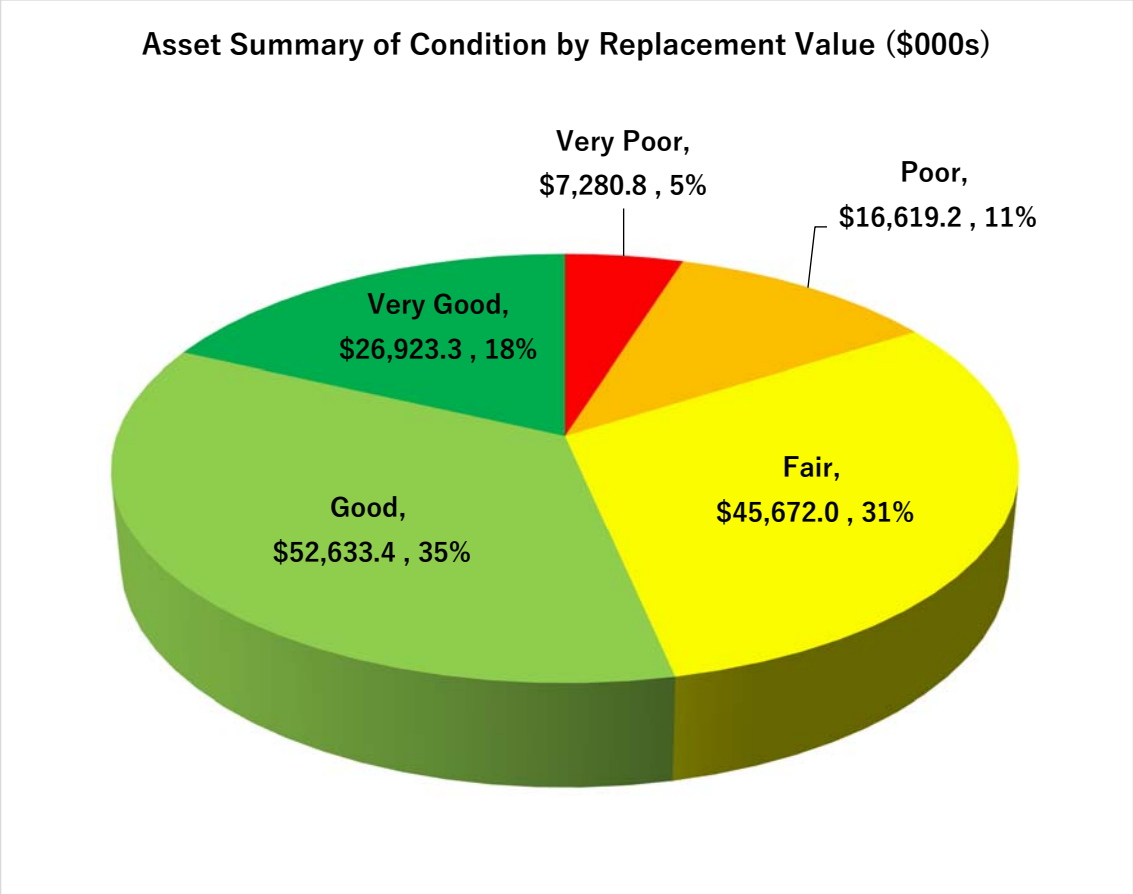
EXECUTIVE SUMMARY

The following summarizes the findings of the Township of Uxbridge's Asset Management Plan for Non-Core Assets (2024 Plan). The 2024 Plan follows the format set out in the *Building Together: Guide for Municipal Asset Management Plans* and it has also been developed to be consistent with the requirements of *Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure* (*O. Reg. 588/17*) with consideration to the Township's Strategic Asset Management Policy. This 2024 Plan defines the current levels of service for all non-core assets in compliance with the asset management regulation.

The 2024 Plan incorporates the information associated to non-core assets noting that the financing strategy also includes the core asset costs based on the Township's 2022 Asset Management Plan for Core Assets. All figures are in constant 2024 dollars and should be adjusted annually to account for the effects of inflation.

A. STATE OF LOCAL INFRASTRUCTURE

- The Township's non-core infrastructure has an estimated total replacement value of $149.1 million.
    - Buildings represent $89.0 million (60%), land improvements represent $21.5 million (14%), vehicles represent $16.7 million (11%), machinery & equipment represent $10.7 million (7%), linear assets represent $10.6 million (7%), and computer systems make up the remaining $0.7 million (less than 1%).
- The Township's non-core assets are considered to be in "Good" condition overall:
    - For all non-core assets, approximately $79.6 million (53%) are considered to be in Good/Very Good condition while $45.7 million (31%) are considered to be in Fair condition. The remaining $23.9 million (16%) are considered to be in Poor/Very Poor condition.



B. LEVEL OF SERVICE

As per O. Reg 588/17 the Township is required to develop and track levels of service for the assets that have been included in the 2024 AMP. The table below outlines the levels of service for the Township's non-core assets. The levels of service have been developed with reference to the condition of assets combined with the regulatory requirements.

Service	Customer Levels of Service	Technical Levels of Service	Current LOS
Facilities	To provide safe, functional and accessible public facilities for the community.	% of regulated health and safety inspections completed (facilities are inspected monthly)	100%
	Corporate facilities are environmentally sustainable.	Percentage of facilities with converted to LED lights. (inside and outside)	39%
	Corporate facilities are kept in a state of good repair.	Average weighted condition assessment.	Good
	Cultural Services meet customer needs and expectations.	Number of permits issued (programming) (exterior to the Township)	270
		Number of events held (programming) (Township events)	73

Service	Customer Levels of Service	Technical Levels of Service	Current LOS
Animal Control	Animal Services meets customer needs and expectations.	Average annual capacity/availability at peak times	90%
		Percent of emergency animal services calls responded to within 24 hours.	100%
		Percent of animal services complaint related and other calls responded to within one week.	100%
	Animal Services Equipment are kept in a state of good repair.	Average weighted condition assessment	95% Good
			5% Fair
Fire	Fire services meet customer needs and expectations.	Regulated inspections are completed.	100%
		Front line trucks do not exceed 20 years of life.	83%
		Truck downtime is less than 24 hours.	100%
Library	Library Services meets customer needs and expectations.	Square footage of library space per resident	0.6
		Active Library card users as a percentage of the population	15%
		Number of residents attending library programs annually	4,932
		Number of programs offered to residents (annually)	355
		Number of physical materials borrowed annually	80,174
		Total number of electronic materials checkouts annually (eBooks & Audiobooks)	24,798
	Library Furniture & Equipment are kept in a state of good repair.	Average weighted condition assessment: Furniture & Equipment	Good
	Library Collections are kept in a state of good repair.	Average weighted condition assessment: Physical collection (Uxbridge Adult, Excl. Genealogy)	Very Good
		Average weighted condition assessment: Physical collection (Uxbridge Juvenile)	Good
		Average weighted condition assessment: Physical collection (Zephyr)	Fair

Service	Customer Levels of Service	Technical Levels of Service	Current LOS
Parks	Parks services meets customer needs and expectations.	In Uxbridge urban areas, there is a park within 400m.	All but 1
		Percent of playgrounds that are fully compliant with current CSA (accessibility) standards.	3 out of 19
		Sports fields/diamond conditions meet Township standards to ensure proper performance and safety (grass cutting)	100%
	Parks equipment are kept in a state of good repair.	Average weighted condition assessment for parks equipment, land improvements and facilities.	Good
Recreation	Recreation Services meets customer needs and expectations.	Program Registrations per Resident	0.2
		Total drop-in programs attended	22,921
		Total Recreational Rental Hours	4,728
		Membership Scans per Resident	1
		Regular inspections taking of the pool and area (i.e. health and safety, capital related, operational related, etc.)	Yes
	To provide safe, functional and accessible public Recreation Facilities for the community.	Ratio of multi-purpose program rooms to residents	1:3,130
		Ratio of indoor aquatic centres to residents	1:21,913
		Ratio of indoor pickleball courts to residents	1:5,478
		Ratio of indoor ice pads to resident	1:10,957
	Recreational (Pool & Arena) Machinery & Equipment are kept in a state of good repair.	Average weighted condition assessment: M & E	Fair
IT Services	Computer & Software Services meets customer needs and expectations.	Number of laptops (and other hardware) replaced per year	16
		% of servers and software that are cloud based	53%
	Corporate hardware is disposed of in an environmentally sustainable way.	100% of computer hardware is disposed of in an environmentally sustainable manner.	0%
	Computer Equipment & Software are kept in a state of good repair.	Average weighted condition assessment: Computer Systems	Good
Fleet	Vehicles are kept in a state of good repair.	Average weighted condition assessment: Vehicles	Fair
		% of inspections completed required under the Highway Traffic Act	100%
		% of snowplows replaced every 10 years to maintain a sufficient backlog	100%

C. FINANCING STRATEGY

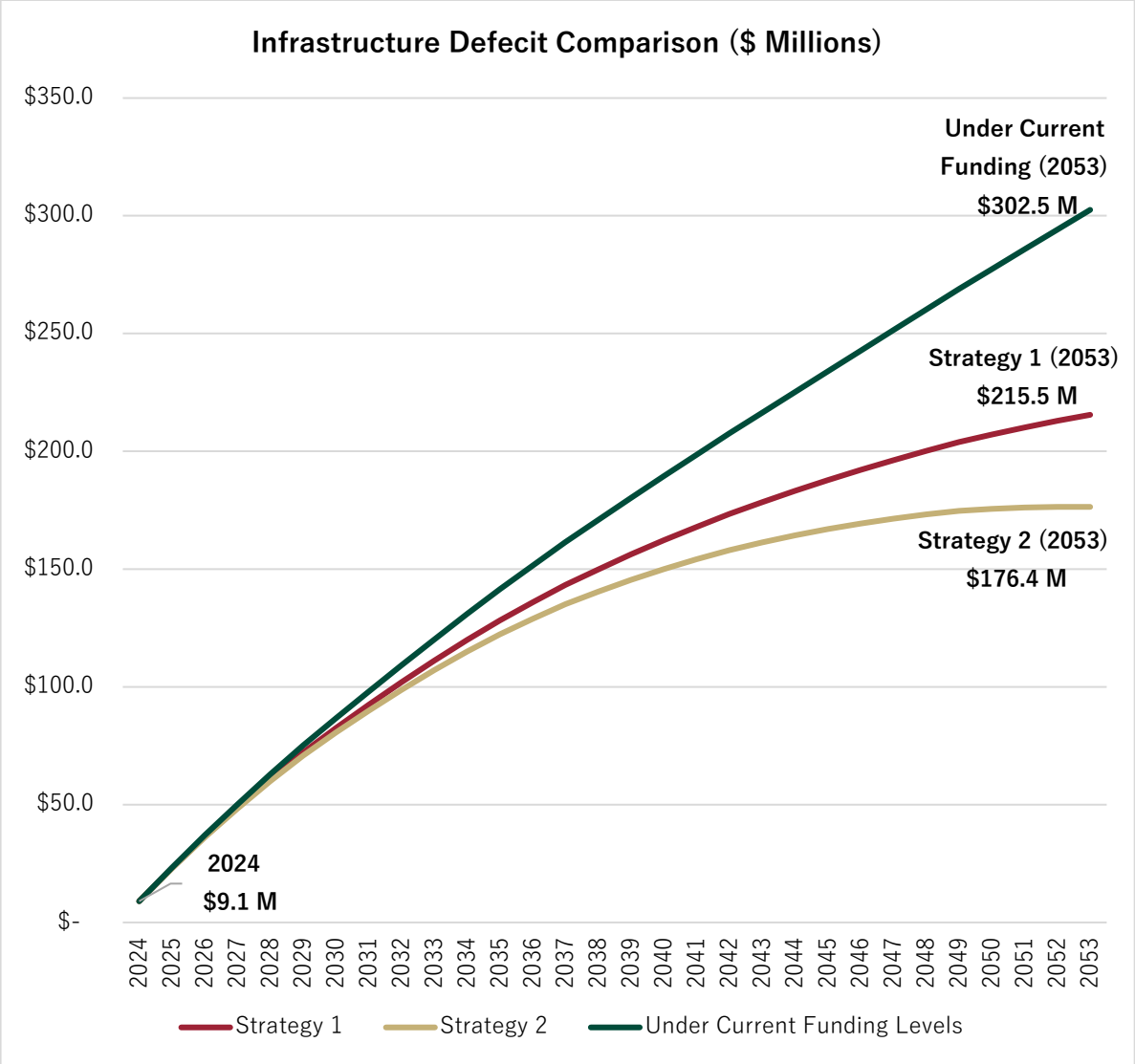
- To better develop a complete financial analysis, the financing strategy also includes costs associated to core assets based on the Township's 2022 Asset Management Plan for Core Assets, adjusted to 2024 dollars.
- The analysis indicates a spending need of about $678.0 million for tax supported assets – this figure represents the cumulative 30-year investment needs across the service areas for the various lifecycle activities identified in this plan.
- It is unrealistic in the current fiscal context to expect the Township to fully address the infrastructure deficit in the short-medium term:
  - Two financing strategies were developed to determine what capital contributions would be required to meet asset replacement needs (Note: in any given year, actual capital expenditures may be greater or less than the noted capital contributions as reserves are assumed to accommodate variances between the contributions and actual expenditures).
  - Please note, the increases calculated would be in addition to the 2024 budgeted funding identified and should be adjusted annually to account for the effects of inflation. The Financing Strategy section of this 2024 AMP provides further details on each strategy.

Summary of Financing Strategies	
Financing Strategy	**Strategy Parameters**
Strategy 1 **Maintain 5-Year Average Annual Capital Funding Increases**	▪ Increase annual capital contributions by approximately $200,000 per year. For 2025, the increase would be in addition to the estimated 2024 budgeted total tax funded capital contributions of $3.8 million. (1) ▪ In recent years, the Township has made a commitment to increasing tax funded capital contributions to the asset preservation reserve at about 2.0% of the tax levy, the financing strategies assume this practice would continue. ▪ The increase is based on the Township's projected tax funded capital contributions through the 10-year capital plan. ▪ The yearly revenue requirement is equivalent to 1.1% of the Township's estimated 2024 tax levy ($17.7 million).

Summary of Financing Strategies	
Financing Strategy	**Strategy Parameters**
Strategy 2 **Close the In-Year Funding Gap in 30 Years i.e. by 2053**	▪ Increase annual capital contributions by approximately $289,900 per year. For 2025, the increase would be in addition to the estimated 2024 budgeted total tax funded capital contributions of $3.8 million. (1) ▪ In recent years, the Township has made a commitment to increasing tax funded capital contributions to the asset preservation reserve at about 2.0% of the tax levy, the financing strategies assume this practice would continue. ▪ The in-year funding gap would be closed by the end of the 30-year period, but a cumulative infrastructure gap of $176.4 million remains. ▪ The yearly revenue requirement is equivalent to 1.6% of the Township's estimated 2024 tax levy ($17.7 million).

Note 1: Includes contributions to reserves, specifically the Public Works Asset Preservation Reserve ($2.0 million), Facilities Asset Preservation Reserve ($0.3 million), and 2024 tax levy requirements to fund capital projects ($1.5 million).

- Given the capital expenditure requirement to meet the asset lifecycle needs, the cumulative infrastructure deficit will increase in strategies 1 and 2 before the Township begins to reduce this amount by increasing capital contributions by more than the annual lifecycle requirement. Strategies 1 and 2 represent an approach consistent with the Township's 2022 Asset Management Plan for Core Assets of controlling the infrastructure deficit over the long-term.
- If current funding levels are not increased (i.e. maintained at 2024 levels), the Township would continue to experience an increasing infrastructure deficit to 2053 and beyond, which would put the Township at the most risk of not meeting asset repair/ replacement obligations over the long-term.
- The Township in recent years has made a commitment to increasing tax funded capital contributions to the asset preservation reserve at about 2.0% of the tax levy, the financing strategies assume this practice would continue.
- Detailed tables of each strategy are provided in Appendix C with the tax supported cumulative infrastructure gaps summarized in the graph below.


Infrastructure Defecit Comparison ($ Millions)
$350.0
$300.0
$250.0
$200.0
$150.0
$100.0
$50.0
$-
Under Current Funding (2053) $302.5 M
Strategy 1 (2053) $215.5 M
Strategy 2 (2053) $176.4 M
2024 $9.1 M
2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053
Strategy 1
Strategy 2
Under Current Funding Levels

1. INTRODUCTION

The Township of Uxbridge's 2024 Asset Management Plan for Non-Core Assets (2024 Plan) provides the Township with a tool to assist in capital financing decisions. The Plan covers all non-core assets: buildings, land improvements, vehicles, machinery & equipment, computer systems and linear assets.

The 2024 Plan follows the format set out by the Ministry of Infrastructure through the Building Together: Guide for Municipal Asset Management Plans and it has also been developed to be consistent with the requirements of Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17) and the Township's Strategic Asset Management Policy. All figures reported in this 2024 Plan are in constant 2024 dollars and therefore should be adjusted annually to account for the effects of inflation.

An Excel based asset management financial model has been developed as part of the 2024 Plan. The model contains the Township's asset inventory and is intended to be updated on a regular basis to inform future capital investment decisions. The model contains the information required to update the State of the Local Infrastructure Report Cards presented in Appendix B, which can be reproduced annually to help Council and the public understand the state of assets and overall funding levels. Finally, it is noted that although this plan focuses on the non-core assets, the financing strategy has been developed the include the costs associated to core assets based on the Township's 2022 Asset Management Plan for Core Assets adjusted to 2024 dollars.[1]

A. ASSET MANAGEMENT OVERVIEW

Well-managed public infrastructure is vital to the prosperity and quality of life of communities. Given the range and scope of services provided, Ontario municipalities have a special responsibility in ensuring that infrastructure is planned, built, and maintained in a sustainable way. A detailed asset management plan is essential to carry out this responsibility. Asset management has several benefits, including:

- Township can make informed and traceable decisions;
- Township has the opportunity to coordinate and plan accordingly by taking a risk-based approach to asset management;

[1] Core assets for the Township include sidewalks, stormwater ponds & linear, bridges & culverts and roads.

- Higher customer satisfaction is possible;
- Documents a funding plan and strategy to manage infrastructure; and
- Demonstrates compliance with regulations and legislation.

Asset management is an ongoing practice in the Township of Uxbridge. Council and staff have applied sound asset management principles to maintain records on tangible capital assets, monitor asset performance, and plan for infrastructure acquisition, repair, rehabilitation, and replacement over the long-term.

The purpose of the 2024 Plan is to build on existing practices by identifying how best to manage municipal infrastructure over the planning period to 2053. A strategy for maintaining infrastructure so that existing service levels are maintained is an important element. In this respect, the 2024 Plan has been prepared to be consistent with the Township's Strategic Asset Management Policy. Ultimately, the 2024 Plan will provide Council with information that can guide sustainable infrastructure investment decisions.

B. ONTARIO'S ASSET MANAGEMENT REGULATION (O. REG. 588/17)

In 2015, the Province of Ontario established the Infrastructure for Jobs and Prosperity Act. The purpose of this Act is to establish mechanisms to encourage principled, evidence-based and strategic long-term infrastructure planning that supports job creation and training opportunities, economic growth, protection of the environment, and incorporate design excellence into infrastructure planning.

In December 2017, Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure (O Reg. 588/17) was passed under the Infrastructure for Jobs and Prosperity Act. The regulation requires municipalities to develop a Strategic Asset Management Policy, which will help municipalities document the relationship between their Asset Management Plan and existing policies and practices as well as provide guidance for future capital investment decisions. Township Council approved the Strategic Asset Management Policy in 2019.

The regulation also contains specific requirements on the type of analyses municipal asset management plans should include. The aim is to provide guidance to municipalities so that asset management plans are more consistent across the Province. Furthermore, in March 2021 the Province amended the regulation to extend the regulatory timelines by one year. Table 1 provides a summary of the key regulatory timelines as outlined by O. Reg. 588/17 and where the Township currently stands in the timeline.

Table 1 – O Reg. 588/17 Timeline

Regulation Timeline	Requirement	Progress
July 1, 2019	▪ Municipalities shall prepare their first strategic asset management policy. ▪ Municipalities shall review, and if necessary, update the policy every 5 years.	▪ Township Council approved the Strategic Asset Management Policy in 2019. ▪ The next review is expected in 2024, although earlier reviews are encouraged whenever a change in policy directives occurs.
July 1, 2022	▪ Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets. ▪ The current levels of service must be defined for all core assets.	▪ 2022 Asset Management Plan for Core Assets includes all core assets: stormwater ponds & linear, bridges & culverts and roads ▪ The 2022 Asset Management Plan for Core Assets has incorporated the information from the 2021 State of the Infrastructure and Asset Management Plan for Roads, 2021 Bridge Appraisals, 2020 Culvert Appraisals, 2021 Stormwater Management Facility Assessment and the Township's asset inventory ▪ Current level of service measures were identified through this plan, with the Township expecting to develop other metrics on an ongoing basis. ▪ Service level data to be monitored and refined over the long-term.
July 1, 2024	▪ Every municipality shall prepare an asset management plan in respect of all other municipal infrastructure assets. ▪ The current levels of service must be defined for all other municipal assets	▪ This 2024 AMP has incorporated non-core assets contained in the Township's inventory. Some of these assets include condition assessments based on municipal reports and internal staff review. ▪ Current level of service measures have been identified through this plan.
July 1, 2025	▪ Municipalities must establish proposed levels of service for a minimum of 10 years. ▪ A lifecycle management and financial strategy that covers a minimum of 10 years.	▪ The Township anticipates developing their asset management program to establish the proposed levels of service and a financial plan to achieve the proposed levels of service. ▪ The proposed levels of service will be established through consultation with Council and the public in a subsequent update of this 2024 Plan.

C. ASSET MANAGEMENT PLAN STRUCTURE

The 2024 Plan is developed to be consistent with the structure recommended through the *2013 Building Together: Guide for Municipal Asset Management Plans*. At the same time, it has been developed to meet the requirements of O. Reg. 588/17. Table 2 below provides a guide to the sections of the 2022 Plan.

Table 2 – Guide to the 2022 Asset Management Plan

Section	Requirement
Section 2 - State of Local Infrastructure	Summarizes the state of the Township's infrastructure with reference to infrastructure quantity and quality. Additional details are provided in Appendix B.
Section 3 - Level of Service	A summary of the current levels of service is presented as well as recommendations on additional metrics the Township can look to track in the future.
Section 4 - Asset Management Strategy	Sets out several strategies that will assist the Township in maintaining assets so that current service levels are maintained. This section also includes a risk analysis of Township assets.
Section 5 - Financing Strategy	Establishes how asset management can be delivered in a financially sustainable way for both tax and utility rate supported services. Additional details are provided in Appendix C.
Section 6 – Continuous Improvements and Updates	Provides key recommendations on how to administer the 2024 Plan and keep it up to date.
Section 7 - Conclusions and Recommendations	Provides recommendations based on the analysis undertaken.

Note: Please refer to Appendix A for a list of definitions for commonly used terms throughout this 2024 Asset Management Plan.

2. STATE OF LOCAL INFRASTRUCTURE

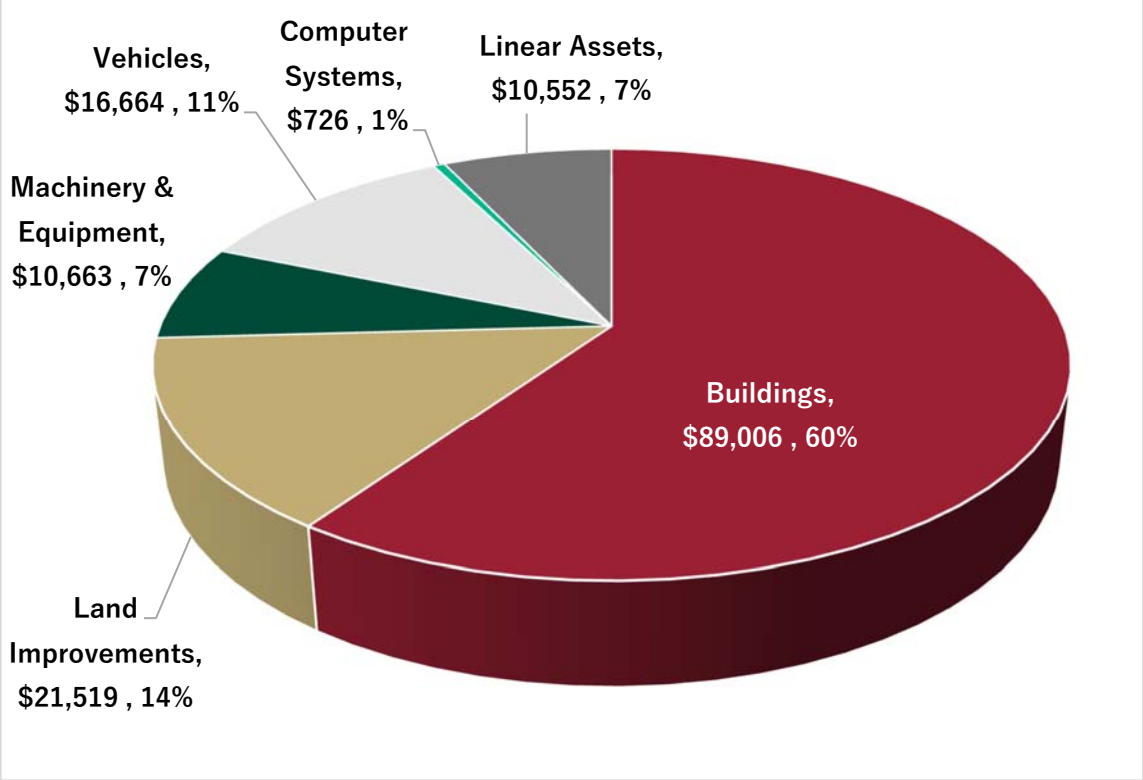
This section provides a summary of the Township's assets with reference to asset quantity and quality. Most of the Township's non-core asset conditions are based on assessments from staff and age-based condition ratings. Useful life assumptions for the assets considered under this 2024 Plan were acquired from the Township's tangible capital asset information. Detailed technical information on the asset inventory, remaining useful life and conditions for each asset category is provided in Appendix B.

A. REPLACEMENT COST OF INFRASTRUCTURE

The replacement cost for all Township non-core assets considered in the 2024 Plan is estimated at $149.1 million (all dollar figures are in 2024 dollars) with the breakdown by asset category summarized in Figure 1. The largest share of assets is for buildings at $89.0 million (60%) of the total replacement cost. The second largest asset class is land improvements at $21.5 million (14%). This is followed vehicles with a replacement cost of $16.7 million (11%), machinery & equipment at $10.7 million (7%) and linear assets at $10.6 million (7%). Finally, the Township's computer systems are valued at $0.7 million (less than 1%).

The replacement costs were developed based on a combination of recent benchmark/tender costs, the Township's 2024 Development Charges Background Study, and acquisition costs where no recent information was available. Detailed replacement cost for each asset category is provided in Appendix B.

Figure 1 – Summary of Total Replacement Value ($000s)



B. SUMMARY OF STATE OF LOCAL INFRASTRUCTURE

Table 3 provides a summary of the state of local infrastructure for all non-core asset categories considered in this study which is valued at $149.1 million. The weighted remaining useful life (WRUL) and weighted average condition (WAC) for each asset category has been derived relative to the replacement value of each asset. Detailed information is provided in Appendix B. The table illustrates several key findings:

- **Weighted Remaining Useful Life:** the WRUL of the Township's assets is approximately 9 years. The weighted average is largely driven by the relative age of buildings and land improvements which have the highest replacement value.

- **Weighted Condition:** Overall, the Township's non-core assets are determined to be in Good condition. This is largely attributed to the Township's buildings which are generally assessed to be in Good condition and represent the largest share of the asset portfolio. Computer systems are also considered to be in Good condition, while all other assets are generally in Fair condition.

Table 3 – State of the Local Infrastructure Summary

Asset Type	Replacement Value ($2024)	Weighted Average	
		Remaining Useful Life	Condition
Buildings	$89,006,200	12	Good
Land Improvements	$21,519,000	-3	Fair
Machinery & Equipment	$10,662,800	7	Fair
Vehicles	$16,663,500	6	Fair
Computer Systems	$725,852	0	Good
Linear Assets	$10,551,500	13	Fair
Total	**$149,128,852**	**9**	**Good**

C. CONDITION ASSESSMENTS

Consistent with the Canadian National Infrastructure Report Card, as well as other major organization and institution reporting formats, a five-point rating scale was used to assign a condition to all assets. This methodology provides a standard and easy to understand way of reporting on the condition of assets. Table 4 summarizes the assumed parameters.

Table 4 – Condition Assessment Parameters

Condition Rating		Definition
1	Very Good	▪ Well maintained, good condition, new or recently rehabilitated asset.
2	Good	▪ Good condition, few elements exhibit existing deficiencies.
3	Fair	▪ Some elements exhibit significant deficiencies. Asset requires attention.
4	Poor	▪ A large portion of the system exhibits significant deficiencies. Asset mostly below standard and approaching end of service life.
5	Very Poor	▪ Widespread signs of deterioration, some assets may be unusable. Service is affected.

Assets were categorized in the 5-tier rating system on an asset-by-asset basis for the purposes of reporting in this 2024 AMP. Two approaches have been utilized for the assets considered in this asset management plan.

1. Estimates based on Hemson and staff opinion. This approach is important where there is low confidence that age and useful life represents a particular condition. This method has been used for a series of assets in this 2024 AMP, with particular emphases for fire services related assets which have been assumed to be in Good condition wherever their

age was not a good representation of their condition. Other asset conditions were determined in consultation with staff and were rated in Fair to Good condition where appropriate.

2. Estimates based on the age and remaining useful life of the asset. This was used for all assets for which the Township was not able to provide a condition assessment based on existing knowledge or inspection. It is the intention that the Township move towards a condition assessment methodology. With this said, this methodology is suitable for lower valued assets that have a shorter useful life.

3. LEVEL OF SERVICE

Asset management decisions must be made with reference to the level of service planned for by the Township. Current service levels in Uxbridge are based on a combination of internal asset management practices, community expectations, statutory requirements, and industry operation and safety standards. Typically, the level of asset investment made by the Township in any one year has been determined by funding availability. That said, the Township has in the past been responsive to repair needs to address immediate environmental or health risks. The Township has therefore done a good job in assessing and maintaining levels of service.

The community expects that services be delivered in a cost effective and efficient way. Generally, community expectations revolve around the Township's accessibility of "soft" services (e.g. recreation facilities; libraries; fire stations) within neighbourhoods.

Developing levels of service and tracking over time is essential to measuring the success of service delivery and the asset management strategy overall. This section outlines current levels of service as they relate to the requirements outlined in Ontario Regulation 588/17.

A. CURRENT LEVELS OF SERVICE

The Township has determined the current levels of service through the analysis and model developed in this 2024 Plan. The current level of service measures for each asset category are summarized in Table 5. It is noted that the information in Table 5 represents a blended approach of levels of service and performance measures which represent the best available information at this time.

Primarily for non-core assets, the levels of service are related to the general condition of the assets. The weighted condition of the Township's assets is determined to be in Good condition overall. The Township's buildings and computer systems are in Good condition, with the remaining assets (land improvements, machinery & equipment, vehicles and linear assets) are in Fair condition overall.

Assets in Fair condition may transition into the Poor or Very Poor category in the near future. These assets may require attention in the short to medium term if proper asset maintenance and rehabilitation is not achieved. It will be important for the Township to determine which assets in the Fair category should be prioritized to ensure that current levels of service do not decline.

This 2024 Plan includes details on the current levels of service as of year-end 2023. These metrics will form the basis for staff to establish target levels of service to be included under future asset management plans.

B. COSTS TO MAINTAIN CURRENT LEVELS OF SERVICE

The Township undergoes reviews of the levels of service and services it provides on an annual basis through the budget process. Therefore, the Township considers the short-term implications of any changes in the level of service with consideration to the availability of funds and impacts to residents through the tax rates. The AMP considers the longer-term costs of maintaining levels of service over a 30-year period. To do so the financing strategy considers two financing strategy scenarios which are discussed further in Section 5.

Table 5 - Current Levels of Service Metrics for Non-Core Assets

Service	Customer Levels of Service	Technical Levels of Service	Current LOS	Source
Facilities	To provide safe, functional and accessible public facilities for the community.	% of regulated health and safety inspections completed (facilities are inspected monthly)	100%	Township data and staff estimates
	Corporate facilities are environmentally sustainable.	Percentage of facilities with converted to LED lights. (inside and outside)	39%	Township data and staff estimates
	Corporate facilities are kept in a state of good repair.	Average weighted condition assessment.	Good	2024 Plan Financial Model analysis
	Cultural Services meet customer needs and expectations.	Number of permits issued (programming) (exterior to the Township)	270	Township data and staff estimates
		Number of events held (programming) (Township events)	73	Township data and staff estimates
Animal Control	Animal Services meets customer needs and expectations.	Average annual capacity/availability at peak times	90%	Township data and staff estimates
		Percent of emergency animal services calls responded to within 24 hours.	100%	Township data and staff estimates
		Percent of animal services complaint related and other calls responded to within one week.	100%	Township data and staff estimates
	Animal Services Equipment are kept in a state of good repair.	Average weighted condition assessment	95% Good	Township data and staff estimates
			5% Fair	Township data and staff estimates
Fire	Fire services meet customer needs and expectations.	Regulated inspections are completed.	100%	Township data and staff estimates
		Front line trucks do not exceed 20 years of life.	83%	Township data and staff estimates
		Truck downtime is less than 24 hours.	100%	Township data and staff estimates
Library	Library Services meets customer needs and expectations.	Square footage of library space per resident	0.6	Township data and staff estimates
		Active Library card users as a percentage of the population	15%	Township data and staff estimates
		Number of residents attending library programs annually	4,932	Township data and staff estimates
		Number of programs offered to residents (annually)	355	Township data and staff estimates
		Number of physical materials borrowed annually	80,174	Township data and staff estimates
		Total number of electronic materials checkouts annually (eBooks & Audiobooks)	24,798	Township data and staff estimates
	Library Furniture & Equipment are kept in a state of good repair.	Average weighted condition assessment: Furniture & Equipment	Good	2024 Plan Financial Model analysis
	Library Collections are kept in a state of good repair.	Average weighted condition assessment: Physical collection (Uxbridge Adult, Excl. Genealogy)	Very Good	Township data and staff estimates
		Average weighted condition assessment: Physical collection (Uxbridge Juvenile)	Good	Township data and staff estimates
		Average weighted condition assessment: Physical collection (Zephyr)	Fair	Township data and staff estimates

Table 5 - Current Levels of Service Metrics for Non-Core Assets

Service	Customer Levels of Service	Technical Levels of Service	Current LOS	Source
Parks	Parks services meets customer needs and expectations.	In Uxbridge urban areas, there is a park within 400m.	All but 1	Township data and staff estimates
		Percent of playgrounds that are fully compliant with current CSA (accessibility) standards.	3 out of 19	Township data and staff estimates
		Sports fields/diamond conditions meet Township standards to ensure proper performance and safety (grass cutting)	100%	Township data and staff estimates
	Parks equipment are kept in a state of good repair.	Average weighted condition assessment for parks equipment, land improvements and facilities.	Good	2024 Plan Financial Model analysis
Recreation	Recreation Services meets customer needs and expectations.	Program Registrations per Resident	0.2	Township data and staff estimates
		Total drop-in programs attended	22,921	Township data and staff estimates
		Total Recreational Rental Hours	4,728	Township data and staff estimates
		Membership Scans per Resident	1	Township data and staff estimates
		Regular inspections taking of the pool and area (i.e. health and safety, capital related, operational related, etc.)	Yes	Township data and staff estimates
	To provide safe, functional and accessible public Recreation Facilities for the community.	Ratio of multi-purpose program rooms to residents	1 : 3,130	Township data and staff estimates
		Ratio of indoor aquatic centres to residents	1 : 21,913	Township data and staff estimates
		Ratio of indoor pickleball courts to residents (only available during summer months)	1 : 5,478	Township data and staff estimates
		Ratio of indoor ice pads to resident	1 : 10,957	Township data and staff estimates
	Recreational (Pool & Arena) Machinery & Equipment are kept in a state of good repair.	Average weighted condition assessment: M & E	Fair	2024 Plan Financial Model analysis
IT Services	Computer & Software Services meets customer needs and expectations.	Number of laptops (and other hardware) replaced per year	16	Township data and staff estimates
		% of servers and software that are cloud based	53%	Township data and staff estimates
	Corporate hardware is disposed of in an environmentally sustainable way.	100% of computer hardware is disposed of in an environmentally sustainable manner.	0%	Township data and staff estimates
	Computer Equipment & Software are kept in a state of good repair.	Average weighted condition assessment: Computer Systems	Good	2024 Plan Financial Model analysis
Fleet	Vehicles are kept in a state of good repair.	Average weighted condition assessment: Vehicles	Fair	2024 Plan Financial Model analysis
		% of inspections completed required under the Highway Traffic Act	100%	Township data and staff estimates
		% of snowplows replaced every 10 years to maintain a sufficient backlog	100%	Township data and staff estimates

4. Asset Management Strategy

This section sets out an action plan that will assist the Township in maintaining assets so that current service levels are maintained. The asset management strategy relates to a set of actions that, taken together, has the lowest total cost to maintain assets in a state of good repair as defined in the Building Together: Guide for Municipal Asset Management Plans. The asset management strategy includes current practices and potential future practices related to non-infrastructure solutions, maintenance activities, renewal/rehabilitation, disposal, and expansion activities. The final component of this section includes a risk analysis, which can be used to assist Township staff and Council measure and manage risks to assets to maintain current levels of service.

A. OVERVIEW OF FULL LIFE-CYCLE COST MODEL

As part of the Asset Management Plan, the Township, along with Hemson, have identified the total full life cycle costs of assets that corresponds to the requirements of the regulation, noting that this analysis is done at the corporate-wide level. This would entail a cost estimation throughout the asset's life including planning, design, construction, acquisition, operation, maintenance, renewal (and disposal). In addition, the analysis also takes into consideration the inclusion of expansion related infrastructure into the lifecycle management strategy. This approach ensures that the additional lifecycle costs associated with newly constructed/acquired assets are accounted for in the long-term forecast. A "lifecycle management approach" in asset management planning not only includes estimating future lifecycle costs, but also embeds the process of monitoring how the asset performs over its life while providing affordable services.

These lifecycle activities can be segmented into six (6) categories: non-infrastructure solutions, operations/maintenance, renewal/rehabilitation, replacement, disposal, and expansion activities. While this AMP looks to address the various cost elements, it is important to recognize that as the asset management maturity level of the Township increases, the costs associated with each lifecycle activity will strengthen and improve the expenditure outlook. Table 6 provides a description of each lifecycle category and the specific approach used to forecast expenditures in this AMP.

It is noted that although this AMP focuses on the non-core assets, the financing strategy also includes a high-level financial analysis of the core assets based on information from the Township's 2022 Asset Management Plan for Core Assets.

Table 6 – Overview of the Full Life Cycle Cost Activities and AMP Approach

Category	Description	Non-Core Assets: AMP Approach	Core Assets: AMP Approach
Non-Infrastructure Solutions	▪ Actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc.).	▪ A general provision of $50,000 per annum is included associated to asset management related costs such as studies or staff costs to undertake AMP analysis	
Maintenance Activities	▪ Servicing assets on a regular basis in order to fully realize the original service potential. Maintenance will not extend the life of an asset or add to its value. Not performing regular maintenance may reduce an asset's useful life.	▪ Based on a review of recent budgets by service area. ▪ Annual maintenance activities of $7.1 million per annum for tax supported assets based on 2022 budget ($2.6 million for non-core and $4.5 million for core) ▪ Excludes regular costs of operation and only includes identifiable asset maintenance costs from the Township budget. ▪ These figures are based on the 2024 budget and is deemed appropriate to use in the forecast moving forward as it generally represents similar costs compared to previous year's budgets.	
Renewal/ Rehabilitation Activities	▪ Mostly associated to significant repairs designed to extend the useful life of an asset. These types of activities are typically done at key points in the lifecycle of an asset to ensure the asset reaches it designed useful life.	▪ No renewal/rehabilitation activities explicitly identified. Long-term costs captured through replacement.	▪ Aligned with activities identified in 2022 Asset Management Plan for Core Assets (and inflated to 2024 dollars)
Replacement Activities	▪ Activities that are expected to occur once an asset has reached the end of its useful life and renewal/ rehabilitation is no longer an option.	▪ Incorporates the average annual investment required to replace assets when they reach the end of their useful life (age/condition/risk-based replacement schedule)	▪ Aligned with activities identified in 2022 Asset Management Plan for Core Assets (and inflated to 2024 dollars)

Category	Description	Non-Core Assets: AMP Approach	Core Assets: AMP Approach
Disposal Activities	▪ The activities associated with disposing of an asset once it has reached the end of its useful life or is otherwise no longer needed. Typically, disposal costs are accounted under replacement activities. Some assets, such as landfills, may have perpetual maintenance costs.	▪ Analysis assumes any costs associated with "disposal" is included for in the replacement value and captured in the capital replacement requirements.	
Expansion Activities	▪ Planned activities required to extend or expand municipal services to accommodate the demands of growth.	▪ Assumed Township expansion activities based on Township 10-year DC funded expenditures this equates to an average additional yearly expenditure of about $1.2 million (first round capital acquisition). ▪ It is assumed that future DCs will be used to fund these expenditures. ▪ The asset management related expenses associated to future replacement and ongoing maintenance of net new infrastructure is included for in the calculation of the funding need.	▪ Aligned with activities identified in 2022 Asset Management Plan for Core Assets (and inflated to 2024 dollars)

It should be noted that the Township undertakes all the activities described in Table 6, however, the Township's budget generally accounts for these expenditures in different categories. It is recommended that the Township continue to track the asset management activities required to continue to maintain levels of service.

B. RISK ANALYSIS

It is important to assess the risk associated with each asset and the likelihood of asset failure. Asset failure can occur as the asset reaches its limits and can affect the level of service. In addition, certain assets have a greater consequence of failure than others. A risk matrix can help prioritize which assets should be repaired/replaced, even those which the Township has already identified to be in Poor or Very Poor condition. The evaluation rating is then linked to the condition assessment parameter discussed in Section 2. The formula to determine asset risk is as follows:

(Likelihood of Failure) X (Consequence of Failure) = (Risk Rating)

Each of the components of the Risk Rating methodology is defined as follows:

Likelihood of Failure is directly linked to the condition of an asset. For example, an asset in Very Poor condition would have the probability of asset failure in the short-term be high. This type of asset may be near the end of its useful life or has deteriorated significantly. Conversely, it would be considered rare for an asset to fail in the short-term if it is considered to be in Good or Very Good condition. Table 7 outlines the definition of likelihood of failure used for the Township's assets.

Table 7 – Probability of Failure

Condition	Probability of Failure	Description
Very Good	1	Rare
Good	2	Unlikely
Fair	3	Possible
Poor	4	Likely
Very Poor	5	Almost Certain

Note: Definitions are based on the MFOA Asset Management Framework.

Consequence of Failure refers to the impact on the Township if an asset were to fail to provide the desired level of service. The consequence of failure has been determined separately for each asset category, as the impact to the Township differs greatly by asset type. For example, if a fire emergency vehicle was not available for service, the potential

impact could be severe compared to a vehicle used for administrative purposes. Table 8 below outlines the definition of consequence of failure used for the Township's assets. The consequence of failure, rated on a 1-5 scale, was weighted relative to each category in Table 8 depending on how impactful the consequence may be to the Township.

Table 8 - Consequence of Failure

Consequence of Failure	Description
1 - Insignificant	No impact to operations.
2 - Minor	Minor impact to operations, all major operations can continue to function.
3 - Moderate	Moderate impact to operations some critical operations may need to stop functioning temporarily.
4 - Major	Major operations seize and some damage control necessary.
5 - Significant	All operations seize to function and major damage control is necessary.

Risk Rating categorizes assets based on the level of risk to the Township. The risk rating provides a guide to prioritize assets by determining which assets require attention first and which capital works can be deferred. Higher risk assets should be prioritized for attention in the short term by determining which of the lifecycle actions is required to be performed on the asset. Table 9 below provides a summary of the risk matrix.

Table 9 - Risk Matrix

Evaluation Rating		Consequence of failure					Color Code
		1	2	3	4	5	
Likelihood of Failure	1	1	2	3	4	5	Very Low Risk
	2	2	4	6	8	10	Low Risk
	3	3	6	9	12	15	Moderate Risk
	4	4	8	12	16	20	High Risk

Table 10 presents the findings of the risk analysis and illustrates the Township's asset risk rating. Most of the Township's assets continue to have relatively "Low Risk", an indication of good maintenance practices overall.

The risk of each asset and asset category has been determined with reference to the parameters outlined in Table 9. The Township will need to continue regular maintenance activities and capital works moving forward to maintain current levels of service – this ensures assets do not further deteriorate posing greater risk to the Township.

Table 10 - Summary Risk Assessment

Asset Type	Replacement Cost 2024	Risk (Weighted Average)
Assets with Risk Rating Developed in 2024 AMP		
Buildings	$89,006,200	Moderate
Land Improvements	$21,519,000	Low
Machinery & Equipment	$10,662,800	Moderate
Vehicles	$16,663,500	Moderate
Computer Systems	$725,852	Low
Linear Assets	$10,551,500	Low
Total	**$149,128,852**	Low

Using the risk assessment, a schedule for the replacement of assets has been developed on an asset-by-asset basis. Assets with a higher risk rating are prioritized earlier in the schedule to reflect a higher priority, while assets with lower risk ratings are moved further out into the future forecast to reflect a more "smoothed" expenditure outlook. The timing is based on a percentage of the useful life of the asset. Table 11 below provides a summary of the risk thresholds used to calculate timing of replacement needs.

Table 11 – Asset Life Extension Assumptions Based on Risk

	1	2	3	4	5
1	100%	80%	60%	40%	20%
2	80%	65%	50%	30%	16%
3	60%	50%	35%	25%	10%
4	40%	30%	25%	15%	2%

C. MANAGING RISK

It is important to recognize the risk associated with the Township's ability to deliver the AMP while recognizing that any deviation may affect the overall ability to deliver service. Table 12 below provides a summary of the identified risks, potential impacts and mitigating actions associated with the asset management program. Moving forward, the Township may continue to update the information in Table 12 to better reflect ongoing changes to policy or practice.

Table 12 – Risk Associated to the Plan

Identified Risk	Potential Impact	Mitigating Action
Failed Infrastructure	▪ Delivery of service ▪ Asset and equipment damage	▪ Repair and rehabilitate as necessary ▪ Increase investment ▪ Non-infrastructure solutions
Inadequate Funding	▪ Delivery of service ▪ Increased risk of failure ▪ Shorten asset life ▪ Defer funding to future generations	▪ Reductions of service ▪ Find additional revenue sources
Regulatory Requirements	▪ Non-compliance ▪ Mandatory investments ▪ Increased costs	▪ Find additional revenue sources ▪ Lobby actions
Plan is not Followed or Not Undertaking Required Lifecycle Activities	▪ Shorten asset life ▪ Inefficient investments ▪ Prioritization process failure ▪ Failure to deliver service	▪ Monitor and review ▪ Create asset management internal network ▪ Implement processes ▪ Investigate alternative lifecycle management options

D. CLIMATE CHANGE INTEGRATION

The management of a municipal assets plays a fundamental role in the delivery of services, which depends on the infrastructure available to deliver the service. Corporate asset management in municipalities largely relates to the management of existing assets to keep them in a state of good repair while planning for future repair and/or replacement of their assets across all service areas. Impacts of climate change are already being experienced around the world, including Canada. It is important for municipalities to begin considering and planning for future climates to ensure the delivery of services, especially as it pertains to the maintenance of key municipal infrastructure. As per *Ontario Regulation 588/17* s3(5), municipalities must include a commitment in their asset management planning to address the vulnerabilities of climate change with respect to operations, levels of service and lifecycle management. There must also be consideration for anticipated costs, mitigation and adaptation approaches and disaster planning to meet all regulatory requirements in Ontario municipal asset management. In response to the regulatory requirements, Township of Uxbridge adopted its first Strategic Asset Management Policy and committed to integrating climate change as part of its asset management planning.

Expected climate change impacts include hotter, drier summers, warmer winters with increased precipitation, increased frequency and intensity of storms and increased intensity of extreme winds. These changes in climate will likely lead to increased risks associated with flooding, heatwaves, risk of infrastructure damage, health and safety of residents, the alteration or loss of habitats, etc.

Many of these risks are associated with municipal assets and may impact the levels of service. Climate change mitigation and adaptation planning is an important step for municipalities to take to begin managing risks associated with climate change. Therefore, the Township is taking steps towards the integration of climate change considerations into their asset management planning framework moving forward.

Table 13 provides a risk summary, for information purposes, to help further propel climate change integration with asset management, although, recognizing the full utilization would still need to be applied and understood at the staff level. In asset management terms, this table shows the "big picture" effects that climate change hazards may have on the levels of service for various assets. The specific climate change impacts on levels of service are to be developed further as part of future updates to the asset management plan and through specific master planning exercises.

Through further understanding of the anticipated extent of climate change events, climate change adaptation projects at the Township will provide additional parameters as to the likelihood and severity of events. At its most simplistic form, the Table 13 provides a range from a "rare" occurrence to "almost certain". A rare occurrence could be correlated to falling into the tenth percentile of probability, with an almost certain occurrence falling into the ninetieth percentile of probability.

Table 13 – Framework for Climate Change Integration with Risk

Hazards/ Risks	Likelihood	Consequence	
		Assets Affected	Possible Critical Infrastructure Failure/Service Impacts
Freezing Rain/Ice Storm	Rare to almost certain	• All non-core assets	• Potential for increased flooding and power outages that will affect buildings and the assets within them • Land improvements become unusable

Hazards/ Risks	Likelihood	Consequence	
		Assets Affected	Possible Critical Infrastructure Failure/Service Impacts
Extreme Temperatures – Cold Wave	Rare to almost certain	• Buildings • Land Improvements	• Damage to land improvements possible • Loss of power to buildings
Intense Rain	Rare to almost certain	• Land Improvements • Vehicles	• Closure of amenities due to conditions • Possible damage to vehicles due to poor road conditions and increased potential for accidents
Flood – Urban	Rare to almost certain	• Buildings • Land Improvements	• Disruption to outdoor services due to flooding conditions • Potential flooding of municipal buildings
Windstorm/ Tornado	Rare to almost certain	• All non-core assets	• Damage possible • Loss of use of non-core assets due to damage, lack of power, etc.

Source: https://www.assetmanagementbc.ca/wp-content/uploads/Climate-Change-and-Asset-Management.pdf

5. FINANCING STRATEGY

The Township has continually contributed to capital for tax funded services. In order to continue to maintain levels of service, the Township will need to monitor funding levels over the next few years. This section of the 2024 Plan is intended to help the Township build on the existing asset management practices already in place. The financing strategies presented provide the Township with feasible options to increase capital funding in a sustainable manner to maintain service levels. The financing strategy has incorporated the costs associated to non-core assets developed through this 2024 Plan as well as the costs for core assets from the 2022 Asset Management Plan for Core Assets (adjusted to 2024 dollars). All figures presented in this section are expressed in constant 2024 dollars.

A. OPERATING BUDGET EXPENDITURES

The Township has historically set aside funds to maintain its capital assets in a state of good repair. This has meant that sufficient funds have typically been available to deal with immediate and critical asset repair and rehabilitation needs. Overall, the Township has aimed to increase its operational and capital budget expenditures to maintain assets and fund capital asset repair and replacement over the past few years.

It is anticipated that the Township's operating expenditures will be adjusted annually, at minimum, to account for the effects of inflation. Although, if additional asset management strategies are adopted by the Township, annual costs could exceed regular inflationary adjustments. Using the budget as the basis, the analysis used in the financing strategy assumes:

- $2.6 million is related to non-core asset maintenance funded through the tax base in 2024. This amounts to approximately 1.8% of the total replacement value of the Township's non-core infrastructure of $149.1 million
- $4.5 million is related to core asset maintenance funded through the tax base as reported in the 2022 AMP. This amounts to approximately 0.9% of the total replacement value of the Township's core infrastructure of $487.8 million[2]

[2] The replacement value of core assets is based on the replacement value adjusted to 2024 dollars from the Township's 2022 Asset Management Plan for Core Assets.

Moving forward additional maintenance expenditures will be required to maintain newly acquired infrastructure associated to growth-related development. The following summarizes the assumptions:

- The Township would undertake an average of $1.2 million in annual growth-related non-core asset expansion activities which would equate to about $21,900 in additional maintenance expenditures per year based on 1.8% of the replacement value of new non-core infrastructure. This results in total average maintenance related expenditures of about $3.0 million per year over the 30-year period to 2053, including maintenance for existing assets.

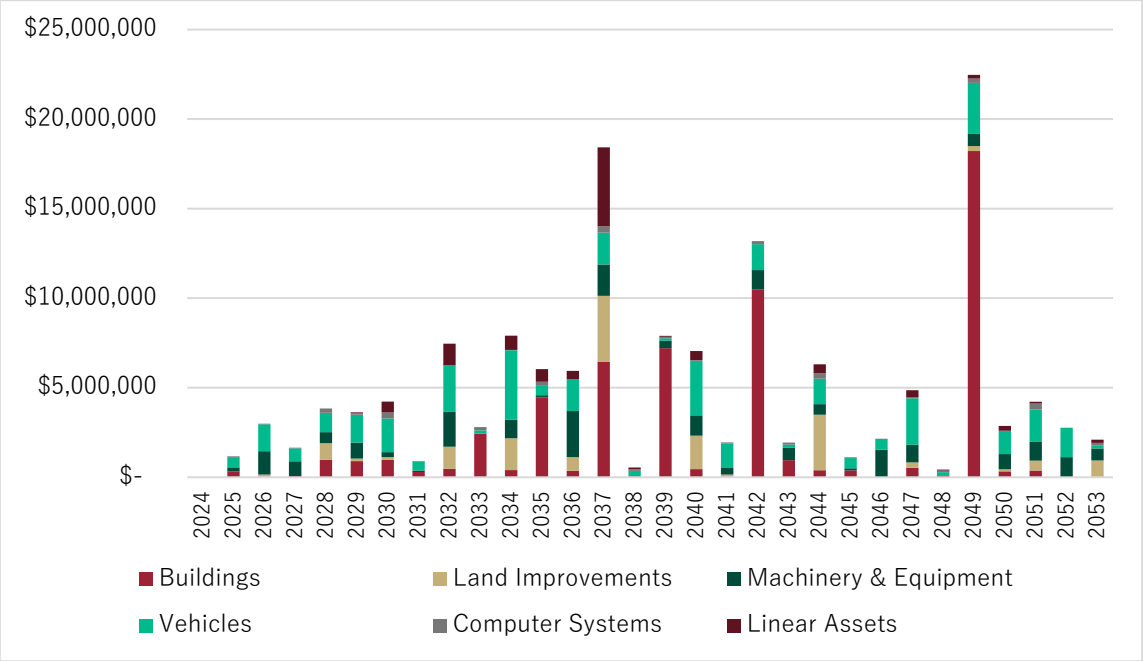
- The Township would undertake about $830,000 in annual growth-related core asset expansion activities which would equate to about $7,700 in additional maintenance expenditures per year based on 0.9% of the replacement value of new core infrastructure. This results in total average maintenance related expenditures of about $4.5 million per year over the 30-year period to 2053, including maintenance for existing assets.

As the Township matures its asset management program, it is expected that service level adjustments and costs associated with achieving desired levels of services will be incorporated in the model. At this stage, no provisions for a level of service adjustments to account for requirements of *O. Reg. 588/17* to define and implement proposed levels of service has been included in the analysis – this will be further addressed in the next plan to coincide with the regulatory timeline as better information on defining the proposed levels of service become available.

B. CAPITAL RENEWAL AND REPLACEMENT SCHEDULE

The 2024 Plan includes an estimate of the timing for renewal and replacement of core assets. Figure 2 sets out the schedule of renewal and replacement of existing non-core assets, to maintain current levels of service for the assets considered in the 2024 Plan. Over the 30-year period, to 2053, the repair and replacement program totals about $148.7 million. The average yearly expenditure related to these assets amount to approximately $5.1 million per year.

Figure 2 – Renewal and Replacement Schedule for Non-Core Assets to 2053



C. SUMMARY OF THE CUMULATIVE FULL LIFECYCLE COSTS

A key component of the financing strategy is to identify the level of expenditure required on an annual basis to pay for asset management. Costs to maintain and eventually repair or replace municipal assets need to be understood and contributions to reserves and reserve funds need to be quantified. In this section, provisions for repair and replacement are calculated for each asset based on anticipated cost of repair or replacement in constant 2024 dollars from the various sources of information presented in the previous sections. The aggregate of all individual provisions forms an annual contribution to reserves for the purpose of asset repair and replacement.

Over the next 30 years, the analysis indicates a spending need of about $678.0 million for both core and non-core assets combined. Figure 3 summarizes the cumulative 30-year investment needs across the tax supported service areas for the various lifecycle activities identified in Section 4. Of the total lifecycle cost, most costs can be attributed to saving for the renewal and replacement of existing infrastructure making up about $421.5 million (62%). About $224.2 million (33%) of the total is related to operating and maintenance costs associated to the existing asset base and potential future infrastructure associated to expansions. The remaining $30.9 million (5%) is related to future asset management provisions associated to future infrastructure expansion with a minor share of $1.5 million (less than 1%) related to non-infrastructure solutions. Note that no provisions for a level of

service adjustments to account for requirements of O. Reg. 588/17 to define and implement proposed levels of service has been included in the analysis – this will be further addressed in the next plan to coincide with the regulatory deadline.

Figure 3 – Summary of Lifecycle Cost Model 2024-2053 for All Assets (In $ Millions)

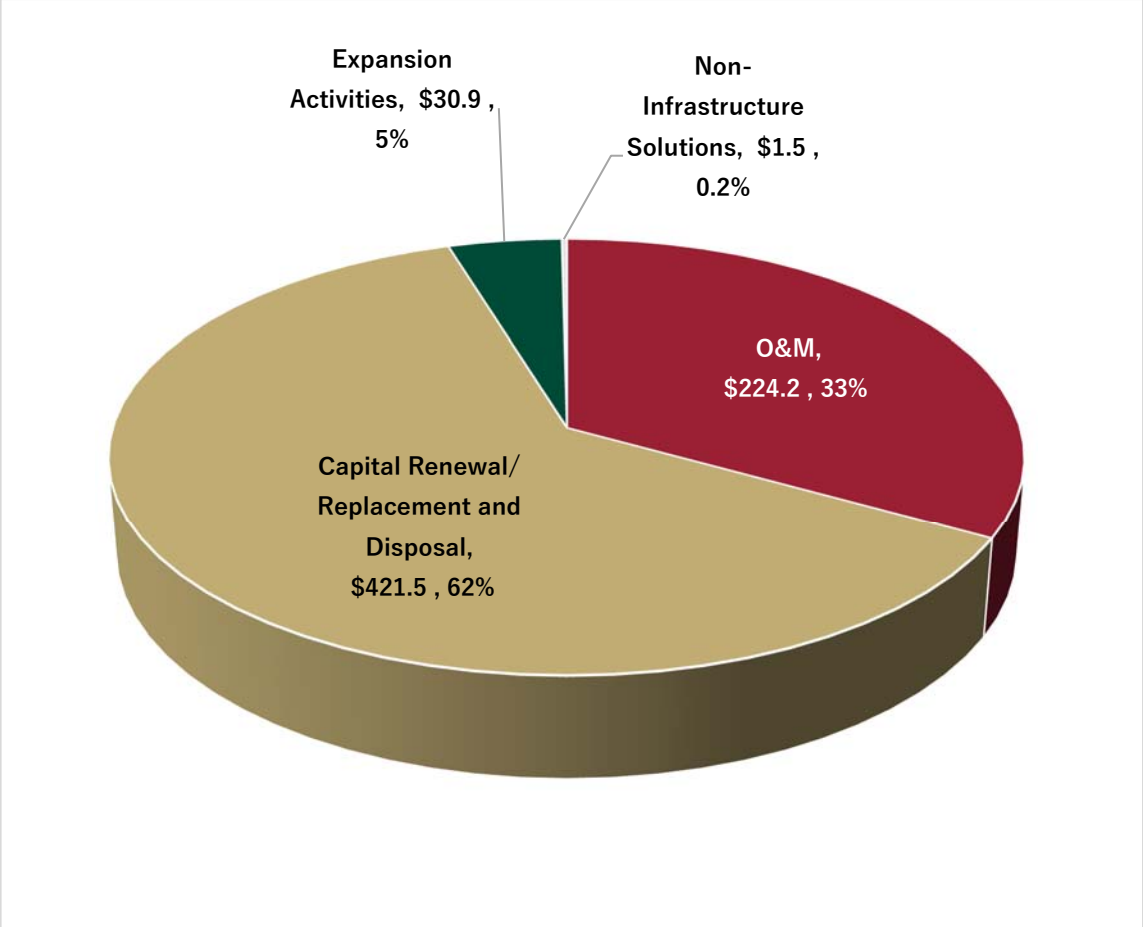


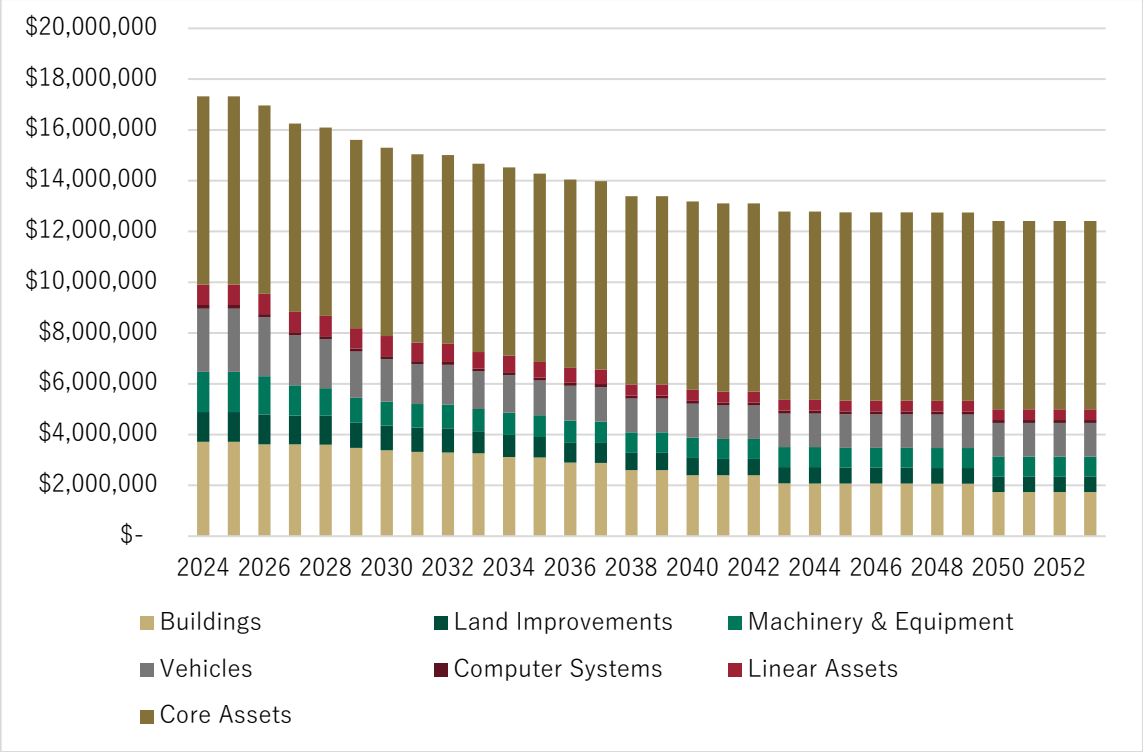
Figure 4 below provides an overview of the annual contributions related to the capital renewal and replacement requirements on an annualized basis over the planning period for the tax supported core and non-core infrastructure which totals $421.5 million. Figure 4 shows the funds that would have to be contributed annually to reserves to maintain current levels of service for tax supported assets included in this 2024 Plan to 2053. Figure 4 demonstrates that:

- Average annual contributions over the 30-year period would have to be in the order of $7.4 million per year for core assets and $6.7 million for non-core assets. This would total a 30-year annual average of $14.1 million.

- The level of investment in Township assets would need to increase from current funding levels. It should be noted that of the 2042 capital funding sources for this set of assets,

tax supported revenues are the most secure form of recurring revenue for the Township as other funding sources, such as grants, could be subject to review by upper levels of government and cannot be relied upon as a secure funding source for financial planning.

Figure 4 – Provision Schedule 2024-2053 for All Assets



Note: Graph includes non-core infrastructure and core asset costs from the 2022 Asset Management Plan for Core Assets adjusted to 2024 dollars.

For some assets, a renewal (rather than replacement) approach was taken as part of this 2024 Plan. As some assets (namely buildings and land improvements) will not be fully replaced, but rather will undergo renewal activities to improve asset condition and extend the useful life until further renewal activities are required. Table 14 below outlines the approach taken for each asset type as well as their average annual contribution requirements.

Table 14 – Capital Activities Approach & Average Annual Contribution by Asset Class

Asset Class	Lifecycle Approach	Average Annual Contribution
Buildings	Renewal – 2/3 of Replacement Value	$2,728,344
Land Improvements	Renewal – 2/3 of Replacement Value	$805,460
Machinery & Equipment	Replacement – 100% of Replacement Value	$926,917

Asset Class	Lifecycle Approach	Average Annual Contribution
Vehicles	Replacement – 100% of Replacement Value	$1,541,838
Computer Systems	Replacement – 100% of Replacement Value	$118,381
Linear Assets	Replacement – 100% of Replacement Value	$570,144
Total		**$6,691,084**

D. SUMMARY OF REVENUES

The municipal revenue sources available to address the identified full lifecycle cost requirements outlined above are limited. Generally, the type of capital project aligns to its funding source. In this regard, growth related projects receive most of their funding through development charges in communities that impose DCs, and replacement projects are predominantly funded through tax-based contributions for tax supported assets. In Uxbridge, development charges are collected on all new development to fund the costs associated to "first-round" infrastructure required to service growth. Future maintenance, repair, replacement then becomes the responsibility of the Township to fund from other sources, largely from taxation.

When assets require rehabilitation or are due for replacement, the source of funds are essentially limited to reserves or contributions from the operating budget regardless of how the initial first round capital asset was funded. Table 15 provides a summary of the revenues assumed in this analysis for tax supported assets.

Table 15 – Financing Strategy Key Assumptions

Category	Assumptions
Operations and Maintenance	▪ It is assumed that operations and maintenance costs associated to existing assets will remain at similar levels to today (no level of service increase) and will be funded from the tax base. ▪ Future operations and maintenance costs associated to expansion related assets will be funded from the tax base and are assumed to be required to maintain current levels of service.
Capital from Taxation (including transfers to reserves)	▪ Existing 2022 tax supported capital funding of $3.8 million is assumed to be the starting point and base case for increasing annual capital contributions. This is related to the contributions to reserves (from operating), including contributions to the asset preservation reserve. This amount is based on the 2024 budget.

Category	Assumptions
Capital Projects Levy	▪ Capital projects levy assumed to continue at the same level as the 2022 budget of about $325,600.
Debt (funded from taxes)	▪ Continued debt payments associated to the firehall and the Brock St Culvert are assumed to continue to be funded in part by the capital projects levy and taxation. The debt payments amount to about $645,800 for the firehall and $7.7 million for the Brock St Culvert. These amounts are net off the available funding.
Canada Community Building Fund (formerly Gas Tax)	▪ Funding for 2024 is approximately $677,700. Post 2024 gas tax funding is assumed based on AMO allocations to 2027 and remain constant afterwards.
Other Funding	▪ Gravel royalties are expected to continue amounting to an average of $260,000 per year.
Existing Reserves	▪ Existing capital reserves amounting to approximately $6.0 million have been used against the total costs.
Expansion Activities	▪ Assumed Township expansion activities equate to an average additional yearly expenditure of about $830,000 for core assets and $1.2 million for non-core assets (first round capital acquisition). This amount is assumed to be funded from development charges. ▪ The asset management related expenses associated to future replacement and ongoing maintenance of net new infrastructure is included for in the calculation of the funding need and are expected to be funded through taxes.
Inflation	▪ Financing strategy is expressed in constant 2024 dollars.

E. INFRASTRUCTURE DEFICIT AND FINANCING STRATEGIES

To implement sustainable asset management practices the Township needs to have an understanding of the current "infrastructure deficit" as well as the funding gaps that would arise should the required full life-cycle costs related to capital, identified in Part C: Capital Provision Schedule, be delayed.

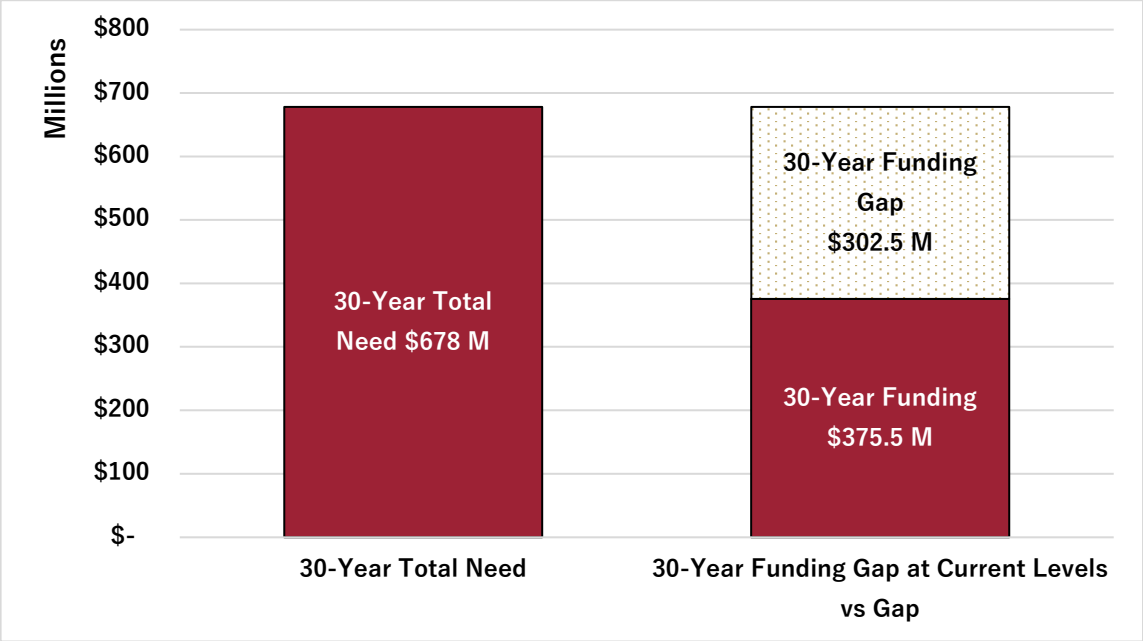
There are two important infrastructure gaps to consider in asset management planning:

- **In-Year Gap**: The difference between the full lifecycle cost and the funding available in any given year.
- **Cumulative Gap**: The accumulation of the shortfall arising each year in which the in-year funding gap is not met.

The 30-year infrastructure deficit shown in Figure 5 represents the difference between the required lifecycle costs and the current contributions to capital for assets in this 2024 Plan

(core and non-core). The graph indicates that existing funding levels are insufficient to cover projected costs over the planning period, as a result, a notional gap of $302.5 million exists over the 30-year period. It is unrealistic to expect the Township to address the total infrastructure deficit in the short-term. Therefore, a long-term funding strategy that identifies options for addressing current and future asset expenditures is required.

Figure 5 – 30-Year Need vs Funding (maintained at current 2024 Levels)



If the Township were to implement a funding strategy to eliminate the infrastructure deficit by 2053, the Township would be required to increase capital contributions on an annual basis by an average of about $695,500 for 30 years (plus annual inflation). For 2025, the increase would be in addition to the $3.8 million tax supported capital funding, $325,600 from the capital projects levy, $300,000 in gravel royalties, $706,000 in Gas Tax funds and existing tax supported reserve funds on hand (all net of debt payments). The yearly revenue requirement is equivalent to 3.9% of the Township's estimated 2024 tax levy revenues of about $17.7 million. A detailed table of this strategy can be found in Appendix C – Table C1.

Eliminating the infrastructure deficit by 2053 is an aggressive objective and is an initiative the Township may not want to explore at this time; a few reasons include:

- The required capital contributions (to eliminate the deficit) will necessitate an increase to property taxes beyond a reasonable measure over the short-term.
- The Township may need to decrease or limit funding of other key Township services or initiatives for capital repair and replacement activities.

- With proper inspection and maintenance, assets can remain in use past their design life and are capable of performing to meet the Township's current level of service under these circumstances. Therefore, in such instances, the asset does not necessarily need to be replaced by virtue of exceeding their design life; and,

- Prudent asset management strategies, which are currently employed by the Township, can often extend the requirement of major repair or replacement of capital assets and may prolong the life of the asset.

Further to the above noted comments, two financing strategies were developed to illustrate a rational capital contribution level to meet the full lifecycle cost needs for tax supported assets as outlined in Figure 5. The financing strategies illustrate the "smoothed options" to the lifecycle requirements identified in Figure 5. Assumptions for each of the funding strategies is shown in Table 16.

Table 16 – Summary of Financing Strategies

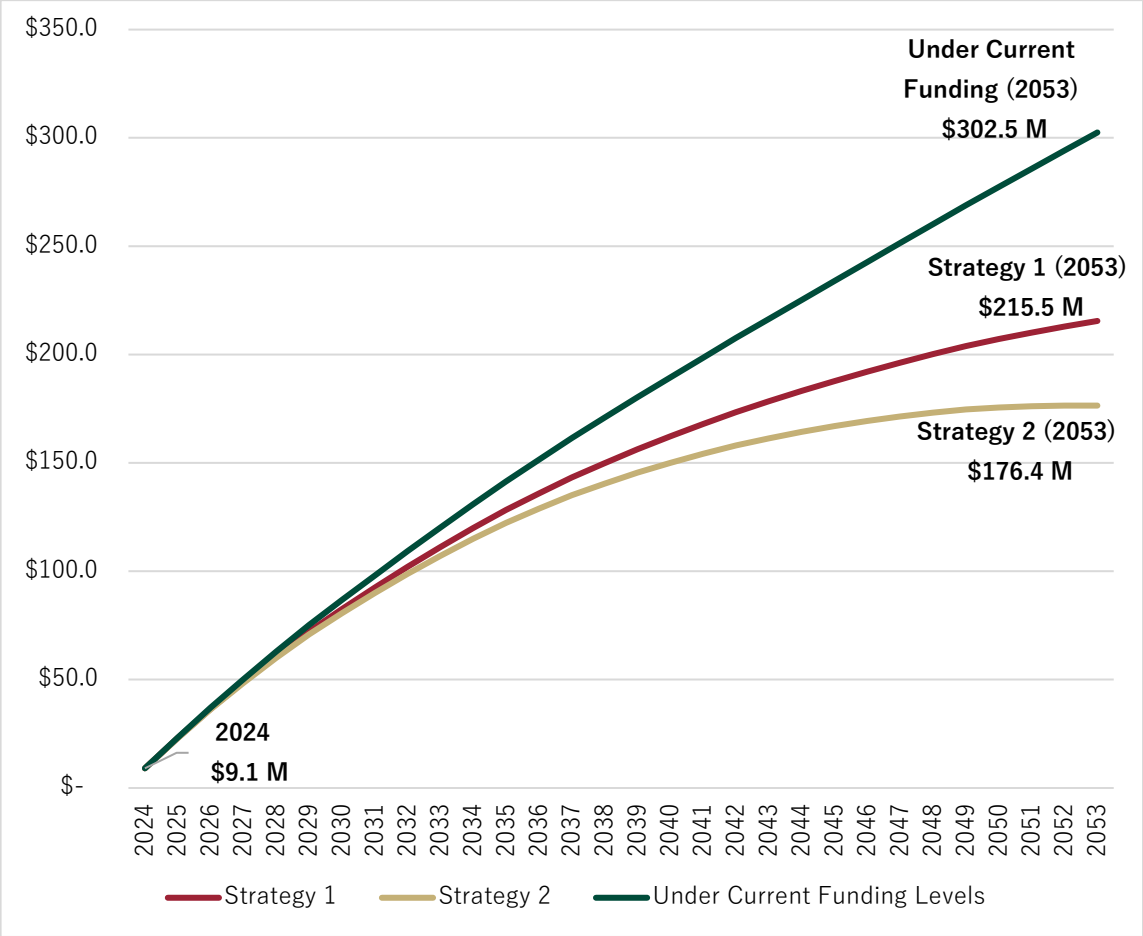
Financing Strategy	Strategy Parameters
Strategy 1 **Maintain 5-Year Average Annual Capital Funding Increases**	▪ Increase annual capital contributions by approximately $200,000 per year. For 2025, the increase would be in addition to the estimated 2024 budgeted total tax funded capital contributions of $3.8 million [(1)]. ▪ In recent years, the Township has made a commitment to increasing tax funded capital contributions to the asset preservation reserve at about 2.0% of the tax levy, the financing strategies assume this practice would continue. ▪ The increase is based on the Township's projected tax funded capital contributions through the 10-year capital plan. ▪ The yearly revenue requirement is equivalent to 1.1% of the Township's estimated 2024 tax levy ($17.7 million).
Strategy 2 **Close the In-Year Funding Gap in 30 Years i.e. by 2053**	▪ Increase annual capital contributions by approximately $289,900 per year. For 2025, the increase would be in addition to the estimated 2024 budgeted total tax funded capital contributions of $3.8 million [(1)]. ▪ In recent years, the Township has made a commitment to increasing tax funded capital contributions to the asset preservation reserve at about 2.0% of the tax levy, the financing strategies assume this practice would continue. ▪ The in-year funding gap would be closed by the end of the 30-year period, but a cumulative infrastructure gap of $176.4 million remains ▪ The yearly revenue requirement is equivalent to 1.6% of the Township's estimated 2024 tax levy ($17.7 million).

Note 1: Includes contributions to reserves, specifically the Public Works Asset Preservation Reserve ($2.0 million), Facilities Asset Preservation Reserve ($0.3 million), and 2024 tax levy requirements to fund capital projects ($1.5 million).
Note 2: Key assumptions noted in Table 15 are maintained for both financing strategies.

Figure 6 provides a snapshot summary of the infrastructure deficit for the strategies outlined in Table 16 and if current funding levels are maintained for reference purposes. Given the capital expenditure requirement to meet the asset lifecycle needs, the cumulative infrastructure deficit will increase in strategies 1 and 2 before the Township begins to reduce this amount by increasing capital contributions by more than the annual lifecycle requirement. The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. If current funding levels are maintained, with no further increases, the infrastructure deficit would continue to increase to 2053 and beyond.

Even though the in-year funding gap has been addressed within the planning horizon in Strategy 2, the infrastructure deficit poses risk to the Township as it is indicative of overdue assets that have fully depreciated and may be in Very Poor condition. These assets would need to be addressed in a longer time frame and are at risk for asset failure. If current funding levels are not increased, the Township would continue to experience an increasing infrastructure deficit which would put the Township at the most risk of not meeting asset repair/replacement obligations over the long-term. The Township in recent years has made a commitment to increasing tax funded capital contributions to the asset preservation reserve at about 2.0% of the tax levy. This increase is assumed to continue in both strategies 1 and 2. Strategies 1 and 2 also continue to be generally inline with the strategies presented to Council during the 2022 AMP process.

Figure 6 – Infrastructure Deficit Comparison ($ Millions)



F. COSTS TO MAINTAIN LEVELS OF SERVICE AND RELATIONSHIP WITH FINANCING STRATEGIES

As outlined in Part A total estimated budgeted asset maintenance expenditures in 2024 were about $7.2 million for all assets. In addition, to existing reserve balances of $6.0 million, the Township will have funds available in 2024 amounting to $15.5 million associated to capital (net of debt payments). This amount is made up of the following:

- $3.8 million in tax levy capital funding (including contributions to reserves and specifically the Asset Replacement Reserve);
- $325,700 from the capital projects levy;
- $677,700 in gas tax funding;
- $325,000 in gravel royalties; and
- Net of $2.8 million in debt payments.

Both the capital maintenance requirements (from operating) and the capital spending provision identified are attributed to maintaining the service level associated with maintaining all assets owned by the Township.

Overall, this funding allocation is required to ensure the Township delivers the existing levels of service identified in Section 3 of the Asset Management Plan for both core and non-core infrastructure assets which represent the lifecycle activities presented in Table 6. Overall, it is recommended that the Township continues to monitor levels of service on an annual basis in the context of budget expenditures. In this manner, the Township can identify any significant changes in levels of service and identify if funding levels are appropriate to address any asset pressures.

Furthermore, the financing strategies represent sustainable options at maintaining the current levels of service from a long-term perspective. In summary, the following conclusions can be made:

- Strategy 1 would ensure that, over the long-term, the funding gap-stabilizes, and the infrastructure deficit is controlled. Therefore, the deficit would begin to decline over the long-term period. This strategy would represent a continued level of asset repair and replacement activity in line with recent trends and should be used as a base and starting point with the determination of proposed levels of service moving forward.
- Strategy 2 would also ensure that, over the long-term, the funding gap-stabilizes, and the infrastructure deficit is controlled. Under this approach, the additional funding would allow for increased targeted investments in asset areas currently in “Fair” condition to ensure these assets don’t transition into the poor category in the next 5-10 years therefore maintaining the existing level of service.
    - Also of importance, the assets in Good/Very Good condition require continued investment to ensure service levels are maintained. As these assets age, they may also transition in the Fair or lower category. Continued contributions to reserves will ensure funds are available whenever assets require works to be completed.
- The option to “do nothing” maintains existing funding levels over the planning period and would allow the infrastructure back-log to accumulate. This means that existing funding levels would not be sufficient to manage the infrastructure in place over the long-term. Therefore, the assets in service would deteriorate with a series of assets moving into poor and very poor condition which would effectively provide a reduction in the level of service over the short and long-term periods. This “do nothing” scenario is reflected in Figure 6 as the scenario under current funding levels.

G. AVAILABLE FUNDING TOOLS

The following section discusses, at a high level, the range of tools available to the Township for funding capital expenditures.

Federal and Provincial Grants

Historically, the Township has had some success in securing grant funding from higher orders of government to assist in funding capital projects. The Township will continue to seek financial assistance from upper levels of government (where available) to fund non-growth-related capital works.

The Township of Uxbridge has indicated that it expects to continue receiving Gas Tax funds (renamed now to the Canada Community Building Fund) – these funds have been incorporated into the financing strategies at current levels. The Township has indicated that other external grants, although available on an ongoing basis, are always at risk of review by upper levels of government. Therefore, grant funding is not considered a stable funding source over the long-term period. If the Township continues to receive other funding sources over the long-term, it is expected that these funds would be directed to high-priority projects in an effort to reduce the overall infrastructure deficit.

Development Charges

Development charges may be imposed to pay for increased capital costs required because of increased needs for services arising from development. The Township currently collects development charges from new development to fund infrastructure demand associated to growth. For the purposes of this AMP, it has been assumed that the Township will fund new DC eligible growth-related infrastructure through development charges. DC eligible infrastructure has been assumed in the forecast based on the ongoing DC Amendment Study and 10-year capital program. It is expected that the Township will continue to maximize development charge collections through its Development Charge Study and by-law process.

Furthermore, the analysis includes the annual asset management requirements associated with any new assets acquired in addition to the net annual requirement for the Township's existing assets as identified in the previous sections.

Property Taxes

According to the 2024 budget, property taxes represent about $17.7 million in revenues. The use of property taxes to fund municipal tax supported services is the most secure source of

funding for the Township. The most common and secure avenue to generate additional funding to support increased capital asset management functions would be to increase property tax revenues.

User Fees

To the extent that user fees are being collected to fund repair and replacement of capital infrastructure, user fees should be allocated to capital reserves. The Township should look to review and ensure user fees are being utilized to the full extent as allowed under Provincial legislation. This will help alleviate funding pressures from the tax base and allow for greater flexibility to fund capital asset repair and replacement activities. Most commonly, municipalities undertake detailed user fee reviews of their building, planning and engineering fees in order to recover the full cost of providing services – the full cost recovery user fee rates generally incorporate a component for building capital replacement.

Public Private Partnerships

Public Private Partnerships (P3s) are a common tool for delivering infrastructure services throughout communities across Canada to build roads, hospitals, light rail transit, water and wastewater treatment facilities and other infrastructure. P3s can offer more effective project and lifecycle cost control and risk management than traditional procurement methods. Although sometimes opportunities may be limited, the Township could explore P3s as a tool to carry out capital related activities if possible.

Local Improvement Charges

Municipalities, through local improvement charges, have the ability to recover the costs of capital improvements made on public or privately owned land from property owners who will benefit from improvement. The Township could use the local improvement process to undertake a capital project and recover all or part of the cost of the project.

Developer Contributions

Municipalities obtain a wide range of assets through developer contributions; these contributions can be “in kind” direct provision of assets or funded, partially or fully, through agreement. The contributions are typically facilitated through condition of a subdivision or site plan agreement under the *Planning Act*. An important consideration in determining the level and extent of developer contributions is the Township’s “local service definitions” which, under the *Development Charges Act* and *Planning Act*, are used to establish which

type, and shares, of capital expenses are considered eligible for direct development contribution or funding.

Assets funded, or provided, under developer contributions are typically “first round” assets but can, in certain circumstances, include replacement of existing assets and funding of non-DC recoverable shares. An example of replacement of an existing asset is when an existing road requires improvements or upgrades as a result of a specific development; the Township could endeavour to require the developer to undertake, or fund, the road improvements as a condition of the subdivision agreement. The municipality would benefit from the funding of the improved road but is also an effective deferral of a capital renewal expense as the existing, and therefore depreciated asset, is also replaced or renewed.

H. FINANCING AND FINANCIAL MANAGEMENT PRACTICES

Debt (as a financing tool)

Debt financing is a viable tool available to fund capital projects. Planned debt is a responsible way to spread the costs of a project over the life of an asset. This ensures the taxpayers who benefit from the asset share the cost, therefore, the burden of capital is distributed equally between current and future taxpayers. It is important to note that debt funding is subject to interest costs.

The amount of debt a municipality can carry is set by Provincial regulations to ensure municipalities continue to operate in a fiscally sound environment. The Ministry of Municipal Affairs mandates that a municipality’s annual debt repayment must not exceed 25% of annual own-source revenues. The Township currently has annual debt payments of $805,021 based on the 2022 ARL which is well below the provincial limitations. The Township will continue to only use debt strategically to finance projects which are critical or expand municipal servicing capacities and only when a confirmed repayment plan is endorsed.

The requirements of the *Municipal Act* and best practice, suggests that any potential debt should not be financed for a period longer than the average useful life of the asset. This will ensure the Township is not paying for an asset outside the design life and beyond the asset’s expected use.

Reserves and Reserve Funds

Reserves are to be used to cope with high capital investment periods by saving during low capital investment periods. This practice will smooth annual expenditures and ensure the

Township can complete the required annual capital works. In addition to contributions during low investment periods, many municipalities use annual surpluses, should one arise, to increase reserves. There is no prescribed level of reserves for a municipality to have at any given time, but they should be sufficient to cover emergency work (if required). It is noted that the Township's current primary financial management tool for asset management are its capital reserves.

I. FUTURE DEMAND

The 2022 Plan reflects the assets that the Township currently owns and operates. According to 2021 Statistics Canada census data, the Township's population has increased since 2016 from about 21,200 to 21,600 or about 400 persons (1.9% increase). Based on the Township's 2024 Development Charges Background Study, the population of the Township is expected to reach about 24,000 people by 2033. This would represent an increase of about 2,000 people (9%) from the 2023 population of about 22,000.

In order to facilitate growth, the Township may be required to emplace new infrastructure to service development. Irrespective of how the first-round capital is funded, when assets require rehabilitation or are due for replacement, the source of funds is limited to reserves or contributions from operating. Capital expenditures to carry out the rehabilitation and replacement of aging infrastructure are not growth-related and are therefore not eligible for funding through development charge revenues or other developer contributions.

Despite the additional asset management requirements associated with new infrastructure, growth will have the effect of increasing the overall assessment base and additional user fee and charges revenues to help offset the capital asset provisions required to replace new infrastructure in the future. The collection of these funds is intended to be allocated to the Township's reserves for the future replacement of these assets. This said, the Township should continue to prioritize the repair and replacement of existing "Very Poor" and "Poor" conditioned infrastructure regardless.

6. CONTINUOUS IMPROVEMENTS AND UPDATES

The major premise of comprehensive corporate asset management is that an organization will seldom have perfect processes and data to manage the asset portfolio. Instead, the underlying culture of continuous improvement and reliability is its key to success. The recommended improvements and next steps will form part of the Township's evolving Asset Management program moving forward.

A. ASSET MANAGEMENT INTERNAL NETWORK

It is recommended that the Township consider forming an Asset Management Committee to focus on the activities related to the management of Township assets and to coordinate asset management practices and policies. It is recognized that the Township's annual capital budget process considers capital planning at a corporate level based on available funding and municipal priorities. The intention of the asset management committee is to consider capital planning over a longer-term period and co-ordinate any initiatives that need to be taken over the longer term.

B. PLAN MONITORING

The Township will need to carefully monitor and evaluate the asset management progress and effectiveness of the Plan on or before July 1 in each year starting in 2025. This ensures that the Plan is utilized to its full extent and any gaps are identified prior to the regulatory date. Although the extent to which the regulation applies would not be applicable to the Township for several years, the Township could look to advance the review process and address the following criteria each year:

a) The Township's progress in implementing its asset management plan and regular updates to the asset management financial Excel model;

b) Any factors impeding the Township's ability to implement its asset management plan; and

c) A strategy to address the factors described above in clause b).

C. DATA QUALITY AND CONFIDENCE

The Township should regularly review the confidence of existing data as well as its effectiveness integrating asset management activities into regular business processes. The

Confidence Level Rating approach identified in Table 17 below will be used to identify what specific asset categories/areas the Township can improve upon. The Confidence Level Rating is based on principles of the ISO 55000 framework and International Infrastructure Management Manual (IIMM). Current data used in the preparation of this asset management plan would be generally reliable and based on a **Level 3** recognizing that the non-core assets have some documentation through the Township's TCA database with some gaps for certain asset classes. The Township should undertake regular updates of the information available on assets particularly for conditions, replacement values and any other technical information important to the asset management process and assess the quality of the information based on Table 17. The data quality score is included in Appendix B complementing the State of the Local Infrastructure Reports.

Table 17 – Data Quality Confidence Grading System

Confidence Grade		Description
5	**Highly Reliable**	▪ Data based on sound records, procedure, investigations and analysis, documented properly and recognized as the best method of assessment. ▪ *Dataset is complete and estimated to be accurate +/- 2%.*
4	**Reliable Data**	▪ Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. ▪ *Dataset is complete and estimated to be accurate +/- 10%.*
3	**Uncertain**	▪ Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade 4 or 5 data is available. ▪ *Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%.*
2	**Very Uncertain**	▪ Data based on unconfirmed verbal reports and/or cursory inspection and analysis. ▪ *Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy +/- 40%.*
1	**Unknown**	▪ None or very little data held

D. TIMEFRAMES FOR REVIEW AND UPDATES

This Asset Management Plan should be reviewed and updated on a regular basis. Recognizing that a full plan and related policies should only be updated at key intervals, it is important that other asset management components, such as capital budgeting, risk assessments and updates to the asset register should be integrated into staff's regular routine. Table 18 below outlines the key timelines.

Table 18 – Timeframes for Reviews and Updates

Asset Management Framework	Timeframe
Asset Management Policy	5 Years
Asset Management Plan	3-5 Years
Capital Budget	Annually
Asset Register and Data	Semi-Annually or Annually
Risk assessment (capital prioritization)	Semi-Annually or Annually
Level of Service Framework	Semi-Annually or Annually
Reporting to Council	Annually

This asset management plan has been endorsed by the executive lead of the Township and will need to be approved, through resolution, by Township Council. The Township will need to be mindful of the reporting timelines noted above relative to any potential changes to the timelines referenced by *Ontario Regulation 588/17.*

E. PUBLIC REVIEW AND COMMENT

Although the Asset Management Plan is intended to aid Township staff and Council make informed decisions regarding future capital investment needs, the plan is intended to be available to the public. Therefore, it is recommended that the Township post this plan as well as the strategic asset management policy on the website and provide a copy to anyone upon request. Note that the Township of Uxbridge will require further public consultation and input to develop the proposed levels of service required for July 1, 2025.

7. CONCLUSIONS AND RECOMMENDATIONS

The objective of this 2024 Plan is to provide the Township of Uxbridge a complementary tool to make decisions on how best to manage capital assets in a sustainable way to 2053. In this section, recommendations based on the analysis undertaken are made.

A. SUMMARY OF KEY FINDINGS

- The Township's non-core asset base is valued at $149.1 million with buildings making up the largest share at $89.0 million (60%).
- For all non-core assets, $79.6 million (53%) of the assets are considered to be in Good/Very Good condition. At the same time, approximately $23.9 million (16%) of infrastructure is considered to be in Poor/Very Poor condition. The remaining share of $45.7 million (31%) is in Fair condition.
- The Township of Uxbridge has made some effort in recent years to address the infrastructure gap and improve the condition of assets:
  - Upper-level government grant money received has typically been allocated to capital asset repair and replacement activities.
  - The Township has capital replacement reserves and has been contributing to reserves on an annual basis, funded through the tax levy. In recent years, the Township has committed to increasing contributions to tax funded capital reserves.
  - Through its annual capital budgeting process, the Township addresses critical issues and assets in need of repair or replacement.
- The responsibility to maintain existing infrastructure is challenging, however, in addition to current capital funding, the Township should continue to increase annual capital contributions to address current and future infrastructure requirements:
  - Property taxes are the most secure form of revenue, and the Township should consider increasing tax base revenues, above current practices, to fund capital works.
  - Ensure user fees are being utilized to the full extent as allowed under Provincial legislation. This will help alleviate funding pressures from the tax base and allow for greater flexibility to fund capital asset repair and replacement activities.

- Explore alternative arrangements to provide services – public private partnerships or shared services if possible.

- The Township can continue to use debt as a financing tool for future capital needs as they may arise in tandem with consideration of future fiscal obligations.

- The Township should continue to seek funding from the Federal and Provincial government (when available) to undertake capital related works.

B. SUMMARY OF RECOMMENDATIONS

Based on the analysis undertaken for this 2024 Plan the following conclusions can be reached:

1. Continue to Improve Capital Development Planning Process

- The Township has developed a multi-year capital budget and forecasts for all services based on a 10-year forecast horizon. The Township should continue to update the forecast and utilize the Township's Asset Management Model wherever information on asset works is limited or not known by staff.

- Capital budgets and forecasts should identify and evaluate each capital project in terms of the following, including but not limited to:
  - gross and net project costs;
  - risk assessment;
  - timing and phasing;
  - funding sources;
  - potential financing and debt servicing costs;
  - long-term costs, including non-infrastructure solutions, maintenance activities, renewal/rehabilitation activities, replacement activities, disposal activities and expansion activities;
  - capacity to deliver; and
  - alternative service delivery and procurement options.

- A range of quantifiable proposed level of service targets that incorporate the quantity and quality of capital assets should be explored and established for all services. Targets should be measured, reported on, and adjusted annually. This requirement will need to be in place by July 1st, 2025, as per O. Reg. 588/17.

- Repair and replacement capital works should be prioritized based on a risk assessment. For example, assets identified as Very Poor and Poor and having a significant consequence of failure should be prioritized first.

- Infrastructure assets which have been provided a Fair condition rating should be targeted for maintenance to ensure they continue to perform at current levels of service.

- The Township should, where possible, coordinate the construction of new infrastructure with infrastructure repairs and replacement to achieve cost efficiencies.

2. Ensure Asset Inventories Are Updated Regularly

- Sound asset management decisions are only possible if information in the asset registry is accurate. The Township should regularly update the registry to account for asset purchases, upgrades, and replacements, as well as asset condition ratings and information on useful life.

- The Township should continue to refine the condition assessments for all assets considered under this 2024 Plan and continue to update the information provided through the various engineering reports; and

- The Township should update this Asset Management Plan at a minimum every 5 years.

3. Optimize the Use of Existing Assets

- The Township should implement a range of engineering and non-engineering approaches to extend the useful life of current assets, taking the lifecycle actions presented in Table 6.

- The Township should explore opportunities to dispose under utilized infrastructure/facilities which may not warrant repair/replacement; and

- Coordinate assets into specific hubs to create operating and capital repair/maintenance efficiencies where possible.

APPENDIX A

DEFINITIONS

Appendix A – Definitions

This appendix contains definitions for commonly used terms throughout the Township's Asset Management Plan.

1. **Annual Provision -** Given the timing and cost to replace an asset in the future, the amount of savings required year-over-year to replace that asset on schedule. This is also referred to as the annual requirement.
2. **Condition Assessment -** A description of the state of an asset based on staff inspections on a 5-tier scale (very poor, poor, fair, good, and very good).
3. **Cumulative Infrastructure Deficit -** The difference between available funding and the cost of works required based on the replacement schedule added over an extended time period. This difference includes the backlog of infrastructure work which remains unfunded. In years where funding continues to be less than the need, the deficit grows. Conversely, years where funding exceeds the need, the deficit decreases.
4. **In-Year Funding Gap -** For any given year, this is the difference between capital requirement costs and available funding.
5. **O. Reg. 588/17 -** Ontario's Asset Management regulation that came into force on January 1st, 2018.
6. **Provision Schedule -** The required savings year-over-year needed to replace an asset based on the replacement schedule.
7. **Replacement Cost -** The cost of an asset to replace or reconstruct that asset at current prevailing market prices. The replacement cost will typically include all costs to procure, design, build and acquire the asset.
8. **Replacement Schedule -** The timing for replacement of an asset based on remaining useful life, condition or risk.
9. **Useful Life -** The expected service life of an asset expressed in years.
10. **Weighted Condition -** The average condition of an asset category weighted against the replacement costs of assets.
11. **Weighted Remaining Useful Life** - The average remaining useful life of an asset category weighted against the replacement cost of assets.

APPENDIX B

TECHNICAL APPENDIX:

STATE OF LOCAL INFRASTRUCTURE

Appendix B – Technical Appendix: State of Local Infrastructure

The appendix provides a summary of the Township's assets with reference to quality and quantity. It also provides details on the methodology used to determine replacement values and condition assessments. Hemson has prepared State of the Local Infrastructure report cards for each asset category which outline the following: summary of inventory, remaining useful life, asset condition, and data reliability with the methodology for each component outlined below. It is intended that these report cards be updated annually by staff and provided to Council through the annual budget process.

1. Summary of Inventory

The summary of inventory provides and overview of the Township's assets including asset components, the quantity of those components, the replacement cost in 2024 dollars, method used to determine the replacement cost and the assumed useful life of the assets. The inventory summary is developed based on the Township's tangible capital asset inventory. Furthermore, an asset management financial model based in Excel was developed as part of the 2024 AMP, this model contains all detailed non-core asset information.

The 2024 AMP focuses on including the non-core assets of buildings, land improvements, vehicles, machinery & equipment, computer systems and linear assets.

2. Remaining Useful Life

The remaining useful life summary provides information on the age of assets based on the year assets were acquired or emplaced and their useful life. Assets are categorized by remaining useful life based on their replacement cost in 2024 dollars. Assets categorized as overdue are considered to be beyond their useful life, however, the asset may still be in good operating condition and therefore age does not represent the ideal method to determine condition.

3. Asset Condition

A summary of the condition of assets is presented in a pie graph based on the replacement cost of assets in constant 2024 dollars. As discussed in Section 2, conditions have been determined based on a 5-tier rating system from Very Poor to Very Good.

Condition assessments are based on Hemson and staff opinion and the Township's asset inventory with the balance based on the assets age where information was not available.

4. Replacement Cost

Replacement values are used to estimate the cost of replacing an asset when it reaches the end of its engineered design life. The total replacement cost of all non-core assets is estimated at $149.1 million, and the replacement values are used as the basis for this plan. Specific methods used to determine replacement costs for asset categories are outlined below.

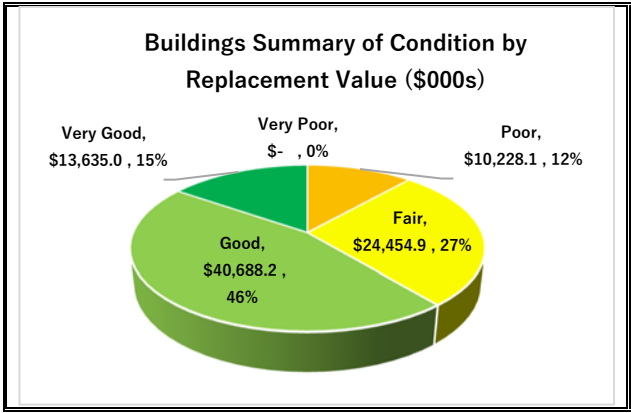
- **Buildings:** Used TCA data to compile list of components for each building but provided an override of replacement values using recent costing date from the City's 2024 Development Charges Background Study.
- **Land Improvements:** Asset inventory and replacement value based on the City's 2024 DC Background Study.
- **Vehicles**: Majority of the costs were derived from the 2024 DC Background Study. Where this information was not available, the acquisition cost (inflated to 2024 dollars) was used.
- **Machinery & Equipment:** Acquisition costs from TCA data inflated to 2024 dollars.
- **Computer Systems:** Recent cost data provided from staff. Where this information was not available, the acquisition cost (inflated to 2024 dollars) was used.
- **Linear Assets:** Acquisition costs from TCA data inflated to 2024 dollars.

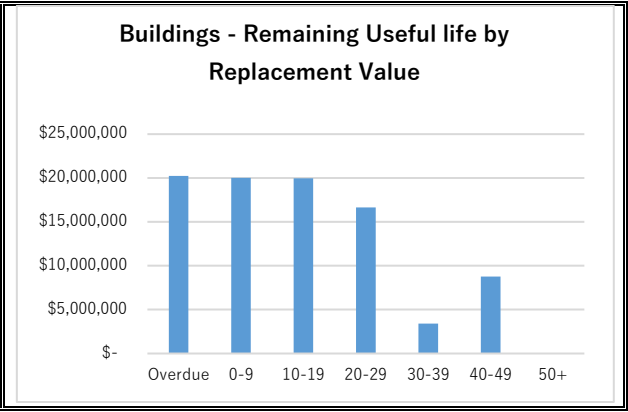
B.1 Buildings

Good

Summary of Inventory				
Function	**Quantity**	**Replacement Cost 2024**	**Replacement Cost Method**	**Useful Life (Years)**
General Government	1	$7,618,500	Inflation & DC Study	10 to 50
Public Works	1	$3,369,600	Inflation & DC Study	20 to 50
Parks, Recreation & Culture	18	$59,946,500	Inflation & DC Study	10 to 50
Library	2	$8,244,600	Inflation & DC Study	10 to 50
Animal Control	1	$1,027,000	Inflation & DC Study	30 to 50
Fire	1	$8,800,000	Inflation & DC Study	30 to 50
Total	**24**	**$89,006,200**		

The Township maintains 24 buildings with a total replacement value of $89.0 million. The building assets are made up of several components which have an assumed useful life between 10 to 50 years. The asset replacement values are based on recent costs from the 2024 Development Charges Background Study, and (where that information is unavailable) acquisition costs inflated to 2024 dollars.





Overall, $20.2 million (23%) of building assets are overdue by virtue of their design life, however most buildings have several years of remaining useful life. Overall, the Township maintains $54.3 million (61%) of building assets in Good to Very Good condition. About $10.2 million (11%) of building assets are in Poor condition. The remaining buildings, $24.5 million (27%), are maintained in Fair condition.

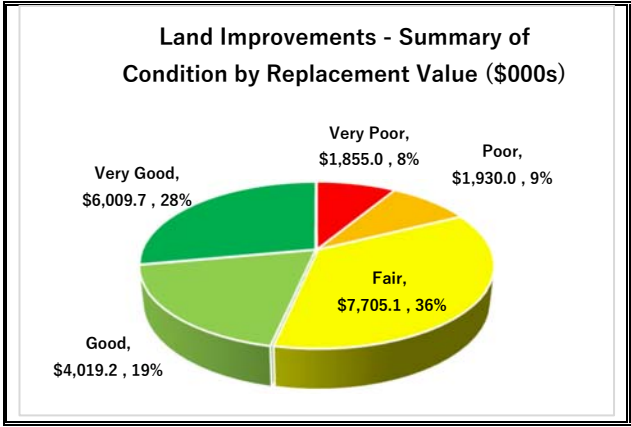
Data Confidence and Reliability:	Level 3 (Uncertain) Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%

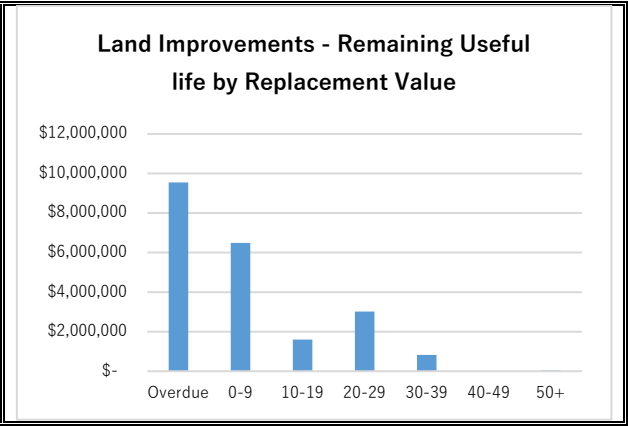
B.2 Land Improvements

Fair

Summary of Inventory				
Type	**Quantity**	**Replacement Cost 2024**	**Replacement Cost Method**	**Useful Life (Years)**
Soccer Field	23	$4,734,000	Inflation & DC Study	25
Skateboard Park	1	$1,048,000	Inflation & DC Study	20
Multi-Sport Court	1	$650,000	Inflation & DC Study	40
Pump Park	1	$450,000	Inflation & DC Study	20
Playground	19	$2,080,000	Inflation & DC Study	15
Baseball/Softball Diamond	9	$9,800,000	Inflation & DC Study	25
Tennis Court	5	$535,000	Inflation & DC Study	40
Dog Park	1	$75,000	Inflation & DC Study	20
Splashpad	1	$1,129,000	Inflation & DC Study	20
Beach Volleyball	2	$42,000	Inflation & DC Study	40
Pedestrian Bridge	4	$112,100	Inflation & DC Study	20
Parking Lot	4	$768,900	Inflation & DC Study	20
Shade Structure	1	$95,000	Inflation & DC Study	20
Total	**72**	**$21,519,000**		

The Township maintains 72 various land improvements with a total replacement value of $21.5 million. These assets have an assumed useful life between 15 and 40 years. The asset replacement values are based on recent costs from the 2024 Development Charges Background Study and reported in 2024 dollars.





Overall, $9.5 million (44%) of land improvement assets are overdue by virtue of their design life, however most land improvements have several years of remaining useful life. Overall, the Township maintains $10.0 million (47%) of land improvement assets in Good to Very Good condition. About $3.8 million (18%) of land improvement assets are in Poor to Very Poor condition. The remaining $7.7 million (36%) of land improvement assets are maintained in Fair condition.

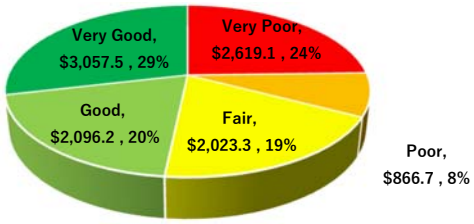
Data Confidence and Reliability:	Level 3 (Uncertain) Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%

B.3 Machinery & Equipment Fair

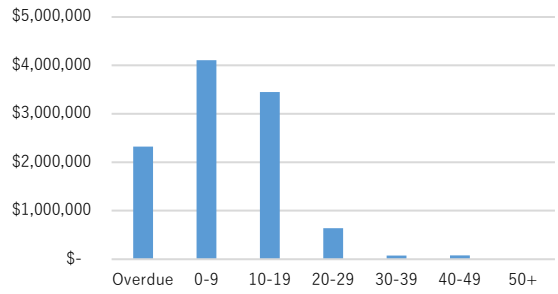
Summary of Inventory				
Function	**Quantity**	**Replacement Cost 2024**	**Replacement Cost Method**	**Useful Life (Years)**
General Government	13	$585,300	Inflation & Assessments	7 to 30
Public Works	32	$1,123,500	Inflation & Assessments	5 to 50
Parks, Recreation & Culture	123	$5,296,100	Inflation & Assessments	5 to 50
Library	24	$900,100	Inflation & Assessments	5 to 50
Animal Control	3	$32,900	Inflation & Assessments	25
Fire	49	$2,724,900	Inflation & Assessments	5 to 50
Total	**244**	**$10,662,800**		

The Township maintains 244 machinery & equipment assets with a total replacement value of $10.7 million. These assets have an assumed useful life between 5 and 50 years. The asset replacement values are based on acquisition costs from the Township's TCA database and inflated to 2024 dollars.

Machinery & Equipment - Summary of Condition by Replacement Value ($000s)



Machinery & Equipment - Remaining Useful life by Replacement Value



Overall, $2.3 million (22%) of machinery & equipment assets are overdue by virtue of their design life, however most machinery & equipment have several years of remaining useful life. Overall, the Township maintains $5.2 million (48%) of machinery & equipment in Good to Very Good condition. About $3.5 million (33%) of machinery & equipment assets are in Poor to Very Poor condition. The remaining $2.0 million (19%) of assets are maintained in Fair condition.

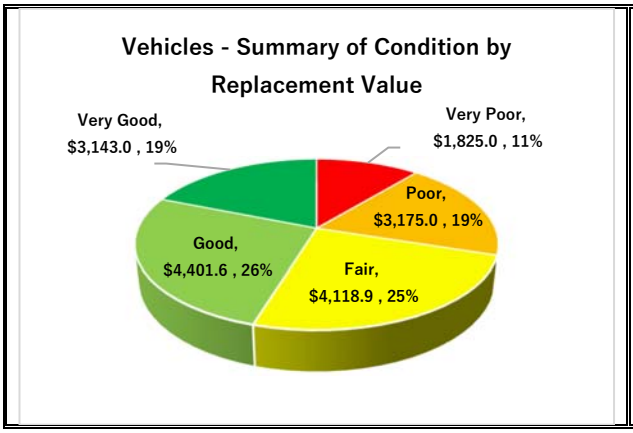
Data Confidence and Reliability:	Level 3 (Uncertain) Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%

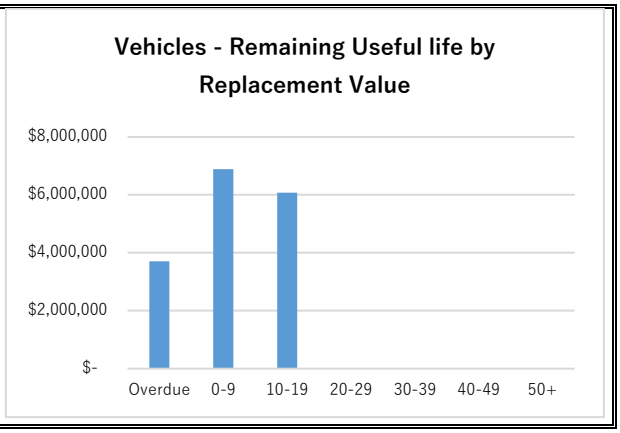
B.4 Vehicles

Fair

Summary of Inventory				
Function	**Quantity**	**Replacement Cost 2024**	**Replacement Cost Method**	**Useful Life (Years)**
General Government	6	$363,000	Inflation & Assessments	5 to 10
Public Works	49	$11,445,500	Inflation & Assessments	5 to 15
Parks, Recreation & Culture	5	$271,000	Inflation & Assessments	5 to 15
Animal Control	2	$64,000	Inflation & Assessments	5
Fire	7	$4,520,000	Inflation & Assessments	5 to 20
Total	**69**	**$16,663,500**		

The Township maintains 69 vehicles with a total replacement value of $16.7 million. These assets have an assumed useful life between 5 and 20 years. The asset replacement values are based on information from the 2024 Development Charges Study reflected in 2024 dollars. Where this information was not available, the acquisition costs from the Township's TCA database was used and inflated to 2024 dollars.





Overall, $3.7 million (22%) of vehicles are overdue by virtue of their design life, however that majority of vehicles have up to 20 years of remaining useful life. Overall, the Township maintains $7.5 million (45%) of vehicles in Good to Very Good condition. About $5.0 million (30%) of vehicles are in Poor to Very Poor condition. The remainder of $4.1 million (25%) of vehicle assets are maintained in Fair condition.

Data Confidence and Reliability: Level 4 (Reliable)
Dataset is complete and estimated to be accurate +/- 10%

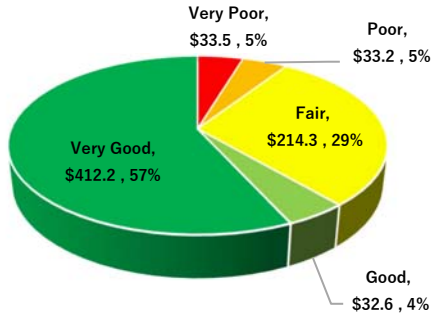
B.5 Computer Systems

Good

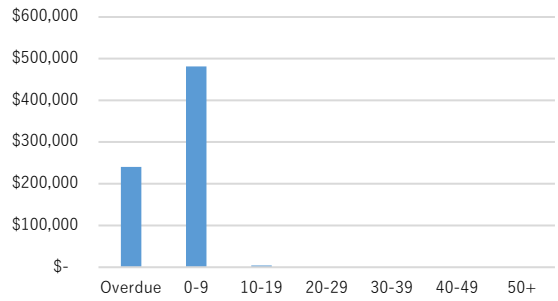
Summary of Inventory				
Function	**Quantity**	**Replacement Cost 2024**	**Replacement Cost Method**	**Useful Life (Years)**
General Government	91	$572,347	Inflation & Assessments	5 to 10
Public Works	2	$28,300	Inflation & Assessments	5 to 15
Parks, Recreation & Culture	2	$52,605	Inflation & Assessments	5 to 15
Library	2	$42,200	Inflation & Assessments	N/A
Animal Control	1	$8,700	Inflation & Assessments	5
Fire	1	$21,700	Inflation & Assessments	5 to 20
Total	**99**	**$725,852**		

The Township maintains 99 computer systems with a total replacement value of $725,900. These assets have an assumed useful life between 5 and 20 years. The asset replacement values are based on recent cost data from staff and acquisition costs from the Township's TCA database and inflated to 2024 dollars.

Computer Systems - Summary of Condition by Replacement Value



Computer Systems - Remaining Useful life by Replacement Value



Overall, $240,400 (33%) of computer systems assets are overdue by virtue of their design life, however most computer systems have up to 20 years of remaining useful life. Overall, the Township maintains $444,900 (61%) of computer systems in Good to Very Good condition. About $66,700 (9%) of computer systems assets are in Poor to Very Poor condition. The remaining $214,300 (30%) of assets are maintained in Fair condition.

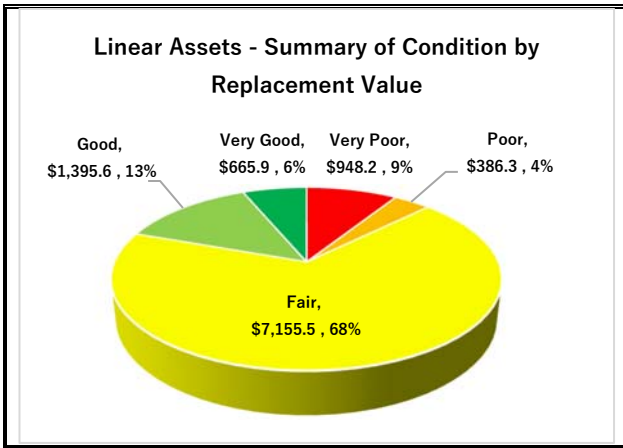
Data Confidence and Reliability:	Level 3 (Uncertain) Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%

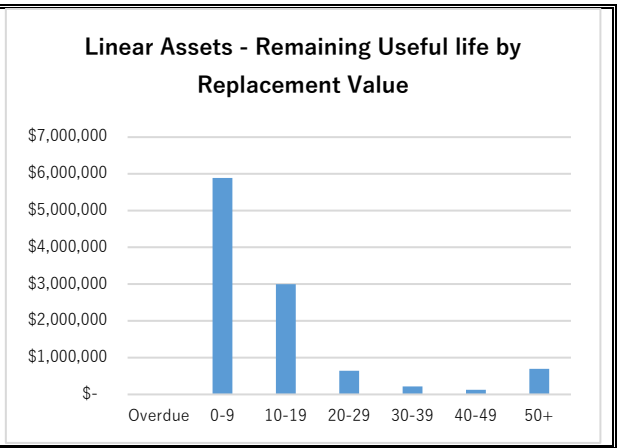
B.6 Linear Assets

Fair

Summary of Inventory				
Type	**Quantity**	**Replacement Cost 2024**	**Replacement Cost Method**	**Useful Life (Years)**
Street Lights	Pooled	$7,674,200	Inflation & Assessments	10 to 45
Guard Rails	9	$590,000	Inflation & Assessments	20 to 25
Retaining Walls	6	$464,000	Inflation & Assessments	50
Culvert Liner	5	$208,900	Inflation & Assessments	75
Pumping Station	3	$1,431,700	Inflation & Assessments	75
Other	2	$182,700	Inflation & Assessments	25 to 35
Total	**25**	**$10,551,500**		

The Township maintains 25 linear assets (excluding streetlights, which are pooled assets) with a total replacement value of $10.6 million. These assets have an assumed useful life between 10 and 75 years. The asset replacement values are based on acquisition costs from the Township's TCA database and inflated to 2024 dollars.





Overall, no linear assets are overdue by virtue of their design life, with all linear assets having a remaining useful life of up to 50 years and beyond. Overall, the Township maintains $2.1 million (61%) of linear assets in Good to Very Good condition. About $1.3 million (13%) of linear assets are in Poor to Very Poor condition. The remaining $7.2 million (68%) of assets are maintained in Fair condition.

Data Confidence and Reliability:	Level 3 (Uncertain) Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%

APPENDIX C

DETAILED FINANCING STRATEGY TABLES

Table C1 - Financing Strategy (Closing the Cumulative Infrastructure Gap in 30 Years)

Legend	1. Lifecycle Costs						2. Forecast of Revenues								3. Funding Gap Calculation		
Year	Non-Infrastructure Solutions	Operations & Maintenance	Capital Renewal/ Replacement & Disposal	Expansion Activities (Annual Provision for Replacement)	Core Assets - Total Lifecycle Costs	Total Lifecycle Costs	O&M from Taxation	Capital from Taxation (Including Transfers)	Yearly Increase in Tax Funding	Capital Projects Levy	Canada Community Building Fund CCBF (formerly Gas Tax)	Gravel Royalties	Less: Debt Payments	Existing Reserves (For Capital)	Total Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2024		$ 2,638,711	$ 9,902,901		$ 12,052,781	$ 24,594,394	$ 7,154,881	$ 3,806,172		$ 325,639	$ 677,723	$ 325,000	$ (2,757,702)	$ 6,001,978	$ 15,533,692	$ 9,060,702	$ 9,060,702
2025	$ 50,000	$ 2,660,568	$ 9,902,901	$ 941,372	$ 12,052,781	$ 25,607,622	$ 7,176,737	$ 4,501,647	$ 695,475	$ 325,639	$ 705,961	$ 300,000	$ (873,834)		$ 12,136,151	$ 13,471,471	$ 22,532,173
2026	$ 50,000	$ 2,682,424	$ 9,546,783	$ 941,372	$ 12,052,781	$ 25,273,360	$ 7,198,594	$ 5,197,122	$ 695,475	$ 325,639	$ 705,961	$ 300,000	$ (873,150)		$ 12,854,165	$ 12,419,195	$ 34,951,367
2027	$ 50,000	$ 2,704,280	$ 8,830,668	$ 941,372	$ 12,052,781	$ 24,579,101	$ 7,220,450	$ 5,892,597	$ 695,475	$ 325,639	$ 734,200	$ 300,000	$ (872,327)		$ 13,600,559	$ 10,978,542	$ 45,929,909
2028	$ 50,000	$ 2,726,136	$ 8,676,958	$ 941,372	$ 12,052,781	$ 24,447,247	$ 7,242,306	$ 6,588,072	$ 695,475	$ 325,639	$ 734,200	$ 275,000	$ (710,606)		$ 14,454,611	$ 9,992,636	$ 55,922,546
2029	$ 50,000	$ 2,747,992	$ 8,188,291	$ 941,372	$ 12,052,781	$ 23,980,436	$ 7,264,162	$ 7,283,547	$ 695,475	$ 325,639	$ 734,200	$ 275,000	$ (710,447)		$ 15,172,102	$ 8,808,334	$ 64,730,880
2030	$ 50,000	$ 2,769,848	$ 7,883,314	$ 941,372	$ 12,052,781	$ 23,697,315	$ 7,286,018	$ 7,979,022	$ 695,475	$ 325,639	$ 734,200	$ 275,000	$ (261,557)		$ 16,338,323	$ 7,358,992	$ 72,089,872
2031	$ 50,000	$ 2,791,704	$ 7,623,890	$ 941,372	$ 12,052,781	$ 23,459,747	$ 7,307,874	$ 8,674,497	$ 695,475	$ 325,639	$ 734,200	$ 275,000	$ (261,120)		$ 17,056,090	$ 6,403,657	$ 78,493,529
2032	$ 50,000	$ 2,813,560	$ 7,593,432	$ 941,372	$ 12,052,781	$ 23,451,145	$ 7,329,730	$ 9,369,972	$ 695,475	$ 325,639	$ 734,200	$ 275,000	$ (261,520)		$ 17,773,021	$ 5,678,123	$ 84,171,652
2033	$ 50,000	$ 2,835,416	$ 7,252,398	$ 941,372	$ 12,052,781	$ 23,131,967	$ 7,351,586	$ 10,065,448	$ 695,475	$ 325,639	$ 734,200	$ 250,000	$ (261,616)		$ 18,465,257	$ 4,666,711	$ 88,838,363
2034	$ 50,000	$ 2,857,272	$ 7,106,516	$ 941,372	$ 12,052,781	$ 23,007,942	$ 7,373,442	$ 10,760,923	$ 695,475	$ 325,639	$ 734,200	$ 250,000	$ (261,400)		$ 19,182,804	$ 3,825,138	$ 92,663,501
2035	$ 50,000	$ 2,879,128	$ 6,862,228	$ 941,372	$ 12,052,781	$ 22,785,509	$ 7,395,298	$ 11,456,398	$ 695,475	$ 325,639	$ 734,200	$ 250,000	$ (260,864)		$ 19,900,671	$ 2,884,839	$ 95,548,340
2036	$ 50,000	$ 2,900,984	$ 6,629,394	$ 941,372	$ 12,052,781	$ 22,574,531	$ 7,417,154	$ 12,151,873	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 20,878,866	$ 1,695,665	$ 97,244,005
2037	$ 50,000	$ 2,922,840	$ 6,566,049	$ 941,372	$ 12,052,781	$ 22,533,043	$ 7,439,010	$ 12,847,348	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 21,596,197	$ 936,846	$ 98,180,851
2038	$ 50,000	$ 2,944,696	$ 5,973,787	$ 941,372	$ 12,052,781	$ 21,962,637	$ 7,460,866	$ 13,542,823	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 22,313,528	$ (350,891)	$ 97,829,959
2039	$ 50,000	$ 2,966,552	$ 5,971,948	$ 941,372	$ 12,052,781	$ 21,982,654	$ 7,482,722	$ 14,238,298	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 23,030,859	$ (1,048,205)	$ 96,781,754
2040	$ 50,000	$ 2,988,408	$ 5,765,984	$ 941,372	$ 12,052,781	$ 21,798,546	$ 7,504,578	$ 14,933,773	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 23,748,190	$ (1,949,645)	$ 94,832,109
2041	$ 50,000	$ 3,010,265	$ 5,690,134	$ 941,372	$ 12,052,781	$ 21,744,551	$ 7,526,435	$ 15,629,248	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 24,465,522	$ (2,720,970)	$ 92,111,139
2042	$ 50,000	$ 3,032,121	$ 5,690,134	$ 941,372	$ 12,052,781	$ 21,766,407	$ 7,548,291	$ 16,324,723	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 25,182,853	$ (3,416,445)	$ 88,694,694
2043	$ 50,000	$ 3,053,977	$ 5,369,225	$ 941,372	$ 12,052,781	$ 21,467,355	$ 7,570,147	$ 17,020,198	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 25,900,184	$ (4,432,829)	$ 84,261,865
2044	$ 50,000	$ 3,075,833	$ 5,368,294	$ 941,372	$ 12,052,781	$ 21,488,280	$ 7,592,003	$ 17,715,673	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 26,617,515	$ (5,129,235)	$ 79,132,630
2045	$ 50,000	$ 3,097,689	$ 5,335,660	$ 941,372	$ 12,052,781	$ 21,477,502	$ 7,613,859	$ 18,411,148	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 27,334,846	$ (5,857,344)	$ 73,275,286
2046	$ 50,000	$ 3,119,545	$ 5,334,846	$ 941,372	$ 12,052,781	$ 21,498,544	$ 7,635,715	$ 19,106,623	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 28,052,177	$ (6,553,633)	$ 66,721,652
2047	$ 50,000	$ 3,141,401	$ 5,334,846	$ 941,372	$ 12,052,781	$ 21,520,400	$ 7,657,571	$ 19,802,098	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 28,769,508	$ (7,249,108)	$ 59,472,544
2048	$ 50,000	$ 3,163,257	$ 5,327,287	$ 941,372	$ 12,052,781	$ 21,534,697	$ 7,679,427	$ 20,497,573	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 29,486,839	$ (7,952,142)	$ 51,520,402
2049	$ 50,000	$ 3,185,113	$ 5,326,349	$ 941,372	$ 12,052,781	$ 21,555,616	$ 7,701,283	$ 21,193,049	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 30,204,171	$ (8,648,555)	$ 42,871,847
2050	$ 50,000	$ 3,206,969	$ 4,996,661	$ 941,372	$ 12,052,781	$ 21,247,783	$ 7,723,139	$ 21,888,524	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 30,921,502	$ (9,673,719)	$ 33,198,128
2051	$ 50,000	$ 3,228,825	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,268,265	$ 7,744,995	$ 22,583,999	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 31,638,833	$ (10,370,568)	$ 22,827,560
2052	$ 50,000	$ 3,250,681	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,290,121	$ 7,766,851	$ 23,279,474	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 32,356,164	$ (11,066,043)	$ 11,761,518
2053	$ 50,000	$ 3,272,537	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,311,977	$ 7,788,707	$ 23,974,949	$ 695,475	$ 325,639	$ 734,200	$ 250,000			$ 33,073,495	$ (11,761,518)	$ 0
Total	**$ 1,450,000**	**$ 88,668,731**	**$ 199,036,736**	**$ 27,299,787**	**$ 361,583,439**	**$ 678,038,693**	**$ 224,153,830**	**$ 416,716,811**	**$ 20,168,777**	**$ 9,769,170**	**$ 21,913,045**	**$ 7,850,000**	**$ (8,366,142)**	**$ 6,001,978**	**$ 678,038,693**	**$ 0**	**$ 1,935,650,778**

Annual Increase	$ 695,475
2024 Total Tax Levy	$ 17,686,674
Inc as % of Tax Levy	3.93%

Table C2 - Financing Strategy 1 (Maintain 5-Year Average Annual Capital Funding Increases)

Legend	1. Lifecycle Costs						2. Forecast of Revenues								3. Funding Gap Calculation		
Year	Non-Infrastructure Solutions	Operations & Maintenance	Capital Renewal/ Replacement & Disposal	Expansion Activities (Annual Provision for Replacement)	Core Assets - Total Lifecycle Costs	Total Lifecycle Costs	O&M from Taxation	Capital from Taxation (Including Transfers)	Yearly Increase in Tax Funding	Capital Projects Levy	Canada Community Building Fund CCBF (formerly Gas Tax)	Gravel Royalties	Less: Debt Payments	Existing Reserves (For Capital)	Total Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2024		$ 2,638,711	$ 9,902,901		$ 12,052,781	$ 24,594,394	$ 7,154,881	$ 3,806,172		$ 325,639	$ 677,723	$ 325,000	$ (2,757,702)	$ 6,001,978	$ 15,533,692	$ 9,060,702	$ 9,060,702
2025	$ 50,000	$ 2,660,568	$ 9,902,901	$ 941,372	$ 12,052,781	$ 25,607,622	$ 7,176,737	$ 4,006,172	$ 200,000	$ 325,639	$ 705,961	$ 300,000	$ (873,834)		$ 11,640,676	$ 13,966,946	$ 23,027,648
2026	$ 50,000	$ 2,682,424	$ 9,546,783	$ 941,372	$ 12,052,781	$ 25,273,360	$ 7,198,594	$ 4,206,172	$ 200,000	$ 325,639	$ 705,961	$ 300,000	$ (873,150)		$ 11,863,215	$ 13,410,145	$ 36,437,793
2027	$ 50,000	$ 2,704,280	$ 8,830,668	$ 941,372	$ 12,052,781	$ 24,579,101	$ 7,220,450	$ 4,406,172	$ 200,000	$ 325,639	$ 734,200	$ 300,000	$ (872,327)		$ 12,114,133	$ 12,464,967	$ 48,902,760
2028	$ 50,000	$ 2,726,136	$ 8,676,958	$ 941,372	$ 12,052,781	$ 24,447,247	$ 7,242,306	$ 4,606,172	$ 200,000	$ 325,639	$ 734,200	$ 275,000	$ (710,606)		$ 12,472,711	$ 11,974,536	$ 60,877,296
2029	$ 50,000	$ 2,747,992	$ 8,188,291	$ 941,372	$ 12,052,781	$ 23,980,436	$ 7,264,162	$ 4,806,172	$ 200,000	$ 325,639	$ 734,200	$ 275,000	$ (710,447)		$ 12,694,726	$ 11,285,710	$ 72,163,006
2030	$ 50,000	$ 2,769,848	$ 7,883,314	$ 941,372	$ 12,052,781	$ 23,697,315	$ 7,286,018	$ 5,006,172	$ 200,000	$ 325,639	$ 734,200	$ 275,000	$ (261,557)		$ 13,365,472	$ 10,331,843	$ 82,494,849
2031	$ 50,000	$ 2,791,704	$ 7,623,890	$ 941,372	$ 12,052,781	$ 23,459,747	$ 7,307,874	$ 5,206,172	$ 200,000	$ 325,639	$ 734,200	$ 275,000	$ (261,120)		$ 13,587,765	$ 9,871,982	$ 92,366,831
2032	$ 50,000	$ 2,813,560	$ 7,593,432	$ 941,372	$ 12,052,781	$ 23,451,145	$ 7,329,730	$ 5,406,172	$ 200,000	$ 325,639	$ 734,200	$ 275,000	$ (261,520)		$ 13,809,221	$ 9,641,924	$ 102,008,755
2033	$ 50,000	$ 2,835,416	$ 7,252,398	$ 941,372	$ 12,052,781	$ 23,131,967	$ 7,351,586	$ 5,606,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000	$ (261,616)		$ 14,005,981	$ 9,125,986	$ 111,134,741
2034	$ 50,000	$ 2,857,272	$ 7,106,516	$ 941,372	$ 12,052,781	$ 23,007,942	$ 7,373,442	$ 5,806,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000	$ (261,400)		$ 14,228,053	$ 8,779,888	$ 119,914,629
2035	$ 50,000	$ 2,879,128	$ 6,862,228	$ 941,372	$ 12,052,781	$ 22,785,509	$ 7,395,298	$ 6,006,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000	$ (260,864)		$ 14,450,445	$ 8,335,064	$ 128,249,694
2036	$ 50,000	$ 2,900,984	$ 6,629,394	$ 941,372	$ 12,052,781	$ 22,574,531	$ 7,417,154	$ 6,206,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 14,933,165	$ 7,641,366	$ 135,891,060
2037	$ 50,000	$ 2,922,840	$ 6,566,049	$ 941,372	$ 12,052,781	$ 22,533,043	$ 7,439,010	$ 6,406,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 15,155,021	$ 7,378,021	$ 143,269,081
2038	$ 50,000	$ 2,944,696	$ 5,973,787	$ 941,372	$ 12,052,781	$ 21,962,637	$ 7,460,866	$ 6,606,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 15,376,877	$ 6,585,760	$ 149,854,841
2039	$ 50,000	$ 2,966,552	$ 5,971,948	$ 941,372	$ 12,052,781	$ 21,982,654	$ 7,482,722	$ 6,806,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 15,598,733	$ 6,383,921	$ 156,238,761
2040	$ 50,000	$ 2,988,408	$ 5,765,984	$ 941,372	$ 12,052,781	$ 21,798,546	$ 7,504,578	$ 7,006,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 15,820,589	$ 5,977,956	$ 162,216,717
2041	$ 50,000	$ 3,010,265	$ 5,690,134	$ 941,372	$ 12,052,781	$ 21,744,551	$ 7,526,435	$ 7,206,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 16,042,446	$ 5,702,106	$ 167,918,823
2042	$ 50,000	$ 3,032,121	$ 5,690,134	$ 941,372	$ 12,052,781	$ 21,766,407	$ 7,548,291	$ 7,406,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 16,264,302	$ 5,502,106	$ 173,420,929
2043	$ 50,000	$ 3,053,977	$ 5,369,225	$ 941,372	$ 12,052,781	$ 21,467,355	$ 7,570,147	$ 7,606,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 16,486,158	$ 4,981,197	$ 178,402,126
2044	$ 50,000	$ 3,075,833	$ 5,368,294	$ 941,372	$ 12,052,781	$ 21,488,280	$ 7,592,003	$ 7,806,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 16,708,014	$ 4,780,266	$ 183,182,393
2045	$ 50,000	$ 3,097,689	$ 5,335,660	$ 941,372	$ 12,052,781	$ 21,477,502	$ 7,613,859	$ 8,006,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 16,929,870	$ 4,547,632	$ 187,730,024
2046	$ 50,000	$ 3,119,545	$ 5,334,846	$ 941,372	$ 12,052,781	$ 21,498,544	$ 7,635,715	$ 8,206,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 17,151,726	$ 4,346,818	$ 192,076,843
2047	$ 50,000	$ 3,141,401	$ 5,334,846	$ 941,372	$ 12,052,781	$ 21,520,400	$ 7,657,571	$ 8,406,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 17,373,582	$ 4,146,818	$ 196,223,661
2048	$ 50,000	$ 3,163,257	$ 5,327,287	$ 941,372	$ 12,052,781	$ 21,534,697	$ 7,679,427	$ 8,606,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 17,595,438	$ 3,939,259	$ 200,162,920
2049	$ 50,000	$ 3,185,113	$ 5,326,349	$ 941,372	$ 12,052,781	$ 21,555,616	$ 7,701,283	$ 8,806,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 17,817,294	$ 3,738,322	$ 203,901,241
2050	$ 50,000	$ 3,206,969	$ 4,996,661	$ 941,372	$ 12,052,781	$ 21,247,783	$ 7,723,139	$ 9,006,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 18,039,150	$ 3,208,633	$ 207,109,874
2051	$ 50,000	$ 3,228,825	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,268,265	$ 7,744,995	$ 9,206,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 18,261,006	$ 3,007,259	$ 210,117,133
2052	$ 50,000	$ 3,250,681	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,290,121	$ 7,766,851	$ 9,406,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 18,482,862	$ 2,807,259	$ 212,924,392
2053	$ 50,000	$ 3,272,537	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,311,977	$ 7,788,707	$ 9,606,172	$ 200,000	$ 325,639	$ 734,200	$ 250,000			$ 18,704,718	$ 2,607,259	$ 215,531,651
Total	**$ 1,450,000**	**$ 88,668,731**	**$ 199,036,736**	**$ 27,299,787**	**$ 361,583,439**	**$ 678,038,693**	**$ 224,153,830**	**$ 201,185,160**	**$ 5,800,000**	**$ 9,769,170**	**$ 21,913,045**	**$ 7,850,000**	**$ (8,366,142)**	**$ 6,001,978**	**$ 462,507,041**	**$ 215,531,651**	**$ 4,162,811,173**

Annual Increase	$ 200,000
2024 Total Tax Levy	$ 17,686,674
Inc as % of Tax Levy	1.13%

Table C3 - Financing Strategy 2 (Close the In-Year Funding Gap in 30 Years i.e. 2053)

Legend	1. Lifecycle Costs						2. Forecast of Revenues								3. Funding Gap Calculation		
Year	Non-Infrastructure Solutions	Operations & Maintenance	Capital Renewal/ Replacement & Disposal	Expansion Activities (Annual Provision for Replacement)	Core Assets - Total Lifecycle Costs	Total Lifecycle Costs	O&M from Taxation	Capital from Taxation (Including Transfers)	Yearly Increase in Tax Funding	Capital Projects Levy	Canada Community Building Fund CCBF (formerly Gas Tax)	Gravel Royalties	Less: Debt Payments	Existing Reserves (For Capital)	Total Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2024		$ 2,638,711	$ 9,902,901		$ 12,052,781	$ 24,594,394	$ 7,154,881	$ 3,806,172		$ 325,639	$ 677,723	$ 325,000	$ (2,757,702)	$ 6,001,978	$ 15,533,692	$ 9,060,702	$ 9,060,702
2025	$ 50,000	$ 2,660,568	$ 9,902,901	$ 941,372	$ 12,052,781	$ 25,607,622	$ 7,176,737	$ 4,096,077	$ 289,905	$ 325,639	$ 705,961	$ 300,000	$ (873,834)		$ 11,730,581	$ 13,877,040	$ 22,937,742
2026	$ 50,000	$ 2,682,424	$ 9,546,783	$ 941,372	$ 12,052,781	$ 25,273,360	$ 7,198,594	$ 4,385,983	$ 289,905	$ 325,639	$ 705,961	$ 300,000	$ (873,150)		$ 12,043,026	$ 13,230,334	$ 36,168,076
2027	$ 50,000	$ 2,704,280	$ 8,830,668	$ 941,372	$ 12,052,781	$ 24,579,101	$ 7,220,450	$ 4,675,888	$ 289,905	$ 325,639	$ 734,200	$ 300,000	$ (872,327)		$ 12,383,850	$ 12,195,251	$ 48,363,327
2028	$ 50,000	$ 2,726,136	$ 8,676,958	$ 941,372	$ 12,052,781	$ 24,447,247	$ 7,242,306	$ 4,965,794	$ 289,905	$ 325,639	$ 734,200	$ 275,000	$ (710,606)		$ 12,832,333	$ 11,614,915	$ 59,978,241
2029	$ 50,000	$ 2,747,992	$ 8,188,291	$ 941,372	$ 12,052,781	$ 23,980,436	$ 7,264,162	$ 5,255,699	$ 289,905	$ 325,639	$ 734,200	$ 275,000	$ (710,447)		$ 13,144,254	$ 10,836,182	$ 70,814,424
2030	$ 50,000	$ 2,769,848	$ 7,883,314	$ 941,372	$ 12,052,781	$ 23,697,315	$ 7,286,018	$ 5,545,605	$ 289,905	$ 325,639	$ 734,200	$ 275,000	$ (261,557)		$ 13,904,905	$ 9,792,410	$ 80,606,834
2031	$ 50,000	$ 2,791,704	$ 7,623,890	$ 941,372	$ 12,052,781	$ 23,459,747	$ 7,307,874	$ 5,835,510	$ 289,905	$ 325,639	$ 734,200	$ 275,000	$ (261,120)		$ 14,217,103	$ 9,242,644	$ 89,849,477
2032	$ 50,000	$ 2,813,560	$ 7,593,432	$ 941,372	$ 12,052,781	$ 23,451,145	$ 7,329,730	$ 6,125,416	$ 289,905	$ 325,639	$ 734,200	$ 275,000	$ (261,520)		$ 14,528,465	$ 8,922,680	$ 98,772,157
2033	$ 50,000	$ 2,835,416	$ 7,252,398	$ 941,372	$ 12,052,781	$ 23,131,967	$ 7,351,586	$ 6,415,321	$ 289,905	$ 325,639	$ 734,200	$ 250,000	$ (261,616)		$ 14,815,130	$ 8,316,837	$ 107,088,994
2034	$ 50,000	$ 2,857,272	$ 7,106,516	$ 941,372	$ 12,052,781	$ 23,007,942	$ 7,373,442	$ 6,705,227	$ 289,905	$ 325,639	$ 734,200	$ 250,000	$ (261,400)		$ 15,127,108	$ 7,880,834	$ 114,969,828
2035	$ 50,000	$ 2,879,128	$ 6,862,228	$ 941,372	$ 12,052,781	$ 22,785,509	$ 7,395,298	$ 6,995,132	$ 289,905	$ 325,639	$ 734,200	$ 250,000	$ (260,864)		$ 15,439,405	$ 7,346,104	$ 122,315,932
2036	$ 50,000	$ 2,900,984	$ 6,629,394	$ 941,372	$ 12,052,781	$ 22,574,531	$ 7,417,154	$ 7,285,038	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 16,012,031	$ 6,562,500	$ 128,878,432
2037	$ 50,000	$ 2,922,840	$ 6,566,049	$ 941,372	$ 12,052,781	$ 22,533,043	$ 7,439,010	$ 7,574,943	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 16,323,793	$ 6,209,250	$ 135,087,682
2038	$ 50,000	$ 2,944,696	$ 5,973,787	$ 941,372	$ 12,052,781	$ 21,962,637	$ 7,460,866	$ 7,864,849	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 16,635,554	$ 5,327,083	$ 140,414,765
2039	$ 50,000	$ 2,966,552	$ 5,971,948	$ 941,372	$ 12,052,781	$ 21,982,654	$ 7,482,722	$ 8,154,754	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 16,947,316	$ 5,035,338	$ 145,450,103
2040	$ 50,000	$ 2,988,408	$ 5,765,984	$ 941,372	$ 12,052,781	$ 21,798,546	$ 7,504,578	$ 8,444,660	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 17,259,077	$ 4,539,468	$ 149,989,572
2041	$ 50,000	$ 3,010,265	$ 5,690,134	$ 941,372	$ 12,052,781	$ 21,744,551	$ 7,526,435	$ 8,734,565	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 17,570,839	$ 4,173,713	$ 154,163,284
2042	$ 50,000	$ 3,032,121	$ 5,690,134	$ 941,372	$ 12,052,781	$ 21,766,407	$ 7,548,291	$ 9,024,471	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 17,882,600	$ 3,883,807	$ 158,047,092
2043	$ 50,000	$ 3,053,977	$ 5,369,225	$ 941,372	$ 12,052,781	$ 21,467,355	$ 7,570,147	$ 9,314,376	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 18,194,362	$ 3,272,993	$ 161,320,085
2044	$ 50,000	$ 3,075,833	$ 5,368,294	$ 941,372	$ 12,052,781	$ 21,488,280	$ 7,592,003	$ 9,604,282	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 18,506,123	$ 2,982,157	$ 164,302,241
2045	$ 50,000	$ 3,097,689	$ 5,335,660	$ 941,372	$ 12,052,781	$ 21,477,502	$ 7,613,859	$ 9,894,187	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 18,817,885	$ 2,659,617	$ 166,961,858
2046	$ 50,000	$ 3,119,545	$ 5,334,846	$ 941,372	$ 12,052,781	$ 21,498,544	$ 7,635,715	$ 10,184,093	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 19,129,646	$ 2,368,898	$ 169,330,756
2047	$ 50,000	$ 3,141,401	$ 5,334,846	$ 941,372	$ 12,052,781	$ 21,520,400	$ 7,657,571	$ 10,473,998	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 19,441,408	$ 2,078,992	$ 171,409,748
2048	$ 50,000	$ 3,163,257	$ 5,327,287	$ 941,372	$ 12,052,781	$ 21,534,697	$ 7,679,427	$ 10,763,904	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 19,753,170	$ 1,781,527	$ 173,191,275
2049	$ 50,000	$ 3,185,113	$ 5,326,349	$ 941,372	$ 12,052,781	$ 21,555,616	$ 7,701,283	$ 11,053,809	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 20,064,931	$ 1,490,685	$ 174,681,960
2050	$ 50,000	$ 3,206,969	$ 4,996,661	$ 941,372	$ 12,052,781	$ 21,247,783	$ 7,723,139	$ 11,343,715	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 20,376,693	$ 871,090	$ 175,553,050
2051	$ 50,000	$ 3,228,825	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,268,265	$ 7,744,995	$ 11,633,620	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 20,688,454	$ 579,811	$ 176,132,861
2052	$ 50,000	$ 3,250,681	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,290,121	$ 7,766,851	$ 11,923,526	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 21,000,216	$ 289,905	$ 176,422,766
2053	$ 50,000	$ 3,272,537	$ 4,995,287	$ 941,372	$ 12,052,781	$ 21,311,977	$ 7,788,707	$ 12,213,431	$ 289,905	$ 325,639	$ 734,200	$ 250,000			$ 21,311,977	$ -	$ 176,422,766
Total	**$ 1,450,000**	**$ 88,668,731**	**$ 199,036,736**	**$ 27,299,787**	**$ 361,583,439**	**$ 678,038,693**	**$ 224,153,830**	**$ 240,294,045**	**$ 8,407,259**	**$ 9,769,170**	**$ 21,913,045**	**$ 7,850,000**	**$ (8,366,142)**	**$ 6,001,978**	**$ 501,615,926**	**$ 176,422,766**	**$ 3,758,686,029**

Annual Increase	$ 289,905
2024 Total Tax Levy	$ 17,686,674
Inc as % of Tax Levy	1.64%