

**FINAL REPORT**

PREPARED BY HEMSON FOR THE TOWNSHIP OF SCUGOG

# ASSET MANAGEMENT PLAN

June 20, 2022



1000 - 30 St. Patrick Street, Toronto ON M5T 3A3

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# EXECUTIVE SUMMARY

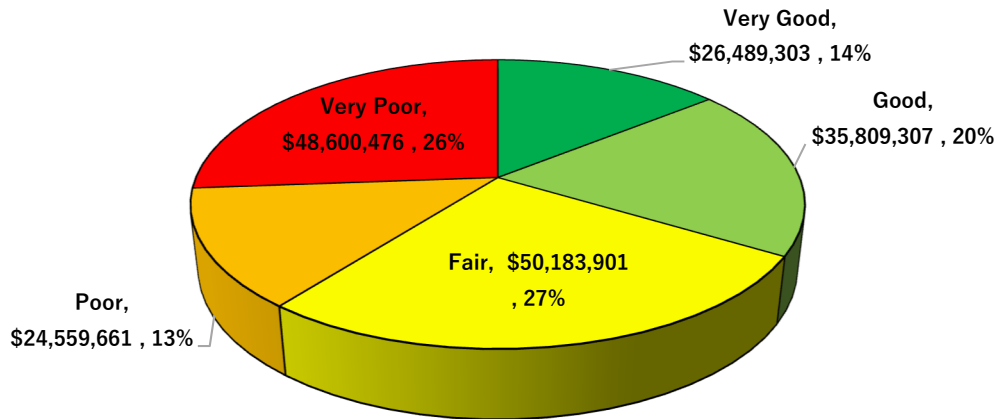
The following summarizes the findings of the Township of Scugog's Asset Management Plan (2022 Plan). The 2022 Plan follows the format set out in the *Building Together: Guide for Municipal Asset Management Plans* and it has also been developed to be consistent with the requirements of *Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17)* with consideration to the Township's Strategic Asset Management Policy. This 2022 Plan defines the current levels of service for all core and non-core assets in compliance with the asset management regulation.

The 2022 Plan incorporates all assets that the Township is responsible for to provide a comprehensive overview. All figures are in constant 2022 dollars and should be adjusted annually to account for the effects of inflation.

## A. STATE OF LOCAL INFRASTRUCTURE

- The Township's infrastructure has an estimated total replacement value of \$574.2 million.
  - Roads represent \$385.7 million (67%), buildings represents \$81.9 million (14%) and bridges/culverts represent \$35.3 million (6%) of the total value; and
  - The remaining tax supported assets represent \$71.2 million (12%).
- The Township's roads are considered to be in "Poor" condition overall:
  - Approximately 285.1 lane km (66%) are considered to be in Poor/Very Poor condition while 119.3 lane km (28%) are considered to be in Good/Very Good condition. The remaining 25.5 lane km (6%) are considered to be in Fair condition.
- For all other asset categories (excluding roads), the Township's assets are considered to be in "Fair" condition:
  - \$64.5 million (34%) of the Township's assets are considered to be in Good/Very Good condition. At the same time, approximately \$73.2 million (39%) of infrastructure is considered to be in Poor/Very Poor condition. The remaining share of \$50.8 million (27%) is in Fair condition.

### Asset Summary of Condition by Replacement Value



*Note: Graph includes all assets categories with the exception of roads.*

## B. LEVEL OF SERVICE

- The Township's current levels of service have been defined based on the condition of assets and the measures required as per *O. Reg. 588/17*:
  - For paved roads, the average PCI is 44.02 while for gravel roads the average PCI is 33.01 which results in an average condition rating of Poor. It is noted that although the PCI has continued to decline slightly since completion of the 2019 Roads AMP continued investment over the past few years has resulted in a slowing of this condition decline. It is expected that continued investment will result in an increasing average road condition over the coming years. The Township is currently undertaking an update to the Roads AMP to ensure that tracking of road conditions continues to be a key part of the asset management planning process.
  - For bridges the average BCI is 70.5 and for culverts it is 71.4. This results in an average condition rating of Good.
  - The Township's storm sewer infrastructure is considered relatively new. A high level qualitative analysis has determined that the infrastructure overall is resilient to 5-year storms and that 100-year storms would have limited impacts to properties in the Township.
  - The remaining asset categories vary from Poor to Good with the overall average condition rating considered to be Fair.

## C. FINANCING STRATEGY

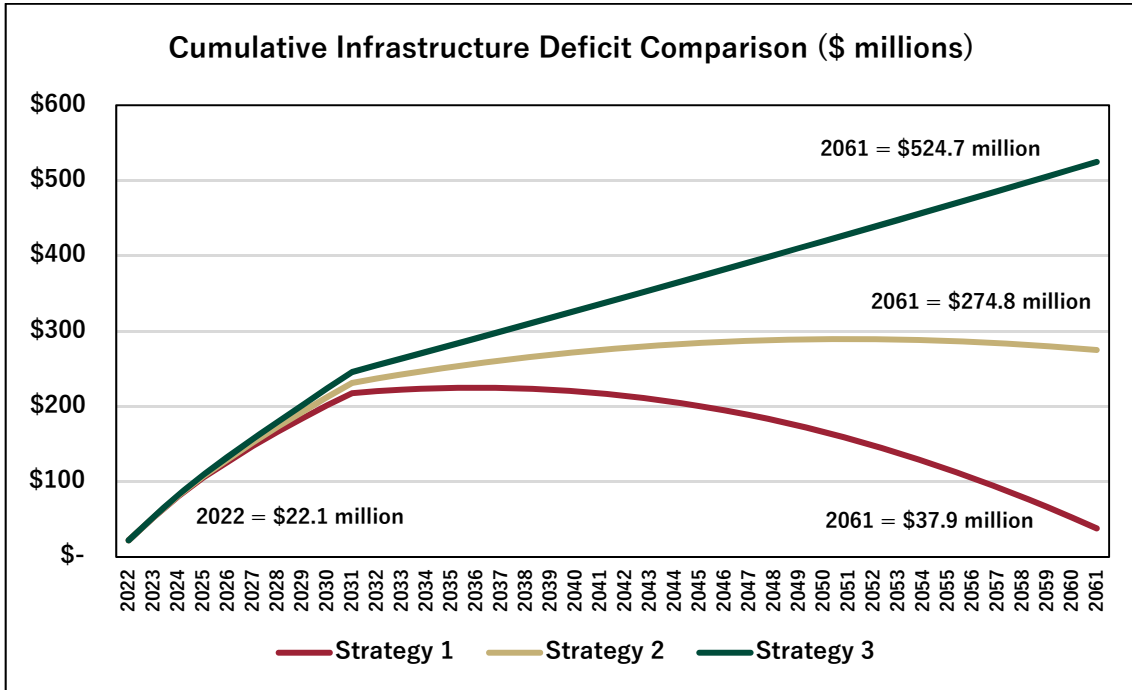
- The analysis indicates a spending need of about \$930.9 million for tax supported assets – this figure represents the cumulative 40-year investment needs across the service areas for the various lifecycle activities identified in this plan.
- Three financing strategies were developed to determine a sustainable approach to the funding that would be required to meet asset lifecycle 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 2022 budgeted funding identified and should be adjusted annually to account for the effects of inflation. The Financing Strategy section of this 2022 AMP provides further details on each strategy.

Summary of Financing Strategies	
Financing Strategy <sup>(1)</sup>	Strategy Parameters
<b>Strategy 1</b> <b>Continue annual capital contributions in line with recent budgets (4% increase) <sup>(2)</sup></b>	<ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$624,200 per year (plus annual inflation). For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ The yearly revenue requirement is equivalent to 4.0% of the Township’s estimated 2022 tax levy (\$15.6 million).</li> <li>▪ This strategy would address immediate infrastructure needs (due to the backlog).</li> </ul>
<b>Strategy 2</b> <b>Close in-year Funding Gap by 2051</b>	<ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$320,400 per year (plus annual inflation). For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ The yearly revenue requirement is equivalent to 2.0% of the Township’s estimated 2022 tax levy (\$15.6 million).</li> </ul>
<b>Strategy 3</b> <b>Maintain existing funding at today’s levels</b>	<ul style="list-style-type: none"> <li>▪ Maintain budgeted capital contributions at today’s levels without further increases (maintain at 2022 budget levels).</li> <li>▪ This amounts to about \$3.0 million based on the 2022 budget.</li> </ul>

*Note 1: Key funding assumptions are maintained for all three financing strategies (see Section 5 – Table 15).*

*Note 2: The cumulative deficit would be eliminated within 3-5 years after 2061 under this strategy.*

- Of the three financing strategies identified for the tax supported assets, strategy 3 poses the greatest risk to the Township as the infrastructure deficit continues to grow to 2061 and beyond and represents a decrease in the level of service over time. Strategies 1 and 2 demonstrate the infrastructure deficit being controlled over the planning period. Detailed tables of each strategy are provided in Appendix D with the tax supported cumulative infrastructure gaps summarized in the graph below.



# 1. INTRODUCTION

The Township of Scugog's 2022 Asset Management Plan (2022 Plan) provides the Township with a tool to assist in capital financing decisions. The Plan covers all municipal assets: computer equipment, equipment, land improvements, vehicles, buildings, marine infrastructure, streetlights, sidewalks, storm sewer infrastructure, bridges and culverts, and roads.

The 2022 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 2022 Plan are in constant 2022 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 2022 Plan. The model contains the Township's asset inventory and it 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.

## 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;
- 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 Scugog. 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 2022 Plan is to build on existing practices by identifying how best to manage municipal infrastructure over the planning period to 2061. A strategy for maintaining infrastructure so that existing service levels are maintained is an important element. In this respect, the 2022 Plan has been prepared to be consistent with the Township's Strategic Asset Management Policy. Ultimately, the 2022 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 regulations also contain more 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 Regulation 588/17 and where the Township currently stands in the timeline.

**Table 1  
O. Reg. 588/17 Timeline**

Regulation Timeline	Requirement	Progress
<p><b>July 1, 2019</b></p>	<ul style="list-style-type: none"> <li>▪ Municipalities shall prepare their first strategic asset management policy.</li> <li>▪ Municipalities shall review, and if necessary, update the policy every 5 years.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Township Council approved the Strategic Asset Management Policy in 2019.</li> <li>▪ The next review is expected in 2024, although earlier reviews are encouraged whenever a change in policy directives occurs.</li> </ul>
<p><b>July 1, 2022</b></p>	<ul style="list-style-type: none"> <li>▪ Every Township shall prepare an asset management plan in respect of its core municipal infrastructure assets.</li> <li>▪ The current levels of service must be defined for all core assets.</li> </ul>	<ul style="list-style-type: none"> <li>▪ This 2022 Plan has incorporated the information from the Township’s asset inventory and the Township’s State of the Infrastructure and Asset Management Plan for Roads (Roads AMP), the OSIM Inventory and Inspection Report (OSIM Report) and the 2021 Stormwater Management Pond Inventory and Condition Assessment.</li> <li>▪ The Township is currently undertaking an update to the 2019 Roads AMP. Due to timing differences between the roads update and the AMP, this AMP is based on the 2019 Roads data with some modifications to represent current conditions.</li> <li>▪ Current level of service measures have been identified through this plan, with the Township expecting to develop other metrics on an ongoing basis.</li> <li>▪ It is expected that service level data continue to be monitored and refined over the long-term.</li> </ul>
<p><b>July 1, 2024</b></p>	<ul style="list-style-type: none"> <li>▪ Every Township shall prepare an asset management plan in respect of all other municipal infrastructure assets.</li> <li>▪ The current levels of service must be defined for all other municipal assets</li> </ul>	<ul style="list-style-type: none"> <li>▪ This 2022 Plan has incorporated non-core assets contained in the Township’s TCA schedule. Some of these assets include condition assessments based on internal staff reviews.</li> <li>▪ Current level of service measures have been identified through this plan, with the Township expecting to develop other metrics on an ongoing basis.</li> </ul>

Table 1 O. Reg. 588/17 Timeline		
Regulation Timeline	Requirement	Progress
July 1, 2025	<ul style="list-style-type: none"> <li>▪ Municipalities must establish proposed levels of service for a minimum of 10 years.</li> <li>▪ A lifecycle management and financial strategy that covers a minimum of 10 years.</li> </ul>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ The proposed levels of service will be established through consultation with Council and the public in a subsequent update of this 2022 Plan.</li> </ul>

### C. ASSET MANAGEMENT PLAN STRUCTURE

The 2022 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. Additional details are provided in Appendix C.
Section 5 - Financing Strategy	Establishes how asset management can be delivered in a financially sustainable way for tax supported services. Additional details are provided in Appendix D.
Section 6 – Continuous Improvements and Updates	Provides key recommendations on how to administer the 2022 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 2022 Asset Management Plan.*

## 2. STATE OF LOCAL INFRASTRUCTURE

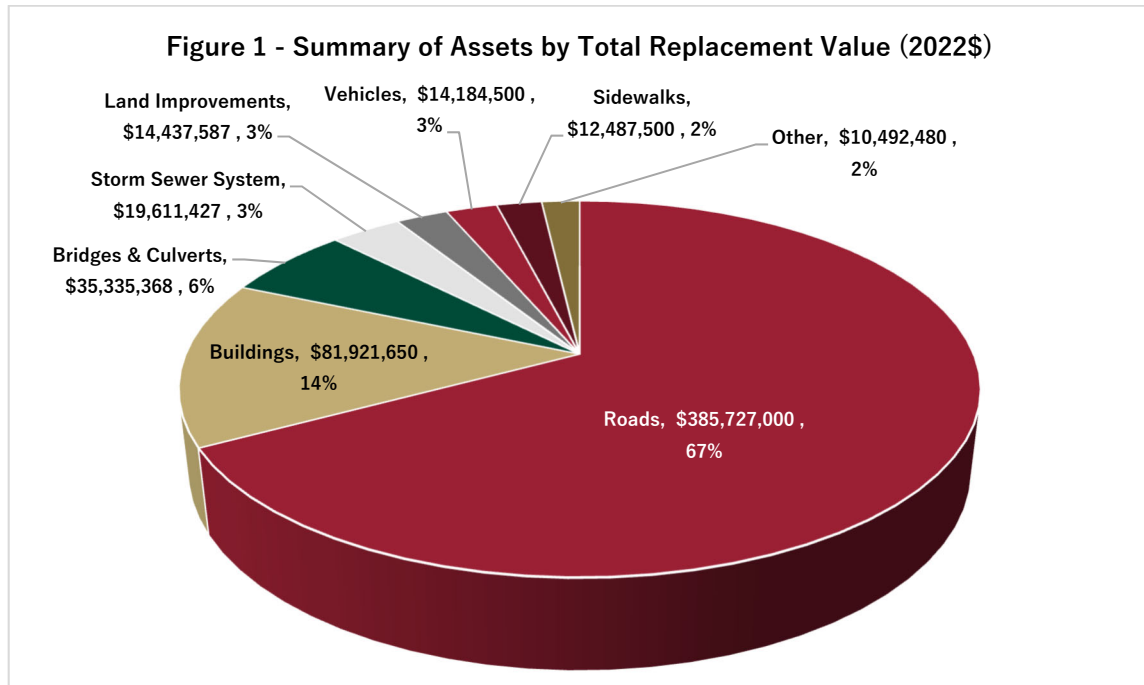
This section provides a summary of the Township's assets with reference to asset quantity and quality. Some assets have condition assessments based on engineering inspections (roads, bridges/culverts), while the balance of assets considered are based on the useful life of the asset relative to its age with some independent staff assessments. Useful life assumptions for the assets considered under this 2022 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 assets considered in the 2022 Plan is estimated at \$574.2 million (all dollar figures are in 2022 dollars) with the breakdown by asset category summarized in Figure 1. The largest share of assets is for roads at \$385.7 million (67%) of the total replacement cost. The second largest asset class is buildings at \$81.9 million (14%). This is followed by bridges and culverts with a replacement cost of \$35.3 million (6%), the Township's storm sewer system is valued at \$19.6 million (3%), and land improvements are valued at \$14.4 million (3%). Vehicles are valued at \$14.2 million (2%) while sidewalks are valued at about \$12.5 million (2%).

The other asset categories in the Township's asset portfolio make up the remaining \$10.5 million (2%). These are made up of \$3.5 million (1%) for streetlights, \$2.8 million (less than 1%) for equipment, \$2.8 million (less than 1%) in marine infrastructure, and \$1.5 million (less than 1%) in computer equipment.

The replacement costs were developed based on a combination of recent benchmark costs, costs in the 2019 Development Charges Background Study, the Township's OSIM Inventory and Inspection Report, the State of the Infrastructure and Asset Management Plan for Roads and the 2021 Stormwater Management Pond Inventory and Condition Assessment. Where information was not available, historical acquisition costs were inflated to current 2022 dollars at a rate of 2%. Detailed replacement cost for each asset category is provided in Appendix B.



*Note: Other includes streetlights, equipment, marine, and computer equipment.*

## B. SUMMARY OF STATE OF LOCAL INFRASTRUCTURE

Table 3 provides a summary of the state of local infrastructure for all asset categories considered in this study which is valued at \$574.2 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 10 years. The weighted average is largely driven by the relative age of buildings, bridges and culverts, which have the highest replacement value and in the case of bridges/culverts considered overdue in terms of remaining useful life only. Note that computer equipment, land improvements and marine infrastructure are considered overdue by virtue of their age. The 2019 Roads AMP has identified that the average remaining useful life for roads is 5 years.
- **Weighted Condition:** Overall, the Township’s assets are determined to be in Fair condition (excluding roads). Computer equipment, storm sewer system and bridges/culverts are considered to be in good condition. The remaining assets are considered to be in Poor to Fair condition noting that it is largely related to the

conditions based on the assets age as the main driving factor. Roads are considered to be in Poor condition, noting that the condition of roads is weighted relative to the length of each road segment in kilometres based on the Roads AMP.

<b>Table 3</b>			
<b>Summary State of Local Infrastructure</b>			
<b>Asset Type</b>	<b>Replacement Cost 2022</b>	<b>Weighted Remaining Useful Life</b>	<b>Weighted Condition</b>
Computer Equipment	\$1,526,900	Overdue	<b>Good</b>
Equipment	\$2,757,480	1	<b>Fair</b>
Land Improvements	\$14,437,587	Overdue	<b>Poor</b>
Vehicles	\$14,184,500	5	<b>Fair</b>
Buildings	\$81,921,650	9	<b>Poor</b>
Marine	\$2,756,000	Overdue	<b>Poor</b>
Streetlights	\$3,452,100	4	<b>Fair</b>
Sidewalks	\$12,487,500	13	<b>Fair</b>
Storm Sewer System	\$19,611,427	52	<b>Good</b>
Bridges & Culverts	\$35,335,368	Overdue	<b>Good</b>
<b>Total (excl. Roads)</b>	<b>\$185,642,647</b>	<b>10</b>	<b>Fair</b>
Roads	\$385,727,000	5	<b>Poor</b>
<b>Total Replacement Value</b>	<b>\$574,197,512</b>		

*Note: Road conditions are based on the Township's State of the Infrastructure and Asset Management Plan for Roads and is weighted on centre line kilometres. All other conditions are weighted relative to replacement value.*

### **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 2022 AMP. Condition assessments for the roads are based on the Township’s 2019 State of the Infrastructure and Asset Management Plan for Roads (Roads AMP) with some revisions to conditions based on road deterioration informed by the 2022 update. For bridges and culverts the OSIM Inventory and Inspection Report BCI conditions were used as the basis for the analysis. The 2021 Stormwater Management Pond Inventory and Condition Assessment was used specifically for stormwater ponds in the storm sewer category. These conditions were adapted to the 5-tier system.

Furthermore, Hemson undertook a qualitative review of the condition of some assets known to be in better condition than what their age would suggest, with input from Township staff. This means that, wherever the condition of an asset was assumed, its condition was recorded based on Table 4. Finally, wherever information was not available on the condition of assets the age of the asset was used as a proxy. Under this method, older assets are assumed to be in poorer condition. Table 5 below provides a summary of the asset categories and the methodology used to assign a condition. Additional details on the methodology used for condition assessments is provided in Appendix B.

Table 5 Condition Rating Methodology			
Condition Assessment	Road Conditions (Roads AMP)	Bridges and Culverts (OSIM Report PCI)	Asset Categories based on Age (% of Remaining Useful Life)
Very Good	70-100	80-100	80%-100%
Good	55-70	70-80	60%-80%
Fair	45-55	60-70	40%-60%
Poor	35-45	50-60	20%-40%
Very Poor	Less than 35	Less than 50	Less than 20%

Moving forward, updating and identifying asset conditions should be part of regular inventory updates. There are several methods to identify asset condition. The ideal methods are outlined as follows:

1. Condition rating systems based on engineered metrics and professional standards. For example, pavement condition index (PCI) for roads or bridge condition index (BCI) for bridges/culverts. These metrics can then be translated into a 5-tier rating system for the purposes of reporting. The Township should continually update the conditions in the asset inventory to reflect changes in conditions, asset replacement or updates to Township engineering reports.
2. Estimates based on expert staff opinion. This approach is important where there is low confidence that age and useful life represents the condition of an asset. This method has been used for a limited number of assets as part of the 2022 AMP and should continue to be utilized.
3. Estimates based on age and the remaining useful life of the asset. This has been used for any assets where 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 using approach 1 and 2 as needed. With this said, this methodology can be utilized 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 Scugog 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 to maintain 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. However, safety and performance are also important for core services such as roads, bridges/culverts and storm sewer.

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 2022 Plan. The current level of service measures for each asset category are summarized in Table 6. It is noted that the information in Table 6 represents a blended approach of levels of service and performance measures which represent the best available information at this time:

- **Weighted Condition:** the condition of the Township's assets are determined to be in Fair condition overall (excluding roads). The Township's computer equipment, storm sewer system and bridges/culverts are in Good condition. Equipment, vehicles, and streetlights are in Fair condition. The Township's land improvements, buildings, marine infrastructure and sidewalks are considered to be in Poor condition.

It is important to note that assets in Fair condition may transition into the Poor or Very Poor category in the near future. Thus 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.

Finally, it is important to note *that O. Reg. 588/17* includes a prescribed set of level of service measures. Table 6 includes these level of service measures as required in the regulation, a brief summary is provided below:

- **Roads:** The Township owns and operates collector and local roads but no arterial roads. Lane kilometres as a percent of land area for collector roads is 100.86 and for local roads it is 57.56. The average pavement condition index for paved roads is 47.87 and unpaved roads is 36.73 on 100-point scale. The condition index is based on the Township's State of Infrastructure and Asset Management Plan for Roads with staff revisions based on the 2022 update. It is noted that the condition index developed through this report is based on function of system adequacy and physical condition to develop the measure.
- **Bridges and Culverts:** The Township owns 24 bridges and culverts. Of those 3 have loading or dimensional restrictions amounting to 13% of the structures. For bridges the average bridges condition value is 70.5 on a 100-point scale. For culverts the average condition value is 71.4. The information developed for the level of service analysis is based on the OSIM Inventory and Inspection Report.
- **Storm Sewer System:** It is assumed that the current system is resilient to 5-year and 100-year storms based on conversations with Township staff. Staff have identified that only a limited number of properties would be affected by a 100-year storm, noting that there have not been major floods in recent years. Based on a share of drainage components of roads that are not considered "Now" needs from the Township's 2019 State of Infrastructure and Asset Management Plan 97% of the system is considered resilient to a 5-year storm.

## **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 40-year period. To do so the financing strategy considers three financing strategy scenarios which are discussed further in Section 5.

**Table 6  
Township of Scugog  
Level of Service Tracker**

Asset Category	Corporate Level of Service/Objective	Description of LOS Measure	Source of Information	Current LOS
<b>Computer Equipment</b>	Providing reliable computer equipment.	Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	<b>Good</b>
		% of assets at or above "Good" or "Very Good" condition	2022 AMP	94%
		% of assets beyond their useful life	2022 AMP	49%
<b>Equipment</b>	Providing reliable equipment.	Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	<b>Fair</b>
		% of assets at or above "Good" or "Very Good" condition	2022 AMP	29%
		% of assets beyond their useful life	2022 AMP	43%
<b>Land Improvements</b>	Providing reliable land improvements.	Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	<b>Poor</b>
		% of assets at or above "Good" or "Very Good" condition	2022 AMP	8%
		% of assets beyond their useful life	2022 AMP	41%
<b>Vehicles</b>	Providing vehicles in an efficient manner.	Total annual budget maintenance expenditures	2022 Budget	\$ 1,142,200
	Providing reliable vehicles.	Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	<b>Fair</b>
		% of assets at or above "Good" or "Very Good" condition	2022 AMP	31%
		% of assets beyond their useful life	2022 AMP	16%
<b>Buildings</b>	Maintaining buildings in an efficient manner.	Total annual budget maintenance expenditures	2022 Budget	\$ 426,400
	Providing reliable buildings.	Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	<b>Poor</b>
		% of assets at or above "Good" or "Very Good" condition	2022 AMP	12%
		% of assets beyond their useful life	2022 AMP	24%
<b>Marine</b>	Providing marine assets in an efficient manner.	Total annual budget maintenance expenditures	2022 Budget	\$ 14,400
	Providing reliable marine assets.	Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	<b>Poor</b>
		% of assets at or above "Good" or "Very Good" condition	2022 AMP	0%
		% of assets beyond their useful life	2022 AMP	35%
<b>Streetlights</b>	Providing streetlights in an efficient manner.	Total annual budget maintenance expenditures	2022 Budget	\$ 30,000
	Providing reliable streetlights.	Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	<b>Fair</b>
		% of assets at or above "Good" or "Very Good" condition	2022 AMP	38%
		% of assets beyond their useful life	2022 AMP	43%
<b>Sidewalks</b>	Providing sidewalks in an efficient manner.	Total annual budget maintenance expenditures	2022 Budget	\$ 35,000
	Providing reliable sidewalks.	Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	<b>Fair</b>
		% of assets at or above "Good" or "Very Good" condition	2022 AMP	33%
		% of assets beyond their useful life	2022 AMP	20%

Table 6 Township of Scugog Level of Service Tracker						
Asset Category	Corporate Level of Service/Objective	Community Level of Service (as per O. Reg. 588/17)		Description of LOS Measure	Source of Information	Current LOS
Storm Sewer System	To meet reporting requirements of O. Reg. 588/17	Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system.	The Township has a total of 411 km of drainage that is mostly incorporated as part of the road network. This includes ditches, open ditches and storm sewers. Linear storm sewers are largely present in the Township's urban area.	1. Percentage of properties in municipality resilient to a 100-year storm (O. Reg. 588/17).	High level assumption (Amp It Up 2.0 program)	Only a limited number of properties may be affected
				2. Percentage of the municipal stormwater management system resilient to a 5-year storm (O. Reg. 588/17).	Based on drainage components of roads that are not considered "Now" needs. From Page 16 of 2019 State of Infrastructure, and Asset Management Plan for Roads by 4 Roads Management Services Inc.	97%
	Providing reliable stormwater infrastructure.			Average weighted condition assessment ("Very Poor" to "Very good")	2022 AMP	Good
				% of assets at or above "Good" or "Very Good" condition	2022 AMP	82%
Bridges & Culverts	To meet reporting requirements of O. Reg. 588/17	Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists). 1. Description or images of the condition of bridges and how this would affect use of the bridges. 2. Description or images of the condition of culverts and how this would affect use of the culverts.	Structure appraisal diagram on Page 4 of the Bridge Inspection Report. Conditions of individual bridges begin on Page 17 of the Bridge Inspection Report.	Percentage of bridges in the municipality with loading or dimensional restrictions (O. Reg. 588/17).	OSIM Inventory and Inspection Report	13%
				1. For bridges in the municipality, the average bridge condition index value (O. Reg. 588/17).	OSIM Inventory and Inspection Report	70.5
				2. For structural culverts in the municipality, the average bridge condition index value (O. Reg. 588/17).	OSIM Inventory and Inspection Report	71.4
Roads	To meet reporting requirements of O. Reg. 588/17	Description, which may include maps, of the road network in the municipality and its level of connectivity.	Maps are included on Page 205 of 2019 State of Infrastructure, and Asset Management Plan for Roads by 4 Roads Management Services Inc.	Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality (O. Reg. 588/17).		
				Arterial	From Page 14 of 2019 State of Infrastructure, and Asset Management Plan for Roads by 4 Roads Management Services Inc.	0
				Collector	From Page 14 of 2019 State of Infrastructure, and Asset Management Plan for Roads by 4 Roads Management Services Inc.	100.86
		Local	From Page 14 of 2019 State of Infrastructure, and Asset Management Plan for Roads by 4 Roads Management Services Inc.	57.56		
		Description or images that illustrate the different levels of road class pavement condition.	Maps are included on Page 205 of 2019 State of Infrastructure, and Asset Management Plan for Roads by 4 Roads Management Services Inc. These illustrate the different road conditions. Each road segment is also outlined in this report through the roads inventory.	1. For paved roads in the municipality, the average pavement condition index value (O. Reg. 588/17).	From Page 14 of 2019 State of Infrastructure, and Asset Management Plan for Roads by 4 Roads Management Services Inc. updated with 2022 staff information	44.02
				2. For unpaved roads in the municipality, the average surface condition (O. Reg. 588/17).	From Page 14 of 2019 State of Infrastructure, and Asset Management Plan for Roads by 4 Roads Management Services Inc. updated with 2022 staff information	33.01

## 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 assets 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 7 provides a description of each lifecycle category and the specific approach used to forecast expenditures in this AMP.

Table 7 Overview of the Full Life Cycle Cost Activities and AMP Approach		
Category	Description	AMP Approach
Non-Infrastructure Solutions	<ul style="list-style-type: none"> <li>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.).</li> </ul>	<ul style="list-style-type: none"> <li>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.</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Based on a review of recent budgets by service area.</li> <li>Annual maintenance activities of \$4.8 million per annum for tax supported assets are based on 2022 budget</li> <li>Excludes regular costs of operation and only includes identifiable asset maintenance costs from the Township budget.</li> <li>These figures are based on the 2022 budget and is deemed appropriate to use in the forecast moving forward as it generally represents similar costs compared to the previous year's budgets.</li> </ul>
Renewal/Rehabilitation Activities	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Expenditures are identified for roads and bridges/culverts based on the Township's engineering reports over the next 5 to 10 year period.</li> <li>For roads, future renewal expenditures beyond the 10-year period are based on an average of the 10-year costs identified through the Roads AMP.</li> <li>For bridges/culverts future renewal expenditures beyond the 10-year period are based on replacement of structures based on useful life.</li> <li>Stormwater pond renewal/rehabilitation costs identified in the condition report have been averaged out over the planning period.</li> </ul>

Table 7 Overview of the Full Life Cycle Cost Activities and AMP Approach		
Category	Description	AMP Approach
Replacement Activities	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Incorporates the average annual investment required to replace assets when they reach the end of their useful life (age/condition/risk based replacement schedule)</li> <li>Applies to all assets except roads where costs are based on renewal/rehabilitation.</li> </ul>
Disposal Activities	<ul style="list-style-type: none"> <li>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.</li> </ul>	<ul style="list-style-type: none"> <li>Analysis assumes any costs associated with "disposal" is included for in the replacement value and captured in the capital replacement requirements.</li> </ul>
Expansion Activities	<ul style="list-style-type: none"> <li>Planned activities required to extend or expand municipal services to accommodate the demands of growth.</li> </ul>	<ul style="list-style-type: none"> <li>Assumed Township expansion activities based on 2019 DC Study DC eligible expenditures - this equates to an average additional yearly expenditure of about \$3.1 million (first round capital acquisition).</li> <li>The Township currently collects development charges, it is therefore assumed that future DCs will be used to fund these first round capital expenditures.</li> <li>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.</li> </ul>

It should be noted that the Township undertakes all the activities described above, however, the Township’s budget generally accounts for these expenditures in different categories. Specific asset management strategies based on existing practices in the Township are documented in Appendix C. 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 jeopardize public/environmental safety. 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:

$$\text{(Likelihood of Failure) X (Consequence of Failure) = (Risk Rating)}$$

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 likelihood 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 8 below outlines the definition of probability of failure used for the Township’s assets.

Table 8 Likelihood of Failure		
Condition	Likelihood 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. 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. For the purposes of this analysis, assets were assigned a consequence of failure based on an assessment of the relative importance of the asset. Table 9 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 9 depending on how impactful the consequence may be to the Township.

Table 9 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.

*Note: The consequence of failure was developed based on the description of assets.*

- 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 (see Appendix D). Table 10 below provides a summary of the risk matrix.

Table 10 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
	5	5	10	15	20	25	Very High Risk

Table 11 presents the findings of the risk analysis and illustrates the Township’s assets rated from low to high risk. Most of the Township’s assets continue to have relatively low to moderate risk, and 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 10. It is important to note, that 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 corporation. Please note that roads and bridges/culverts have been excluded from the risk analysis in Table 11 as the infrastructure needs and timing of repair and/or replacement has been informed based on detailed engineered assessments.

- The 2019 Roads AMP identifies the recommended works for each road segment on a case-by-case basis considering factors such as surface type, structural adequacy, and others. These recommendations have been considered through the financing strategy in Section 5.
- The Township completed the OSIM Inventory and Inspection Report which includes recommended works and costs for bridges and culverts. These recommendations have been considered through the financing strategy in Section 5.

<b>Table 11</b>			
<b>Summary Risk Assessment</b>			
<b>Asset Category</b>	<b>Replacement Cost 2022</b>	<b>Risk (Weighted Average)</b>	
Computer Equipment	\$1,526,900	<b>Very Low</b>	3
Equipment	\$2,757,480	<b>Moderate</b>	9
Land Improvements	\$14,437,587	<b>Moderate</b>	8
Vehicles	\$14,184,500	<b>Moderate</b>	8
Buildings	\$81,921,650	<b>Low</b>	5
Marine	\$2,756,000	<b>Low</b>	5
Streetlights	\$3,452,100	<b>Very Low</b>	3
Sidewalks	\$12,487,500	<b>Very Low</b>	3
Storm Sewer System	\$19,611,427	<b>Low</b>	6
Bridges & Culverts	\$35,335,368	Risk Assessed through OSIM Reports	
Roads	\$385,727,000	Risk Assessed through Roads AMP	
<b>Total</b>	<b>\$574,197,512</b>	<b>Low</b>	<b>6</b>

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.

<b>Table 12</b>		
<b>Risk Associated to the Plan</b>		
<b>Identified Risk</b>	<b>Potential Impact</b>	<b>Mitigating Action</b>
<b>Failed Infrastructure</b>	<ul style="list-style-type: none"> <li>▪ Delivery of service</li> <li>▪ Asset and equipment damage</li> </ul>	<ul style="list-style-type: none"> <li>▪ Repair and rehabilitate as necessary</li> <li>▪ Increase investment</li> <li>▪ Non-infrastructure solutions</li> </ul>
<b>Inadequate funding</b>	<ul style="list-style-type: none"> <li>▪ Delivery of service</li> <li>▪ Increased risk of failure</li> <li>▪ Shorten asset life</li> <li>▪ Defer funding to future generations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Reductions of service</li> <li>▪ Find additional revenue sources</li> </ul>
<b>Regulatory Requirements</b>	<ul style="list-style-type: none"> <li>▪ Non-compliance</li> <li>▪ Mandatory investments</li> <li>▪ Increased costs</li> </ul>	<ul style="list-style-type: none"> <li>▪ Find additional revenue sources</li> <li>▪ Lobby actions</li> </ul>
<b>Plan is not followed or not undertaking required lifecycle activities</b>	<ul style="list-style-type: none"> <li>▪ Shorten asset life</li> <li>▪ Inefficient investments</li> <li>▪ Prioritization process failure</li> <li>▪ Failure to deliver service</li> </ul>	<ul style="list-style-type: none"> <li>▪ Monitor and review</li> <li>▪ Create asset management network</li> <li>▪ Implement processes</li> <li>▪ Investigate alternative lifecycle management options</li> </ul>

### **C. 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 Scugog 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	<ul style="list-style-type: none"> <li>• Land Improvements</li> <li>• Buildings</li> <li>• Marine</li> <li>• Streetlights</li> <li>• Sidewalks</li> <li>• Storm Sewer</li> <li>• Bridges and Culverts</li> <li>• Roads</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced road and bridge conditions or damage that may result in potential closures</li> <li>• Potential for increased flooding</li> <li>• Traffic delays due to poor road and bridge conditions</li> </ul>
Extreme Temperatures – Cold Wave	Rare to almost certain	<ul style="list-style-type: none"> <li>• Buildings</li> <li>• Marine</li> <li>• Bridges and Culverts</li> <li>• Roads</li> </ul>	<ul style="list-style-type: none"> <li>• Closures of outdoor amenities due to extreme weather conditions</li> <li>• Increased strain on indoor heating systems leading to reduced service life and functionality of components and systems</li> </ul>
Intense Rain	Rare to almost certain	<ul style="list-style-type: none"> <li>• Buildings</li> <li>• Marine</li> <li>• Storm Sewer</li> <li>• Bridges and Culverts</li> <li>• Roads</li> </ul>	<ul style="list-style-type: none"> <li>• Flooding of bridges and roadways leading to closures or property damage</li> <li>• Disruptions to service due to flooding of roads, leading to decreased levels of service</li> </ul>
Flood – Urban	Rare to almost certain	<ul style="list-style-type: none"> <li>• Buildings</li> <li>• Marine</li> <li>• Storm Sewer</li> <li>• Bridges and Culverts</li> <li>• Roads</li> </ul>	<ul style="list-style-type: none"> <li>• Flooding of bridges and roadways leading to closures</li> <li>• Disruptions to service due to flooding of roads, leading to decreased levels of service</li> <li>• Flooding of parks and amenities leading to closures and reduced levels of service</li> </ul>

Table 13 Framework for Climate Change Integration with Risk			
Hazards/ Risks	Likelihood	Consequence	
		Assets Affected	Possible Critical Infrastructure Failure/Service Impacts
Extreme Temperatures – Heat Wave	Rare to almost certain	<ul style="list-style-type: none"> <li>• Land Improvements</li> <li>• Buildings</li> </ul>	<ul style="list-style-type: none"> <li>• Potential closure/reduce used of outdoor amenities due to high temperatures (reduced levels of service). Lost habitats leading to reduced environmental diversity.</li> <li>• Increased strain on indoor cooling systems leading to reduced service life and functionality of components and systems</li> </ul>
Windstorm/ Tornado	Rare to almost certain	<ul style="list-style-type: none"> <li>• Land Improvements</li> <li>• Buildings</li> <li>• Marine</li> <li>• Streetlights</li> <li>• Storm Sewer</li> <li>• Bridges and Culverts</li> <li>• Roads</li> </ul>	<ul style="list-style-type: none"> <li>• Closure of outdoor assets due to potential hazards for residents</li> <li>• Increased strain on facility assets leading to potential damages and reduced service life and functionality of components and systems</li> </ul>

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 2022 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. Note that all figures presented in this section are expressed in constant 2022 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, although, the COVID-19 pandemic has somewhat strained resources and limited the ability to increase the amount of funding dedicated to asset maintenance.

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 about \$4.7 million is related to asset maintenance funded through the tax base in 2022. This amounts to approximately 0.8% of the total replacement value of the Township's infrastructure of \$574.2 million.

Moving forward additional maintenance expenditures will be required to maintain newly acquired infrastructure associated to growth-related development. It has been assumed that the Township would undertake about \$3.1 million in annual growth-related expansion activities which would equate to about \$25,200 in additional maintenance expenditures per year based on 0.8% of the replacement value of new infrastructure. This results in total average maintenance related expenditures of about \$5.2 million per year over the 40-year period to 2061.

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 REPLACEMENT SCHEDULE

The 2022 Plan includes an estimate of the timing for replacement of all assets. Using the risk assessment discussed in Section 4, 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 14 below provides a summary of the risk thresholds used to calculate timing of replacement needs.

Table 14 Risk Thresholds for Asset Life Extension					
Percentage of Useful Life					Color Code
100%	80%	60%	40%	20%	Very Low Risk
80%	65%	50%	30%	16%	Low Risk
60%	50%	35%	25%	10%	Moderate Risk
40%	30%	25%	15%	2%	High Risk
20%	16%	10%	2%	0%	Very High Risk

*Note: Methodology used for all asset categories except roads and bridges/culverts as recommended works and associated costs from engineering reports have been prioritized in the analysis which reflects a risk assessment of the assets based on their condition and other structural factors.*

Figure 2 sets out the schedule of repair and replacement of existing assets, to maintain current levels of service for the assets considered in the 2022 Plan. Over the 40-year period, to 2061, the repair and replacement program totals about \$575.5 million. The average yearly expenditure related to these assets amount to approximately \$14.4 million per year.

Some larger valued assets have been identified over the next few years to require repair or replacement, in particular some major projects include:

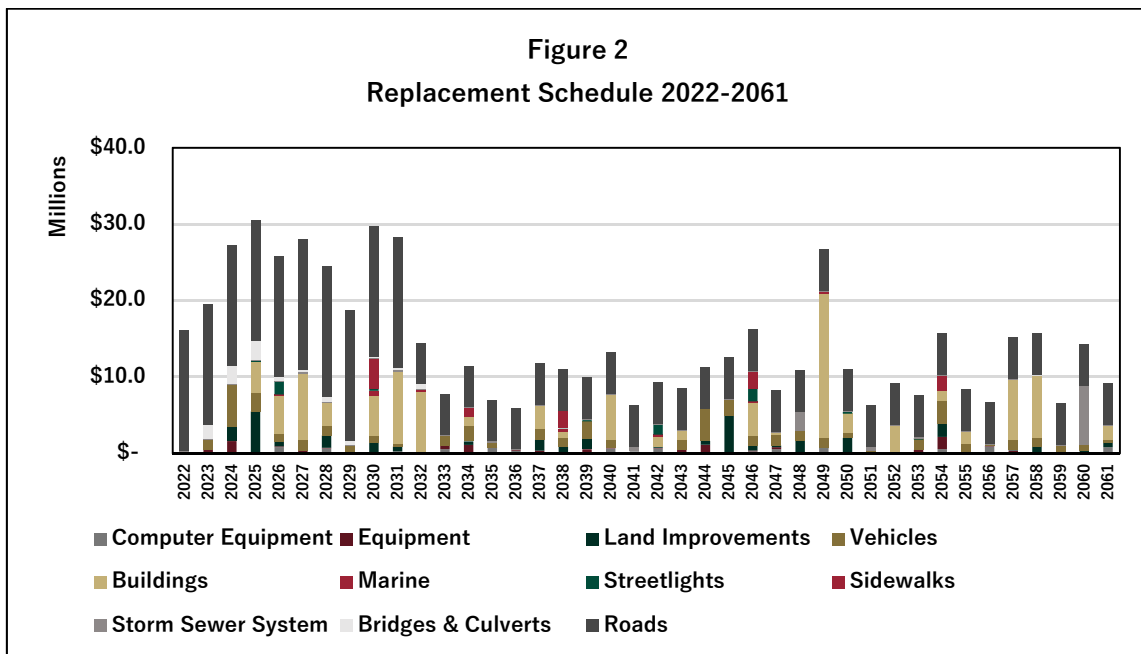
- **Roads:** The Township’s 2019 Roads AMP has identified about \$136.6 million in road works that has been labelled as “Now” needs (net of works completed since 2019). The needs are substantial and the Township would be unable to undertake this work in the short-term. The “Now” needs expenditures have therefore been spread over the first



10-years of the forecast to reflect a more reasonable approach to expenditures associated to critical roads. Future year costs have also been identified, this includes \$10.7 million in the 1-5 year period and \$17.1 million in the 6-10 year period. Finally, \$26.3 million in ADEQ road works are also identified. This refers to road works that will be needed beyond the 10-year period.

- **Bridges & Culverts:** The Township's OSIM Inventory and Inspection Report has identified approximately \$5.1 million in bridge/culvert replacement work as well as an additional \$4.5 million in repair/rehabilitation work for a total of \$9.5 million. The needs are substantial, therefore a similar approach to roads has been undertaken in that the total \$9.5 million in costs has been spread over the first 10-years of the forecast to reflect a more reasonable approach to expenditures associated to bridges/culverts. The 10-year timing was utilized to be consistent with the approach used for "Now" needs roads.
- **Buildings:** The 5-year period (2023-2027) has identified works amounting to about \$17.8 million related to replacement works to components of some buildings. This includes works related to major structure/e&p at Firehall Station #1 (\$6.2 million), general structure works at Firehall Station #2 (\$1.4 million) and interior finish at the SCRC Cultural Centre (\$980,000). Note that limited condition assessments for buildings are available and the works are based on the relative age and risk of the building components. It is expected that as better information becomes available the AMP financial model will be updated to better reflect the timing of works.
- **Vehicles:** The 5-year period (2023-2027) has identified replacement of \$11.7 million across roughly 82 different vehicle assets, including general government vehicles, fire vehicles, by-law vehicles, parks and recreation vehicles, and roads vehicles. Noting that the Township will need to assess the state of the vehicles as their timing of replacement comes up for evaluation.
- **Land Improvements:** The 5-year period (2023-2027) identified replacements of \$7.9 million. Some of the major assets include Cartwright Fields Upper Hardball Diamond and Soccer Fields (\$271,400), Lawn Bowling Club lawn/structures (\$309,200) and Blackstock Works Depot Garage 60' Communications Tower for roads radio system (\$500,000).
- **Equipment:** The 5-year period (2023-2027) identified replacements of \$2.5 million. Some of the major assets include pooled office furniture (\$293,000), fire region wide radio system (\$281,100) and pooled SCBA replacements (\$363,300).

- **Storm Sewer System:** The 2021 Stormwater Management Pond Inventory and Condition Assessment has identified about \$4.3 million in capital works for ponds over the period to 2051. This has been averaged out to amount to approximately \$138,000 per year. No linear related works are expected over the short-term.
- **Other Assets:** Over the next 5-years (2023-2027) the remaining asset categories include replacement works that amount to about \$2.9 million. This includes replacements associated to computer equipment, marine infrastructure and streetlights. It is noted that no replacements are expected in the short-term for sidewalks.



### 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 its remaining useful life and the anticipated cost of replacement in constant 2022 dollars. The aggregate of all individual provisions form an annual contribution to reserves for the purpose of asset repair and replacement.

Over the next forty years, the analysis indicates a spending need of about \$930.9 million. Figure 3 summarizes the cumulative 40-year investment needs across the tax supported

service areas for the various lifecycle activities identified in Section 4. Of the total life cycle cost, most costs can be attributed to saving for the renewal and replacement of existing infrastructure making up about \$671.8 million (72%) of the total. In addition, about \$209.6 million (23%) of the total is related to operating and maintenance costs associated to the existing asset base and a provision for future infrastructure associated to expansions. The remaining \$47.7 million (5%) is related to future asset management provisions associated to future infrastructure expansion with a minor share of \$2.0 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.

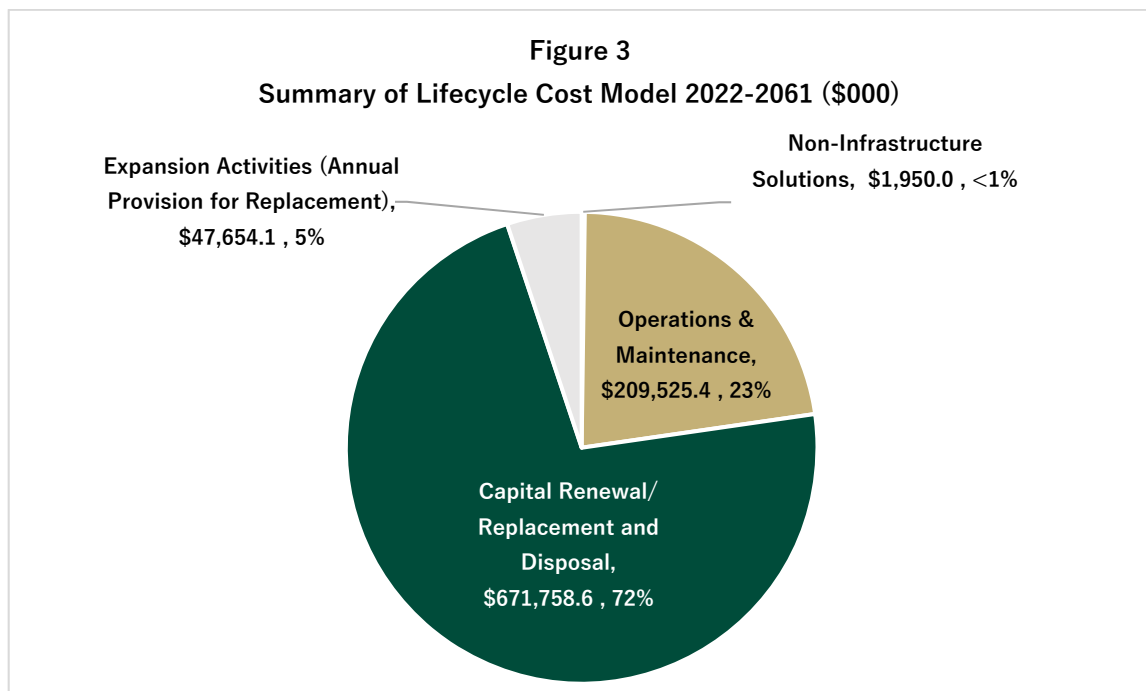
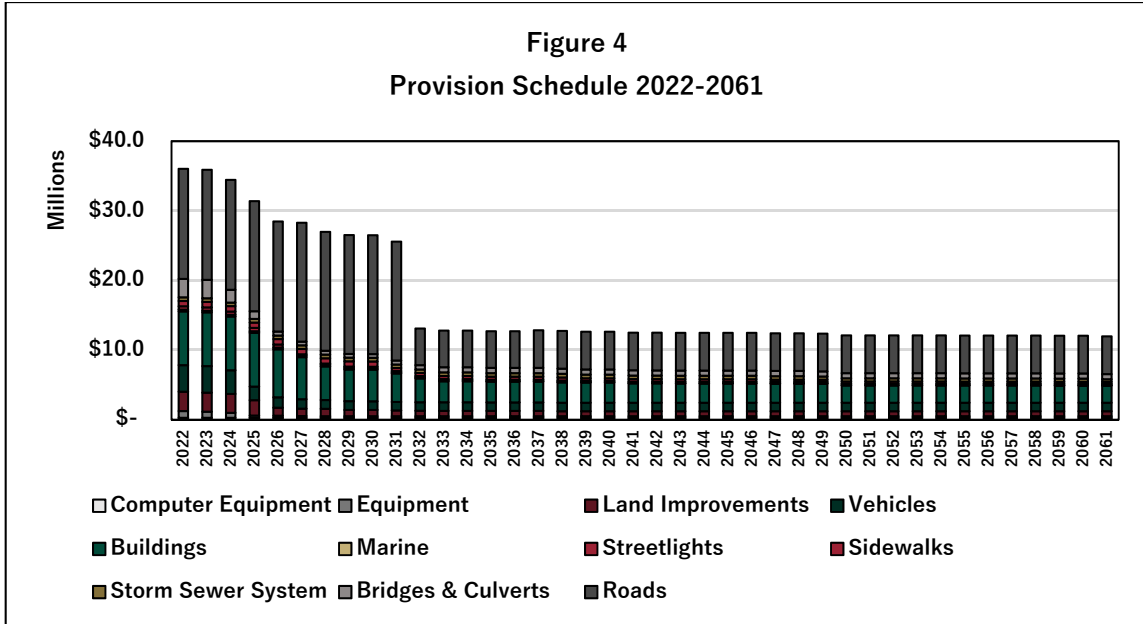


Figure 4 below provides an overview of the annual contributions related to the capital renewal and replacement requirements on an annualized basis over the planning period for the tax supported infrastructure. Figure 4 shows the funds that would have to be contributed annually to reserves to maintain current levels of service for tax supported assets included in this 2022 Plan to 2061. Figure 4 demonstrates that:

- Average annual contributions over the 40-year period would have to be in the order of \$16.8 million per year, with road works, buildings and vehicles as the most significant portion. Importantly, the \$16.8 million represents the average contribution over the 40-year period, however, contributions in the early years are higher as the Township would need to address overdue works which can largely be attributed to the “Now” need roads.

- The level of investment in Township assets would need to increase from current funding levels. It should be noted that of the 2022 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.



#### 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 Scugog, 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.

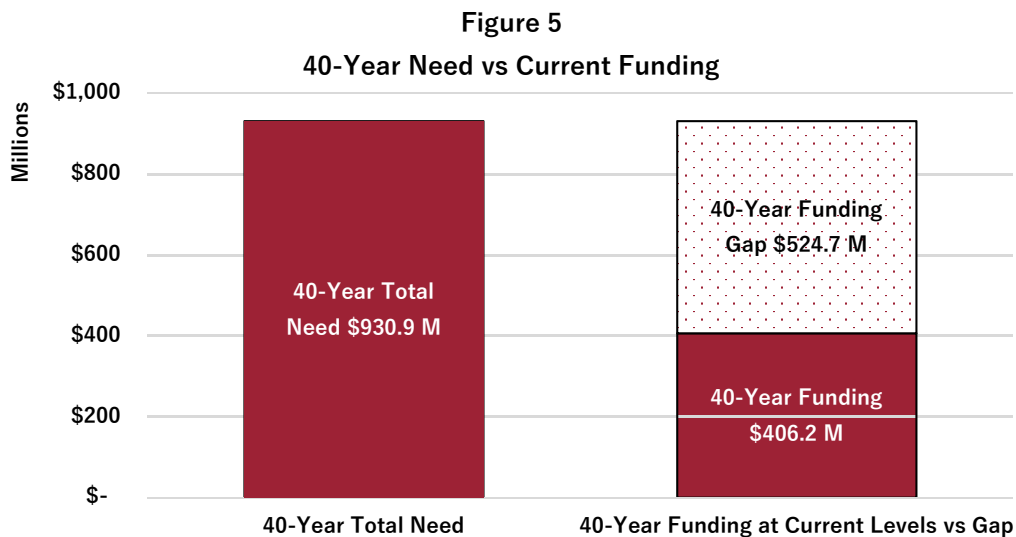
When assets require rehabilitation or are due for replacement, the source of funds are essentially limited to reserves or contributions from the operating budget regardless of how the initial first round capital asset was funded. Table 15 provides a summary of the revenues assumed in this analysis for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

<b>Table 15</b>	
<b>Financing Strategy Key Assumptions</b>	
<b>Category</b>	<b>Assumptions</b>
Operations and Maintenance	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> </ul>
Capital from Taxation (including transfers to reserves)	<ul style="list-style-type: none"> <li>▪ Existing 2022 tax supported capital funding of \$3.0 million is assumed to be the starting point and base case for increasing annual capital contributions. This includes the contributions to reserves (from operating) included in the budget for capital purposes. This amount is based on the 2022 budget.</li> </ul>
Debt (funded from taxes)	<ul style="list-style-type: none"> <li>▪ No debt assumptions are included in this analysis.</li> </ul>
Canada Community Building Fund (formerly Gas Tax)	<ul style="list-style-type: none"> <li>▪ Funding for 2022 is approximately \$685,600. Post 2022 gas tax funding is assumed based on AMO allocations to 2023 and remain constant afterwards.</li> </ul>
Other Grants	<ul style="list-style-type: none"> <li>▪ OCIF funding is assumed to continue over the next 5 years based on historical averages. This amount is assumed to be about \$427,000 per year.</li> <li>▪ Solar funds of about \$50,000 per year are expected to continue to the agreement ends in 2035.</li> </ul>
OLG Funds	<ul style="list-style-type: none"> <li>▪ OLG funds are expected to continue over the period to 2061 at about \$890,000 per year and are assumed to continue to be used for capital purposes.</li> </ul>
Existing Reserves	<ul style="list-style-type: none"> <li>▪ Existing capital reserves amounting to approximately \$8.9 million have been used against the total costs.</li> </ul>
Expansion Activities	<ul style="list-style-type: none"> <li>▪ Assumed Township expansion activities associated to growth, this equates to an average additional yearly expenditure of about \$3.1 million (first round capital acquisition). This is assumed to be funded from development charges.</li> <li>▪ 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.</li> </ul>
Inflation	<ul style="list-style-type: none"> <li>▪ Financing strategy is expressed in constant 2022 dollars.</li> </ul>

## 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.

The 40-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 2022 Plan. The graph indicates that existing funding levels are insufficient to cover projected costs over the planning period, as a result, a notional gap of \$524.7 million exists over the 40-year period.



It is unrealistic to expect the Township to address the total infrastructure deficit in the short-term for several key reasons:

- 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 engineered 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.

Therefore, three long-term funding 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 “smoothed options” to the lifecycle requirements identified in Figure 5. Assumptions for each of the three funding strategies is shown in Table 16. For example, in 2023, the increase identified in Table 16 would be in addition to the \$3.0 million tax supported capital funding, \$685,600 in Gas Tax funds, \$477,200 in one-time grants, \$890,000 in OLG funding and existing tax supported reserve funds on hand from 2022 levels.

<b>Table 16</b>	
<b>Summary of Financing Strategies</b>	
<b>Financing Strategy <sup>(1)</sup></b>	<b>Strategy Parameters</b>
<b>Strategy 1</b>  <b>Continue annual capital contributions in line with recent budgets (4% increase) <sup>(2)</sup></b>	<ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$624,200 per year (plus annual inflation). For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ The yearly revenue requirement is equivalent to 4.0% of the Township’s estimated 2022 tax levy (\$15.6 million).</li> <li>▪ This strategy would address immediate infrastructure needs (due to the backlog).</li> </ul>
<b>Strategy 2</b>  <b>Close in-year Funding Gap by 2051</b>	<ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$320,400 per year (plus annual inflation). For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ The yearly revenue requirement is equivalent to 2.0% of the Township’s estimated 2022 tax levy (\$15.6 million).</li> </ul>
<b>Strategy 3</b>  <b>Maintain existing funding at today’s levels</b>	<ul style="list-style-type: none"> <li>▪ Maintain budgeted capital contributions at today’s levels without further increases (maintain at 2022 budget levels).</li> <li>▪ This amounts to about \$3.0 million based on the 2022 budget.</li> </ul>

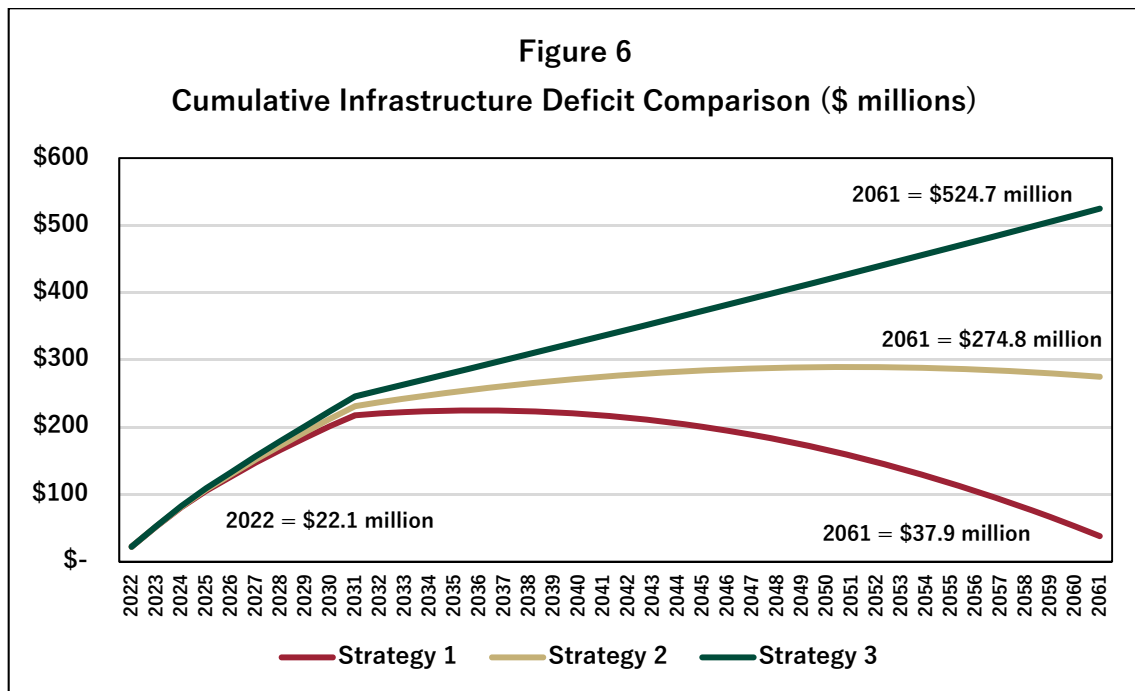
*Note 1: Key assumptions noted in Table 15 are maintained for all three financing strategies.*

*Note 2: The cumulative deficit would be eliminated within 3-5 years after 2061 under this strategy.*

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. In strategy 3, the infrastructure deficit will continue to increase to 2061 and beyond without any additional funding increases. A detailed table of the strategies can be found in Appendix D.

It is important to note that even though the in-year funding gap has been addressed within the planning horizon in strategies 1 and 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. In strategy 3, 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. Figure 6 below provides a snapshot summary of the infrastructure deficit for all three strategies outlined in Table 16.



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

As outlined in Part A total estimated budgeted asset maintenance expenditures in 2022 were about \$4.7 million for all assets. In addition, to existing reserve balances of \$8.9 million, the Township will have funds available in 2022 amounting to \$5.1 million associated to capital. This amount is made up of the following:



- \$3.0 million in tax levy capital funding (including reserve contributions);
- \$685,600 in gas tax funding;
- \$477,200 in one-time grants; and
- \$890,000 in annual OLG funding.

Both the capital maintenance requirements (from operating) and the capital spending provision identified are attributed to maintaining the service level associated with the total \$571.4 million of 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 outlined in Appendix C. 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 ultimately result in a service level increase over the long-term as assets are replaced as required based on condition and useful life. Therefore, the deficit would largely be eliminated over the planning period. This strategy would represent a more optimal level of asset repair and replacement than existing trends and should be targeted with the determination of proposed levels of service moving forward.
- Strategy 2 would 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” and allow the infrastructure back-log to accumulate would mean 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 strategy 3.

## **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 Scugog 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, such as OCIF, may potentially be at risk in future years; therefore, limited future grant funding is assumed for the purposes of the financing strategy beyond 2026 (solar funds of \$50,000 continue until 2035). The Township also receives funds from the Great Blue Heron Casino which has been used to fund capital repair and replacement. 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. An average DC growth-related annual expenditure of about \$3.1 million has been assumed in the forecast. 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 2022 budget, property taxes represent about \$15.6 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 tax payers who benefit from the asset share the cost, therefore, the burden of capital is distributed equally between current and future tax payers. 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 \$177,251 based on the 2022 ARL. This amount makes up less than 1% relative to net revenues (compared to the 25% limit) which is considered to be a very low debt level.

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 amount 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 remained fairly constant since 2011. This said, based on the Township's 2019 Development Charges Background Study the population of the Township is expected to reach about 24,300 people. This would represent an increase of about 2,700 people (13%) from the 2021 census population of about 21,600.

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 WORKING GROUP

The Township has established an Asset Management Working Group. The group is made of key Township staff with the intention of meeting to discuss and address key capital infrastructure needs and gaps. The group meets on a quarterly basis to better communicate on asset management matters on an ongoing basis to facilitate priority planning and investments needs in advance of the annual budget process.

### 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 18 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 4** recognizing that all asset categories are well documented particularly for the core assets of roads, bridges and culverts. 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 18. The data quality score is included in Appendix B complementing the State of the Local Infrastructure Reports.

<b>Table 18</b>		
<b>Data Quality Confidence Grading System</b>		
<b>Confidence Grade</b>	<b>Description</b>	
<b>5</b>	<b>Highly Reliable</b>	<ul style="list-style-type: none"> <li>▪ Data based on sound records, procedure, investigations and analysis, documented properly and recognized as the best method of assessment.</li> <li>▪ <i>Dataset is complete and estimated to be accurate +/- 2%.</i></li> </ul>
<b>4</b>	<b>Reliable Data</b>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ <i>Dataset is complete and estimated to be accurate +/- 10%.</i></li> </ul>
<b>3</b>	<b>Uncertain</b>	<ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ <i>Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%.</i></li> </ul>
<b>2</b>	<b>Very Uncertain</b>	<ul style="list-style-type: none"> <li>▪ Data based on unconfirmed verbal reports and/or cursory inspection and analysis.</li> <li>▪ <i>Dataset may not be fully complete and most data is estimated or extrapolated. Accuracy +/- 40%.</i></li> </ul>
<b>1</b>	<b>Unknown</b>	<ul style="list-style-type: none"> <li>▪ None or very little data held</li> </ul>

## **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 19 below outlines the key timelines.

<b>Table 19 Timeframes for Reviews and Updates</b>	
<b>Asset Management Framework</b>	<b>Timeframe</b>
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	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 Scugog 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 2022 Plan is to provide the Township of Scugog a complementary tool to make decisions on how best to manage capital assets in a sustainable way to 2061. In this section, recommendations based on the analysis undertaken are made.

### A. SUMMARY OF KEY FINDINGS

- The Township's asset base is valued at \$574.2 million, in relation to the census population of about 21,600 persons (about \$26,600 per capita).
- For roads, approximately 285.1 km (66%) are considered to be in Poor/Very Poor condition while 119.3 km (28%) are considered to be in Good/Very Good condition. The remaining 25.5 km (6%) are considered to be in Fair condition.
- For all other assets (excluding roads), \$64.5 million (34%) of the Township's assets are considered to be in Good/Very Good condition. At the same time, approximately \$73.2 million (39%) of infrastructure is considered to be in Poor/Very Poor condition. The remaining share of \$50.8 million (27%) is in Fair condition.
- The Township of Scugog 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;
  - 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 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 currently has relatively low debt obligations (less than 1% compared to the Provincial limit of 25% of own source revenue). Therefore, the Township can use this 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 2022 Plan the following conclusions can be reached:

### **1. Continue to Improve Capital Development Planning Process**

- The Township should develop a multi-year capital budget and forecasts for all services based on a 10-year forecast horizon. The capital budget can be based on the asset replacement schedule in 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 over the next few years. Targets should be measured, reported on, and adjusted annually. This requirement will need to be in place by July 1<sup>st</sup>, 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 2022 Plan; 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 Appendix D.
- The Township should explore opportunities to dispose under utilized infrastructure/facilities which may not warrant repair/replacement. For example, underutilized facilities, or surplus land/parks, could be disposed and sold; 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 engineered or 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 1<sup>st</sup>, 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: 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 an overview of the Township's assets including asset components, the quantity of those components, the replacement cost in 2022 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 capital asset information, the Township's 2019 State of the Infrastructure and Asset Management Plan for Roads and the OSIM Inventory and Inspection Report for bridges/culverts. Furthermore, an asset management financial model based in Excel was developed as part of the 2022 AMP, this model contains all detailed asset information.

The assets included in this 2022 Plan are consistent with the asset categories included in the Township's TCA schedule. Inclusion of all assets in this Plan therefore meet the asset management plan requirements in the Township's Gas Tax Funding Agreement.

## 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 engineered useful life. Assets are categorized by remaining useful life based on their replacement cost in 2022 dollars. Assets categorized as overdue are considered to be beyond their engineered useful life, however, the asset may still be in good operating condition and therefore age does not represent the ideal method to determine condition. Typically, assets such as facilities are used well beyond their engineered useful lives with proper maintenance and repairs.

### 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 2022 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 several sources including, high level staff assessments where possible, the Township’s 2019 State of the Infrastructure and Asset Management Plan for Roads, the OSIM Inventory and Inspection Report for bridges/culverts, the 2021 Stormwater Management Pond Inventory and Condition Assessment for ponds, with the balance based on the assets age. Details on the methodology the Township uses to assess the condition of assets is summarized in Table 1 below.

<b>Table 1 Methodology Used for Condition Assessments</b>	
<b>Asset Category</b>	<b>Methodology</b>
Computer Equipment	<ul style="list-style-type: none"> <li>▪ Age based approach with some staff level conditions</li> </ul>
Equipment	<ul style="list-style-type: none"> <li>▪ Age based approach with some staff level conditions</li> </ul>
Land Improvements	<ul style="list-style-type: none"> <li>▪ Age based approach</li> </ul>
Vehicles	<ul style="list-style-type: none"> <li>▪ Age based approach with some staff level conditions</li> </ul>
Buildings	<ul style="list-style-type: none"> <li>▪ Age based approach with some staff level conditions</li> </ul>
Marine	<ul style="list-style-type: none"> <li>▪ Age based approach</li> </ul>
Streetlights	<ul style="list-style-type: none"> <li>▪ Age based approach</li> </ul>
Sidewalks	<ul style="list-style-type: none"> <li>▪ Age based approach</li> </ul>
Storm Sewer System	<ul style="list-style-type: none"> <li>▪ Age based approach for linear</li> <li>▪ Condition assessments based on 2021 Stormwater Management Pond Inventory and Condition Assessment for ponds</li> </ul>
Bridges & Culverts	<ul style="list-style-type: none"> <li>▪ Structural appraisals from the Township’s OSIM Inventory and Inspection report updated with 2022 information from Township staff</li> </ul>
Roads	<ul style="list-style-type: none"> <li>▪ Physical condition ratings from the Township’s 2019 State of the Infrastructure and Asset Management Plan for Roads updated with 2022 information from Township staff (expressed in kilometres as per the Roads AMP)</li> </ul>

### 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 assets is estimated



at \$574.2 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.

- **Roads:** replacement costs for the Township’s roads are from the Township’s 2019 State of the Infrastructure and Asset Management Plan for Roads. The 2019 replacement costs were adjusted for inflation to 2022 dollars.
- **Bridges/Culverts:** based on the replacement values provided through the Township’s OSIM Inventory and Inspection Report for some structures. For the balance of structures an average cost per structure of \$1.6 million was used based on the Township’s 2019 Development Charge Background Study.
- **Buildings:** replacement costs are based on replacement values per square foot, particularly for those buildings where gross floor area information could be identified. Where floor area could not be identified replacement costs are based on inflating acquisition costs to current 2022 dollars. Table 2 below outlines the assumed replacement values.

Table 2 Assumed Replacement Value for Buildings			
Building Name	GFA (sqft)	Cost per Sqft	Replacement Value
Scugog Recreation Centre - SCRC	70,000	\$500	\$35,000,000
Library	16,000	\$481	\$7,690,000
Blackstock Arena/Community Hall	15,000	\$450	\$6,750,000
Firehall Station #1	11,900	\$550	\$6,545,000
Nestleton Community Centre	5,186	\$450	\$2,333,700
Latcham Community Center	4,186	\$450	\$1,883,700
Firehall Station #2	3,900	\$550	\$2,145,000
Caesarea Community Hall	2,679	\$450	\$1,205,550
Scout Hall (1951, Reno 2006)	2,474	\$350	\$865,900
Utica Community Hall	2,160	\$350	\$756,000
Greenbank Community Centre	2,088	\$350	\$730,800
Seagrave Park Field House/Shelter	1,500	\$350	\$548,000
1647 Reach St	2,000	\$350	\$700,000
Animal Control			\$199,000
Bertrand House			\$250,000
Historic Waterfront Mill			\$494,000
Marina, Cafe and Apartment			\$125,000
Municipal Annex			\$733,000
Municipal Office Building			\$4,841,000

Table 2 Assumed Replacement Value for Buildings			
Building Name	GFA (sqft)	Cost per Sqft	Replacement Value
Town Hall 1873 Addition			\$2,065,000
War Memorial Library			\$250,000
Museum - Storage Facility			\$161,000
Birdseye Pool Changehouse			\$100,000
Cartwright Town Hall			\$64,000
Ianson Park Fieldhouse/Pavillion			\$109,000
Joe Fowler Park Fieldhouse/Picnic Shelter			\$137,000
Lawn Bowling Club			\$205,000
Palmer Park Gazebo/Bandshell			\$143,000
Parks Garage/Office/Shop			\$414,000
Prince Albert Township Hall			\$169,000
Rowing Club Building (Donated)			\$133,000
Scugog Island Community Hall			\$63,000
Soccer Field House			\$114,000
Blackstock Salt Dome			\$676,000
Blackstock Works Depot Garage			\$726,000
Island Work Depot Garage			\$676,000
Port Perry Works Depot Garage			\$1,144,000
Port Perry Works Depot Salt Dome			\$676,000
Other			\$101,000
<b>Total</b>			<b>\$81,921,650</b>

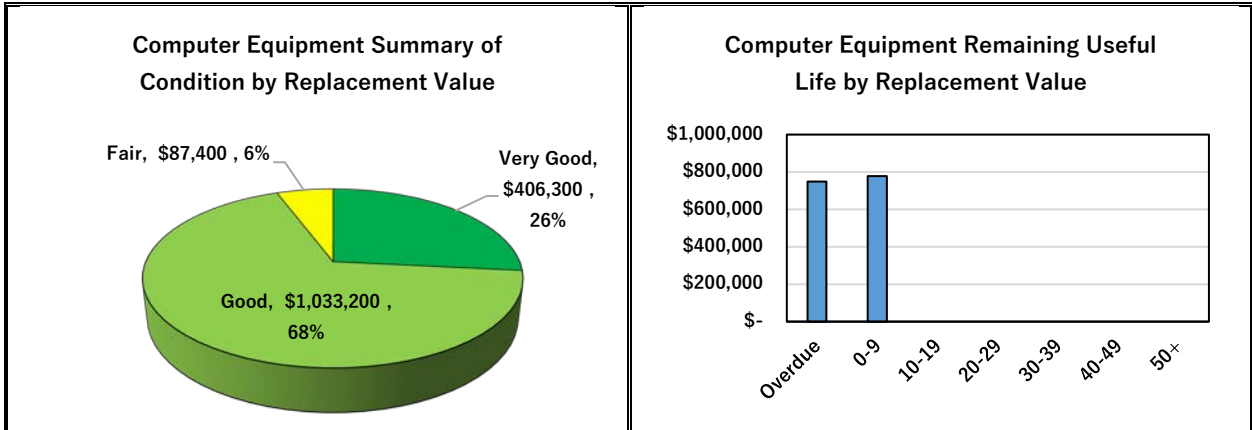
- Storm Sewer System:** linear stormwater infrastructure is based on adjusting historical costs to 2022 dollars. Stormwater pond replacement costs are based on the 2021 Stormwater Management Pond Inventory and Condition Assessment Report adjusted to 2022 dollars.
- Remaining Asset Categories:** Hemson has particularly relied upon the initial acquisition costs and adjusted these values to current dollars. However, some specific adjustments were made to high valued vehicles, equipment and land improvements where possible based on the Township's 2019 Development Charge Background Study.

# B.1 Computer Equipment

**Good**

Summary of Inventory				
Asset Type	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
Hardware	Pooled	\$ 439,500	Inflation	5-7
Software	Pooled	\$1,087,400	Inflation	5-7
<b>Total</b>		<b>\$1,526,900</b>		

The Township maintains pooled units of computer equipment, which includes hardware and software with a total replacement value of \$1.5 million. The computer equipment assets have an assumed useful life ranging between 5 and 7 years depending on the type of equipment. The asset replacement values have largely been derived by adjusting the original acquisition cost by inflation. The source of the information is the Township's TCA schedule.



Overall, \$748,600 (49%) of computer equipment assets are considered to be overdue by virtue of their design life. Although not overdue at this time, it should be noted that all other computer equipment (\$778,300) will require replacement over the next ten years. This is because the township's computer equipment only has a useful of 5 to 7 years, although it is noted that typically computer equipment/software is replaced as new technologies emerge and upgrades are typically done on an ongoing basis. Overall, the Township maintains \$1.4 million (94%) of computer equipment assets in Good to Very Good condition. No computer equipment assets are in Poor or Very Poor condition. The remainder of the assets \$87,400 (6%) are maintained in Fair condition.

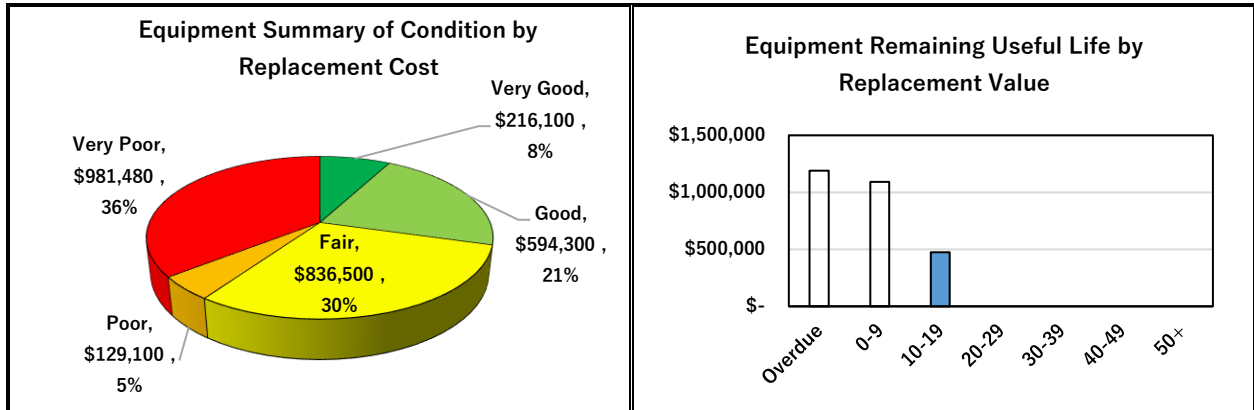
Data Confidence and Reliability: Level 3 (Uncertain)  
 Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%.

# B.2 Equipment

Fair

Summary of Inventory				
Asset Type	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
General Equipment	Pooled	\$889,200	Inflation/Recent Costing	5-10
BIA - General Equipment	Pooled	\$60,980	Inflation/Recent Costing	5-10
General HD	Pooled	\$322,100	Inflation/Recent Costing	15
FFOKE	Pooled	\$897,700	Inflation/Recent Costing	10
PPE	Pooled	\$191,600	Inflation/Recent Costing	10
SCBA	Pooled	\$395,900	Inflation/Recent Costing	15
Total		\$2,757,480		

The Township maintains pooled units of equipment for various services, which includes general equipment utilized at Township facilities, heavy duty equipment and fire related equipment, with a total replacement value of \$2.8 million. The equipment assets have an assumed useful life ranging between 5 and 15 years depending on the type of equipment. The asset replacement values were derived by a mixture of adjusting the original acquisition cost by inflation and recent benchmark costing. The source of the information is the Township's TCA schedule.

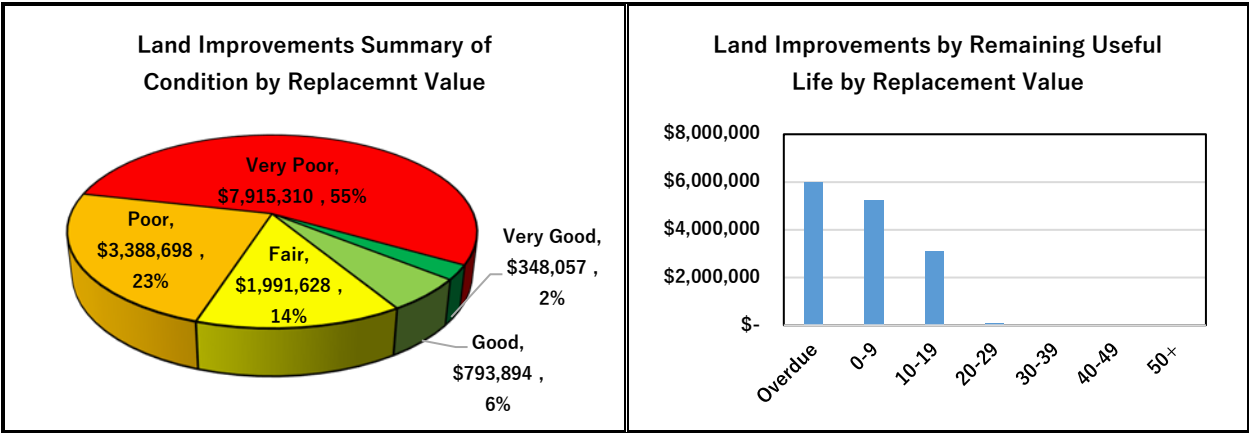


Overall, \$1.2 million (43%) of equipment assets are considered to be overdue by virtue of their design life. Although not overdue at this time, it should be noted that all other equipment (\$1.6 million) will require replacement over the next twenty years. Overall, the Township maintains \$810,400 (29%) of equipment assets in Good to Very Good condition. About \$1.1 million (41%) of equipment assets are considered to be in Poor or Very Poor condition, which would indicate signs of deterioration and these assets should be considered for repair or replacement. The remainder of the assets \$836,500 (30%) are maintained in Fair condition. Noting that the condition analysis is based on the age of the assets, poorer condition assets may still be in good working condition, however they should be monitored closely to ensure that they continue to provide service as needed.

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

Summary of Inventory				
Asset Type	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
Fencing	45	\$513,016	Inflation/Recent Costing	30
Parking Lot	42	\$3,479,601	Inflation/Recent Costing	20
Hardscaping	25	\$965,646	Inflation/Recent Costing	20
Lighting	31	\$1,070,294	Inflation/Recent Costing	20
Monument	5	\$60,252	Inflation/Recent Costing	30
Open Space	4	\$208,639	Inflation/Recent Costing	20
Disc Golf	1	\$21,439	Inflation/Recent Costing	20
Basketball	8	\$105,338	Inflation/Recent Costing	20
Baseball	13	\$1,051,551	Inflation/Recent Costing	20
Playground	52	\$ 894,064	Inflation/Recent Costing	15
Beach Volleyball	4	\$7,911	Inflation/Recent Costing	20
Soccer	6	\$570,514	Inflation/Recent Costing	20
Tennis Court	3	\$423,398	Inflation/Recent Costing	15
Lawn Bowling	1	\$309,194	Inflation/Recent Costing	20
Skateboard	6	\$498,023	Inflation/Recent Costing	15
Track	2	\$89,755	Inflation/Recent Costing	15
Path, Trail, Walkway	25	\$1,204,792	Inflation/Recent Costing	15
Boardwalk	2	\$1,132,785	Inflation/Recent Costing	30
Street Light	3	\$90,000	Inflation/Recent Costing	20
Pool	4	\$895,018	Inflation/Recent Costing	30
Fuel System	5	\$346,357	Inflation/Recent Costing	25
Comm Tower	1	\$500,000	Inflation/Recent Costing	25
Fencing	45	\$513,016	Inflation/Recent Costing	30
Parking Lot	42	\$3,479,601	Inflation/Recent Costing	20
Hardscaping	25	\$965,646	Inflation/Recent Costing	20
Lighting	31	\$1,070,294	Inflation/Recent Costing	20
Monument	5	\$60,252	Inflation/Recent Costing	30
Open Space	4	\$208,639	Inflation/Recent Costing	20
<b>Total</b>		<b>\$14,437,587</b>		

The Township maintains over 288 types of land improvement assets with a total replacement value of \$14.4 million, noting that some assets may be captured as pooled units in the inventory. The land improvement assets have an assumed useful life ranging between 15 and 30 years depending on the type of land improvement. The asset replacement values were derived by adjusting the original acquisition cost by inflation and with some recent benchmark costing. The source of the information is the Township's TCA schedule.



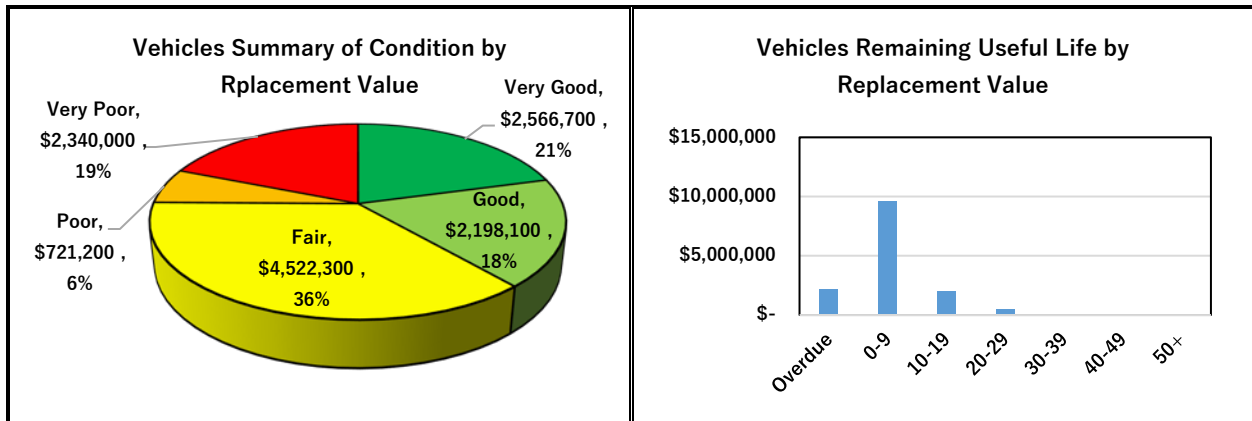
Overall, \$6.0 million (43%) of land improvements are considered to be overdue. Although not overdue at this time, it should be noted that most other land improvements (\$8.3 million) will be overdue within 20 years. As the condition analysis for this category is based on the relative age of each asset, the conditions closely link to the remaining useful life graph. Overall, the Township maintains \$1.1 million (8%) of land improvements in Good to Very Good condition. About 11.3 million (78%) of land improvement assets are in Poor or Very Poor condition. The remainder of the assets \$2.0 million (14%) are maintained in Fair condition. Noting that the condition analysis is based on the age of the assets, poorer condition assets may still be in good working condition, however they should be monitored closely to ensure that they continue to provide service as needed.

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				
Asset Type	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
Light Vehicle Licensed	24	\$1,307,600	Inflation/Recent Costing	5
Heavy Vehicle Licensed	22	\$5,253,800	Inflation/Recent Costing	10
Fire Truck	10	\$4,428,000	Inflation/Recent Costing	20
Trailer Licensed	1	\$56,000	Inflation/Recent Costing	15
Light Off Road	13	\$320,600	Inflation/Recent Costing	10
Medium Off Road	12	\$846,700	Inflation/Recent Costing	15
Heavy Off Road	12	\$1,971,800	Inflation/Recent Costing	15
<b>Total</b>	<b>94</b>	<b>\$14,184,500</b>		

The Township maintains 94 vehicle assets which includes light vehicles, heavy vehicles, fire trucks, trailers, and off road vehicles with a total replacement value of \$14.1 million. The vehicle assets have an assumed useful life ranging between 5 and 20 years depending on the type of vehicle. The asset replacement values were derived by adjusting the original acquisition cost by inflation and recent costing. The source of the information is the Township's TCA schedule.



Overall, \$2.2 million (16%) of vehicle assets are considered to be overdue by virtue of their design life. Although not overdue at this time, it should be noted that \$11.5 million (81%) of other vehicles will require replacement over the next 30 years. As the condition analysis for this category is mostly based on the relative age of each asset, the conditions closely link to the remaining useful life graph. Overall, the Township maintains \$4.8 million (39%) of vehicle assets in Good to Very Good condition. About \$3 million (25%) of vehicle assets are in Poor or Very Poor condition. The remainder of the assets \$4.5 million (36%) are maintained in Fair condition. Vehicles are unique since these assets are considered “rolling stock” and they have shorter useful lives than other assets, it is common to see assets in the Poor or Very Poor categories as they may be older vehicles. However the vehicles continue to be maintained for safety and operation but are more closely inspected or maintained and would be prioritized for replacement over the short-term.

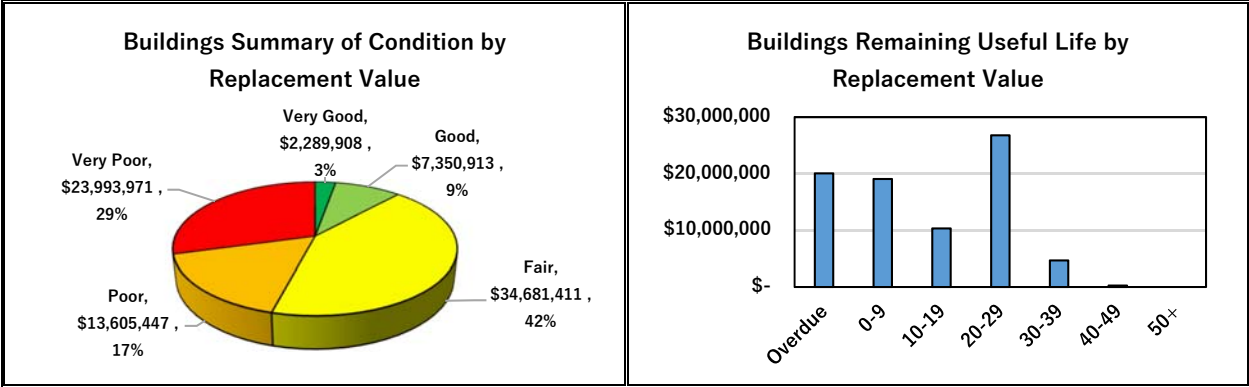
Data Confidence and Reliability: Level 4 (Reliable)  
 Dataset is complete and estimated to be accurate +/- 10%.

Building Name/Asset Type	Quantity	Replacement Cost 2022	Useful Life (Years)
Municipal Office Building	Pooled	\$4,841,000	15-45
Town Hall 1873 Addition	Pooled	\$2,065,000	25-45
Port Perry Works Depot Garage	Pooled	\$1,144,000	40
Municipal Annex	Pooled	\$733,000	45
Blackstock Works Depot Garage	Pooled	\$726,000	20-45
Blackstock Salt Dome	Pooled	\$676,000	40
Island Work Depot Garage	Pooled	\$676,000	40
Port Perry Works Depot Salt Dome	Pooled	\$676,000	40
Historic Waterfront Mill	Pooled	\$494,000	15
Parks Garage/Office/Shop	Pooled	\$414,000	40
Bertrand House	Pooled	\$250,000	40
War Memorial Library	Pooled	\$250,000	40
Lawn Bowling Club	Pooled	\$205,000	40
Animal Control	Pooled	\$199,000	40
Prince Albert Township Hall	Pooled	\$169,000	25-40
Museum - Storage Facility	Pooled	\$161,000	30
Palmer Park Gazebo/Bandshell	Pooled	\$143,000	20
Joe Fowler Park Fieldhouse/Picnic Shelter	Pooled	\$137,000	20-30
Rowing Club Building (Donated)	Pooled	\$133,000	40
Marina, Cafe and Apartment	Pooled	\$125,000	40
Soccer Field House	Pooled	\$114,000	45
Ianson Park Fieldhouse/Pavillion	Pooled	\$109,000	30-40
Other	Pooled	\$101,000	40
Birdseye Pool Changehouse	Pooled	\$100,000	40-45
Cartwright Town Hall	Pooled	\$64,000	40
Scugog Island Community Hall	Pooled	\$63,000	40



Summary of Inventory GFA				
Building Name/Asset Type	GFA (Sqft)	Replacement Cost per Sqft 2022	Replacement Cost 2022	Useful Life (Years)
Firehall Station #1	11,900	\$550	\$6,545,000	25-45
Firehall Station #2	3,900	\$550	\$2,145,000	25-45
Scugog Recreation Centre - SCRC	70,000	\$500	\$35,000,000	15-45
Library	16,000	\$481	\$7,690,000	15-45
Blackstock Arena/Community Hall	15,000	\$450	\$6,750,000	15-45
Nestleton Community Centre	5,186	\$450	\$2,333,700	15-40
Latcham Community Center	4,186	\$450	\$1,883,700	25-40
Caesarea Community Hall	2,679	\$450	\$1,205,550	30
Scout Hall (1951, Reno 2006)	2,474	\$350	\$865,900	40
Utica Community Hall	2,160	\$350	\$756,000	40
Greenbank Community Centre	2,088	\$350	\$730,800	25-40
Seagrave Park Field House/Shelter	1,500	\$350	\$548,000	30-45
1647 Reach St	2,000	\$350	\$700,000	40
<b>Total</b>			<b>\$81,921,650</b>	

The Township maintains over 40 buildings and ancillary facilities with a total replacement value of \$81.9 million. The building assets have an assumed useful life ranging between 15 and 45 years depending on the building asset and its components. The asset replacement values were derived by adjusting the original acquisition cost by inflation or recent benchmark costing per square foot wherever gross floor areas of buildings could be identified. The source of the information is the Township's TCA schedule.

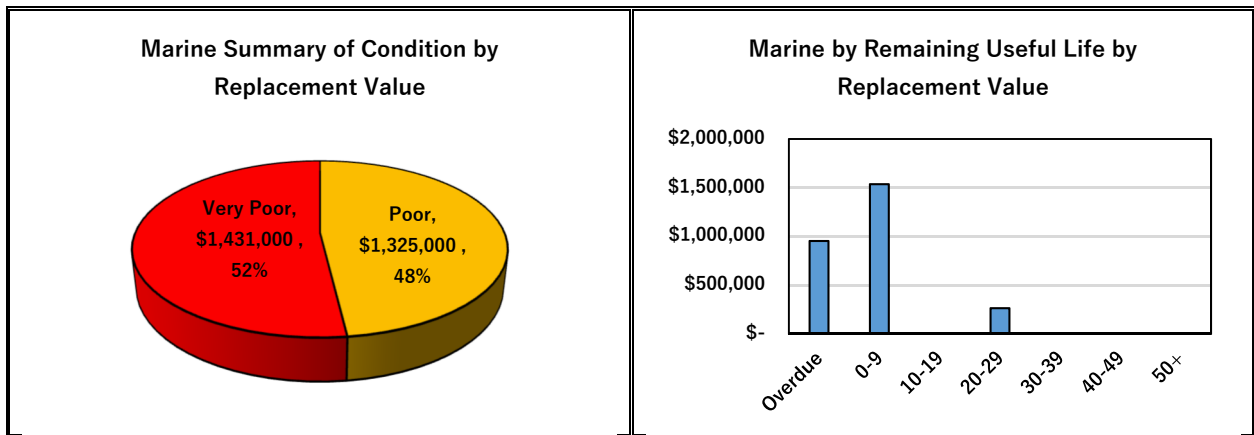


Overall, \$20.0 million (24%) of building assets are overdue by virtue of their design life. Most of the buildings however \$61.9 million (76%) still have several years of remaining useful life with the majority having well over 20 years remaining. As the condition analysis for this category is mostly based on the relative age of each asset, the conditions closely links to the remaining useful life graph. Overall, the Township maintains \$9.6 million (12%) of building assets in Good to Very Good condition. About \$37.6 million (46%) of building assets are in Poor or Very Poor condition. The remainder of the assets \$34.6 million (42%) are in Fair condition. Since the condition analysis is based on the age of the assets, there is a portion of assets that were categorized to be in poorer condition, however these building assets are likely to be in better condition than their age would suggest. It is intended that the Township undertake a more detailed review of the conditions of the buildings for the purposes of reporting through the asset management plan and this report card.

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

Summary of Inventory				
Asset Type	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
Port Perry Pier	4	\$1,060,000	Recent Costing	20-80
Caesarea Pier	1	\$1,060,000	Recent Costing	30
Municipal Boat Launch & Dock	1	\$318,000	Recent Costing	40
View Lake Boat Launch	1	\$318,000	Recent Costing	40
Total	7	\$2,756,000		

The Township maintains seven marine assets, which includes assets part of the Port Perry Pier, Caesarea Pier, the Municipal Boat Launch and Dock, and the View Lake Boat launch with a total replacement value of \$2.8 million. The marine assets have an assumed useful life ranging between 20 and 80 years depending on the type of asset. The asset replacement values are based on recent benchmark costs. The source of the information is the Township's TCA schedule.



Overall, \$954,000 (35%) of marine assets are overdue by virtue of their design life. As the condition analysis for this category is based on the relative age of each asset, the conditions closely link to the remaining useful life graph. All of the township's marine assets are in Poor or Very Poor condition noting that although the infrastructure's age would suggest a poorer condition, the assets continue to be in good working condition.

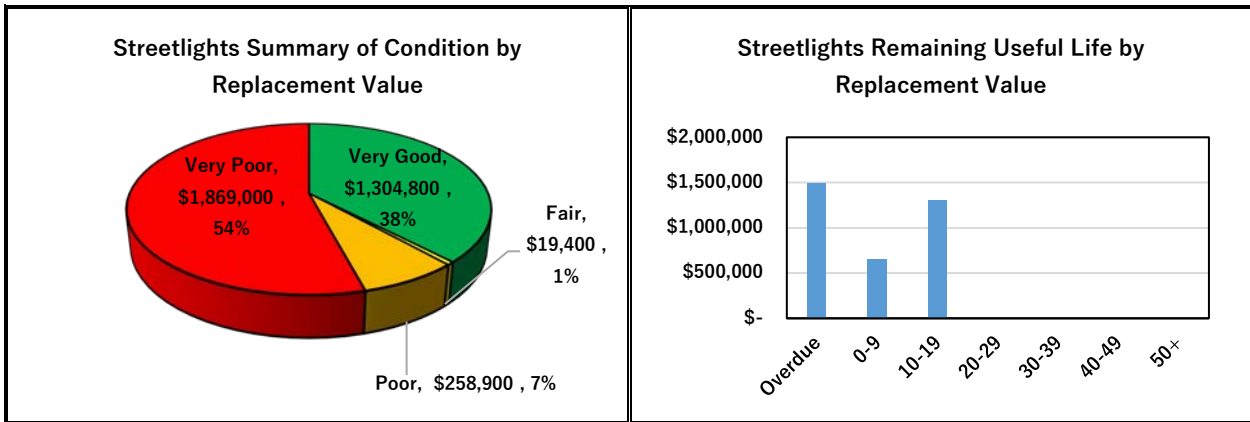
Data Confidence and Reliability: Level 4 (Reliable)  
 Dataset is complete and estimated to be accurate +/- 10%.

# B.7 Street Lights

Fair

Summary of Inventory				
Service Area	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
Street Light	Pooled	\$3,452,100	Inflation	20
<b>Total</b>		<b>\$3,452,100</b>		

The Township maintains pooled units of street lights with a total replacement value of \$3.5 million. The street lights assets have an assumed useful life ranging between 20. The asset replacement values have largely been derived by adjusting the original acquisition cost by inflation. The source of the information is the Township's TCA schedule.



Overall, \$1.5 million (43%) of street light assets are considered to be overdue by virtue of their design life. As the condition analysis for this category is based on the relative age of each asset, the conditions closely link to the remaining useful life graph. Overall, the Township maintains \$1.3 million (38%) of the street light assets in Very Good condition. About \$2.1 million (61%) of street light assets are in Poor or Very Poor condition. The streetlights in very poor condition were acquired in 2006 or earlier noting how the age of the asset is the main driver of the condition in which it has been categorized. The remainder of the assets \$19,400 (1%) are maintained in Fair condition.

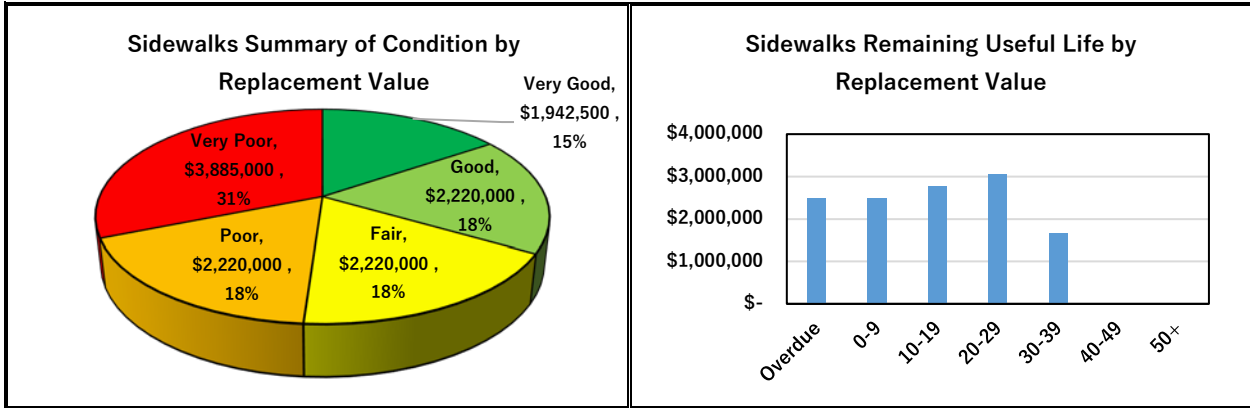
Data Confidence and Reliability: Level 3 (Uncertain)  
 Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%.

# B.8 Sidewalks

Fair

Summary of Inventory				
Asset Type	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
Sidewalk	Pooled	\$12,487,500	Inflation	40
<b>Total</b>		<b>\$12,487,500</b>		

The Township maintains pooled units of sidewalk assets with a total replacement value of \$12.5 million. The sidewalk assets have an assumed useful life of 40 years. The asset replacement values are from the original acquisition cost adjusted for inflation with the source of the information being the Township’s TCA schedule.



Overall, \$2.5 million (20%) of sidewalk assets are considered to be overdue by virtue of their design life. As the condition analysis for this category is mostly based on the relative age of each asset, the conditions closely link to the remaining useful life graph. Overall, the Township maintains \$4.2 million (33%) of sidewalk assets in Good to Very Good condition. Around \$6.1 million (49%) sidewalk assets are in Poor or Very Poor condition. The sidewalks that are generally in poorer condition where constructed in the 1990s noting that some sidewalks have been updated to Very Good condition as the Township has undertaken additional investment in sidewalks in recent years. The remainder of the assets, \$2.2 million (18%), are maintained in Fair condition.

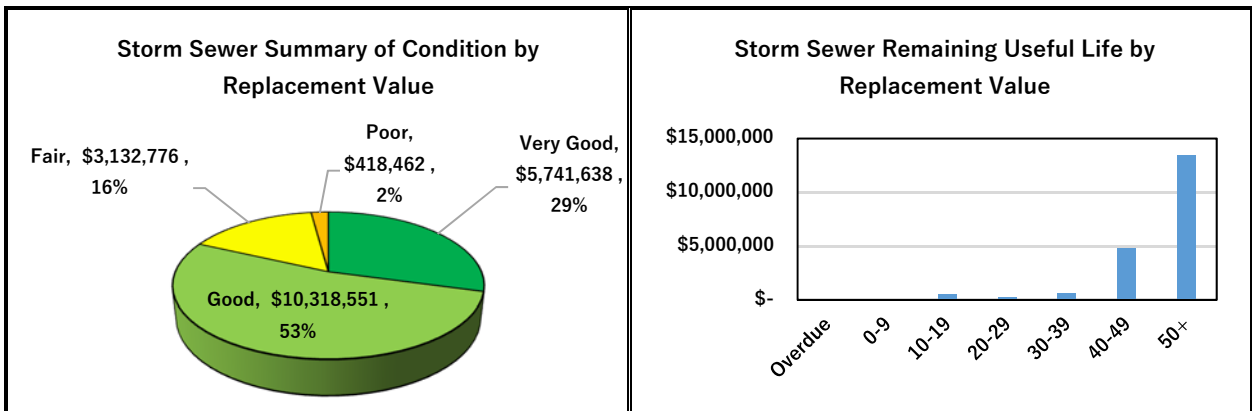
Data Confidence and Reliability: Level 3 (Uncertain)  
 Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%.

# B.9 Storm Sewer System

**Good**

Summary of Inventory				
Asset Type	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
Linear Storm System	Pooled	\$ 13,858,673	Inflation	75
SWM Pond	10	\$5,752,754	Recent Costing	30-75
<b>Total</b>		<b>\$19,611,427</b>		

The Township maintains linear storm system and storm water management pond assets with a replacement cost of \$19.6 million. The assets have an assumed useful life ranging between 30 and 75 years. The asset replacement values have largely been derived by adjusting the original acquisition cost by inflation for linear but based on costing from the Township's condition assessment reports for ponds.



None of the storm sewer system assets are overdue by virtue of their design life. Overall, the Township maintains \$16.1 million (82%) of storm sewer system assets in Good to Very Good condition. About \$418,500 (2%) are in Poor condition. The remainder of the assets \$3.1 million (16%) are maintained in Fair condition. The relatively long useful life of the linear storm sewer assets means that most of the infrastructure will continue to remain in the Good to Very Good category over the coming years. For ponds, the Township's engineering reports indicate that the ponds are generally in Good condition.

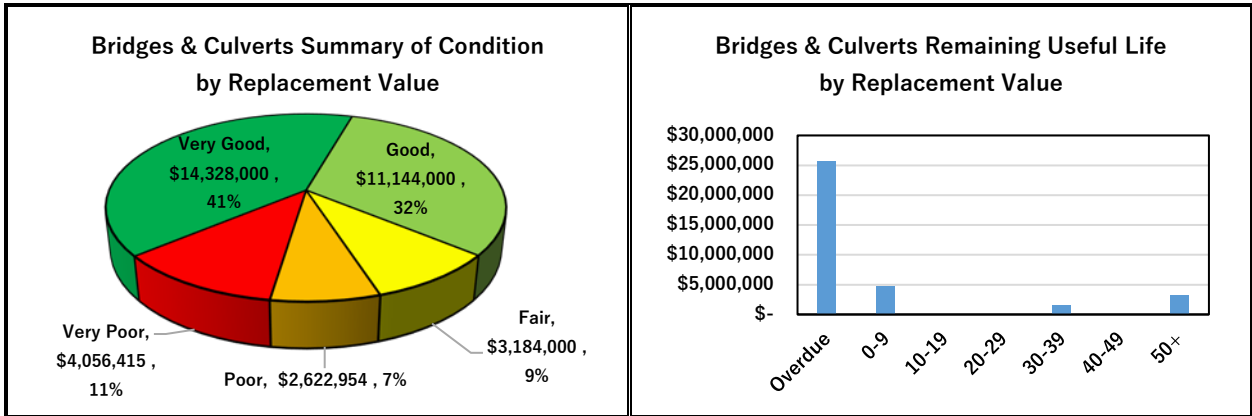
Data Confidence and Reliability: Level 3 (Uncertain)  
 Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated +/- 25%.

# B.10 Bridges and Culverts

**Good**

Summary of Inventory				
Asset Type	Quantity	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
Bridge	16	\$23,455,832	Recent Costing	50-75
Culvert	8	\$11,879,536	Recent Costing	40
<b>Total</b>		<b>\$35,335,368</b>		

The Township maintains 16 bridges and 8 culverts with a total replacement value of \$35.3 million. The bridges and culverts assets have an assumed useful life ranging from 40 to 75 years. The asset replacement values are from recent costing. The source of the information is the Townships OSIM Inventory and Inspection Report.



Overall, \$25.8 million (73%) of bridges and culvert assets are considered to be overdue by virtue of their design life. The conditions are based on Townships OSIM Inventory and Inspection Report. Overall, the Township maintains \$25.4 million (73%) of bridges and culverts in Good to Very Good condition. About \$6.7 million (18%) of bridges and culverts are in Poor or Very Poor condition. The remainder of the assets \$3.1 million (9%) are maintained in Fair condition. The conditions were derived from the BCI values determined through the OSIM reports where bridges had an average BCI of 70.5 and culverts had an average BCI of 71.4.

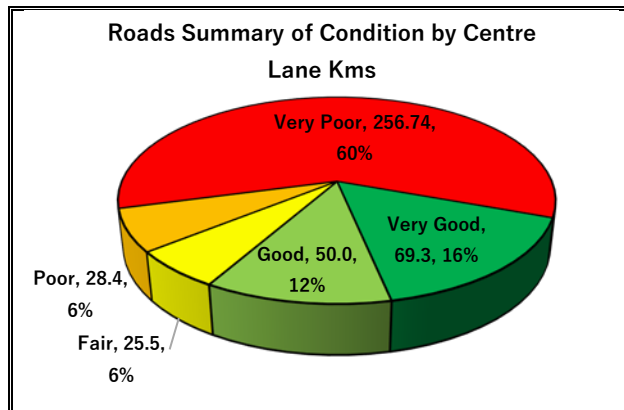
Data Confidence and Reliability: Level 4 (Reliable)  
 Dataset is complete and estimated to be accurate +/- 10%.

# B.11 Roads

Poor

Summary of Inventory				
Functional Classification	Centre Line Km	Replacement Cost 2022	Replacement Cost Method	Useful Life (Years)
100	28.5	\$17,994,000	2019 Roads AMP	30
200	132.3	\$84,692,000	2019 Roads AMP	30
300	67.4	\$50,647,000	2019 Roads AMP	30
400	61.1	\$61,505,000	2019 Roads AMP	30
500	23.3	\$25,667,000	2019 Roads AMP	30
C/R	8.1	\$14,484,000	2019 Roads AMP	30
CCI	1.1	\$2,777,000	2019 Roads AMP	30
L/R	104.5	\$121,169,000	2019 Roads AMP	30
LCI	4.8	\$6,792,000	2019 Roads AMP	30
Total	431.0	\$385,727,000		

The Township maintains 431.0 Centre line Km of roads with a replacement value of \$385.7 million. The roads have an assumed useful life of 30 years. The asset replacement values have largely been derived by adjusting the replacements costs in the Township’s 2019 Roads AMP for inflation to 2022 dollars. The 2019 Roads AMP is the main source of information in this report on roads in the Township with some supplementary information provided as part of the 2022 update.



Overall, the Township maintains 119.3 centre line km (28%) of roads in Good to Very Good condition. About 285.1 centre line km (66%) of roads are in Poor or Very Poor condition. The remainder of the roads, 25.5 CL km (6%), are maintained in Fair condition. It is noted that the pavement condition index (PCI) for paved roads based on the 2019 AMP supplemented with information from Township staff from the 2022 update has been used to report on the roads. Therefore, based on the level of service analysis paved roads have an average PCI of 44.02 while gravel roads have an average PCI of 33.01. Although this represents a slight decrease from the 2019 Roads AMP it is noted that the roads PCI decline has begun to slow due in part to continued investment in road infrastructure by the Township. It is expected that continues investment will result in an increase of the PCI in the coming years.

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

# APPENDIX C

## ASSET MANAGEMENT STRATEGY



# APPENDIX C – ASSET MANAGEMENT STRATEGY

Table 1 Lifecycle Actions: Roads	
Areas	Lifecycle Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> <li>▪ Adjust service levels if necessary</li> <li>▪ Regularly scheduling of repair work orders</li> <li>▪ Annually provide the necessary departments with related information when new and additional assets are constructed, repaired or replaced</li> <li>▪ Continue to conduct road inspections and maintain an up-to-date database (i.e. Inventory of roads in Scugog)</li> <li>▪ Continue to utilize electronic management tools (exp. Use Winter Event response/tracking app, MTO/Durham Road Weather Information System, etc)</li> <li>▪ Regular updates to the Roads AMP to monitor road conditions over time</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>▪ Continued maintenance of roads in line with O. Reg. 239/02 Minimum Maintenance Standards for Municipal Highways and Township policy</li> <li>▪ Maintenance of gravel roads through dust control grading</li> </ul>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>▪ Prioritizing resurfacing, rehabilitation, and preservation projects over replacement</li> <li>▪ Regular grading and application of gravel for gravel roads</li> <li>▪ Implementation of works recommended through Roads AMP</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>▪ Road reconstruction based on condition assessments</li> <li>▪ Sufficient capital budgeting for road replacement at the end of a road's design life</li> <li>▪ Conversion of gravel roads into paved roads for greater efficiency and user satisfaction based on recommendations from Roads AMP (long-term objective)</li> </ul>
Disposal	<ul style="list-style-type: none"> <li>▪ Dispose or sell assets that are no longer in use or are in poor condition</li> </ul>
Expansion	<ul style="list-style-type: none"> <li>▪ Identify needs through regular capital planning. Ensure assumed roads are tracked through the asset management plan and roads asset management plan</li> <li>▪ Continue to fund road capital project through development charges</li> <li>▪ Service improvements made where possible (new technologies, environmental impacts, etc.)</li> <li>▪ Investment scheduling so the Township appropriately times expansion needs</li> </ul>

**Sources:** 2019 Development Charge Background Study, 2019 State of the Infrastructure, and Asset Management Plan for Roads, Road Maintenance Modernization Review and Township website at Scugog.ca.

**Table 2  
Planned Actions: Bridges & Culverts**

Areas	Planned Actions
Non-Infrastructure Solutions	<ul style="list-style-type: none"> <li>• Operating budgets should be informed by regular inspections as needed</li> <li>• Adjust service levels if necessary</li> <li>• Regularly scheduling of repair work orders</li> <li>• Annually provide the necessary departments with related information when works are completed</li> <li>• Update OSIM Inspections Report in line with Provincial legislation (every 2 years)</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>• Regular inspections and repairs of all culverts</li> <li>• Continued maintenance of roads in line with <i>O. Reg. 239/02 Minimum Maintenance Standards for Municipal Highways</i> as it relates to Township bridges and culverts</li> <li>• Regular bridge deck cleaning (debris removal), scaling loose concrete and ACR steel, guide rail maintenance, repair of potholes and patches, routing and sealing of asphalt wearing surfaces, watercourse debris removal, erosion control, Installing, repairing, and replacing signage</li> </ul>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>• Regular component repairs based on inspections</li> <li>• Continue to implement recommendations of OSIM Inspections Report</li> <li>• Repair structural concrete/wood/steel</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>• Component replacement based on needs</li> <li>• Undertake capital bridge programs recommended in OSIM reports</li> </ul>
Disposal	<ul style="list-style-type: none"> <li>• Dispose or sell assets that are no longer in use or are in poor condition</li> </ul>
Expansion	<ul style="list-style-type: none"> <li>• Identify needs through regular capital planning</li> <li>• Service improvements made where possible (new technologies, environmental impacts, etc.)</li> </ul>

<b>Table 3</b>	
<b>Planned Actions: Other Asset Categories</b>	
<b>Areas</b>	<b>Planned Actions</b>
Non-Infrastructure Solutions	<ul style="list-style-type: none"> <li>▪ Regularly scheduling of repair work orders</li> <li>▪ Operating budgets should be informed by regular inspections as needed</li> <li>▪ Adjust service levels if necessary</li> <li>▪ Annually provide the necessary departments with related information when new and additional assets are acquired</li> <li>▪ Training for staff to ensure safe and efficient operation of assets</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>▪ Preventative maintenance program for all Township assets</li> <li>▪ Regular inspection of all Township assets</li> <li>▪ Regular safety inspections of assets before and after use to ensure safety standards are maintained (for applicable assets such as vehicles and equipment)</li> </ul>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>▪ Regular component repairs based on inspections.</li> <li>▪ Mid-life component replacements are usually common for higher value assets or larger equipment and can be scheduled accordingly (engine/transmission rebuilds for example).</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>▪ Asset replacement based on inspections.</li> <li>▪ Asset replacement forecast reviewed annually.</li> </ul>
Disposal	<ul style="list-style-type: none"> <li>▪ Dispose or sell assets that are no longer in use or are in poor condition.</li> </ul>
Expansion	<ul style="list-style-type: none"> <li>▪ Identify needs through regular capital planning.</li> <li>▪ Service improvements made where possible (new technologies, environmental impacts, etc.).</li> </ul>

# APPENDIX D

## DETAILED FINANCING STRATEGY TABLES

**Table 1**  
**Township of Scugog**  
**2022 Asset Management Plan**  
**Financing Strategy 1: Continue Capital Contributions in-line with Recent Budgets (4% Increase)**

Legend	1. Lifecycle Costs					2. Forecast of Revenues							3. Funding Gap Calculation		
	Year	Non-Infrastructure Solutions	Operations & Maintenance	Capital Renewal/Replacement and Disposal	Expansion Activities (Annual Provision for Replacement)	Total Lifecycle Costs	O&M from Taxation	Capital from Taxation (Including Transfers)	Yearly Increase in Tax Funding (\$)	Canada Community Building Fund CCBF (formerly Gas Tax)	Other Grants (Solar Funds and OCIF)	OLG	Existing Reserves (for Capital)	Total Funding	Annual Funding Gap
2022	\$ -	\$ 4,745,800	\$ 36,030,312	\$ -	\$ 40,776,112	\$ 4,745,800	\$ 3,018,700		\$ 685,587	\$ 477,227	\$ 890,000	\$ 8,854,748	\$ 18,672,062	\$ 22,104,050	\$ 22,104,050
2023	\$ 50,000	\$ 4,771,048	\$ 35,880,331	\$ 61,095	\$ 40,762,474	\$ 4,771,048	\$ 3,642,876	\$ 624,176	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 10,496,546	\$ 30,265,928	\$ 52,369,978
2024	\$ 50,000	\$ 4,796,296	\$ 34,449,737	\$ 122,190	\$ 39,418,223	\$ 4,796,296	\$ 4,267,052	\$ 624,176	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 11,145,970	\$ 28,272,254	\$ 80,642,232
2025	\$ 50,000	\$ 4,821,544	\$ 31,374,367	\$ 183,285	\$ 36,429,196	\$ 4,821,544	\$ 4,891,228	\$ 624,176	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 11,795,394	\$ 24,633,803	\$ 105,276,035
2026	\$ 50,000	\$ 4,846,792	\$ 28,459,124	\$ 244,380	\$ 33,600,296	\$ 4,846,792	\$ 5,515,404	\$ 624,176	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 12,444,818	\$ 21,155,478	\$ 126,431,513
2027	\$ 50,000	\$ 4,872,040	\$ 28,285,604	\$ 305,475	\$ 33,513,119	\$ 4,872,040	\$ 6,139,580	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 12,667,015	\$ 20,846,104	\$ 147,277,617
2028	\$ 50,000	\$ 4,897,288	\$ 26,975,351	\$ 366,570	\$ 32,289,209	\$ 4,897,288	\$ 6,763,756	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 13,316,439	\$ 18,972,770	\$ 166,250,387
2029	\$ 50,000	\$ 4,922,536	\$ 26,504,468	\$ 427,665	\$ 31,904,669	\$ 4,922,536	\$ 7,387,932	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 13,965,863	\$ 17,938,806	\$ 184,189,194
2030	\$ 50,000	\$ 4,947,784	\$ 26,490,000	\$ 488,760	\$ 31,976,544	\$ 4,947,784	\$ 8,012,108	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 14,615,287	\$ 17,361,257	\$ 201,550,451
2031	\$ 50,000	\$ 4,973,032	\$ 25,578,421	\$ 549,855	\$ 31,151,308	\$ 4,973,032	\$ 8,636,284	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 15,264,711	\$ 15,886,597	\$ 217,437,048
2032	\$ 50,000	\$ 4,998,280	\$ 13,097,333	\$ 610,950	\$ 18,756,563	\$ 4,998,280	\$ 9,260,460	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 15,914,135	\$ 2,842,428	\$ 220,279,476
2033	\$ 50,000	\$ 5,023,528	\$ 12,798,107	\$ 672,045	\$ 18,543,680	\$ 5,023,528	\$ 9,884,636	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 16,563,559	\$ 1,980,121	\$ 222,259,596
2034	\$ 50,000	\$ 5,048,776	\$ 12,798,107	\$ 733,140	\$ 18,630,023	\$ 5,048,776	\$ 10,508,812	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 17,212,983	\$ 1,417,040	\$ 223,676,636
2035	\$ 50,000	\$ 5,074,024	\$ 12,692,916	\$ 794,235	\$ 18,611,175	\$ 5,074,024	\$ 11,132,988	\$ 624,176	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 17,862,407	\$ 748,768	\$ 224,425,404
2036	\$ 50,000	\$ 5,099,272	\$ 11,692,262	\$ 855,330	\$ 18,696,864	\$ 5,099,272	\$ 11,757,164	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 18,461,831	\$ 235,033	\$ 224,660,437
2037	\$ 50,000	\$ 5,124,520	\$ 12,843,462	\$ 916,425	\$ 18,934,407	\$ 5,124,520	\$ 12,381,340	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 19,111,255	\$ (176,848)	\$ 224,483,589
2038	\$ 50,000	\$ 5,149,768	\$ 12,734,788	\$ 977,520	\$ 18,912,076	\$ 5,149,768	\$ 13,005,516	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 19,760,679	\$ (848,603)	\$ 223,634,986
2039	\$ 50,000	\$ 5,175,016	\$ 12,620,849	\$ 1,038,615	\$ 18,884,480	\$ 5,175,016	\$ 13,629,692	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 20,410,103	\$ (1,525,623)	\$ 222,109,363
2040	\$ 50,000	\$ 5,200,264	\$ 12,620,849	\$ 1,099,710	\$ 18,970,823	\$ 5,200,264	\$ 14,253,868	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 21,059,527	\$ (2,088,704)	\$ 220,020,658
2041	\$ 50,000	\$ 5,225,512	\$ 12,497,756	\$ 1,160,805	\$ 18,934,073	\$ 5,225,512	\$ 14,878,044	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 21,708,951	\$ (2,774,878)	\$ 217,245,780
2042	\$ 50,000	\$ 5,250,760	\$ 12,482,412	\$ 1,221,900	\$ 19,005,072	\$ 5,250,760	\$ 15,502,220	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 22,358,375	\$ (3,353,303)	\$ 213,892,477
2043	\$ 50,000	\$ 5,276,008	\$ 12,467,753	\$ 1,282,995	\$ 19,076,756	\$ 5,276,008	\$ 16,126,396	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 23,007,799	\$ (3,931,043)	\$ 209,961,434
2044	\$ 50,000	\$ 5,301,256	\$ 12,467,753	\$ 1,344,090	\$ 19,163,099	\$ 5,301,256	\$ 16,750,572	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 23,657,223	\$ (4,494,124)	\$ 205,467,311
2045	\$ 50,000	\$ 5,326,504	\$ 12,467,753	\$ 1,405,185	\$ 19,249,442	\$ 5,326,504	\$ 17,374,748	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 24,306,647	\$ (5,057,205)	\$ 200,410,106
2046	\$ 50,000	\$ 5,351,752	\$ 12,467,753	\$ 1,466,280	\$ 19,335,785	\$ 5,351,752	\$ 17,998,924	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 24,956,071	\$ (5,620,286)	\$ 194,789,821
2047	\$ 50,000	\$ 5,377,000	\$ 12,403,204	\$ 1,527,375	\$ 19,357,579	\$ 5,377,000	\$ 18,623,100	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 25,605,495	\$ (6,247,916)	\$ 188,541,905
2048	\$ 50,000	\$ 5,402,248	\$ 12,403,572	\$ 1,588,470	\$ 19,444,290	\$ 5,402,248	\$ 19,247,276	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 26,254,919	\$ (6,810,629)	\$ 181,731,276
2049	\$ 50,000	\$ 5,427,496	\$ 12,349,509	\$ 1,649,565	\$ 19,476,570	\$ 5,427,496	\$ 19,871,452	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 26,904,343	\$ (7,427,773)	\$ 174,303,503
2050	\$ 50,000	\$ 5,452,744	\$ 12,094,702	\$ 1,710,660	\$ 19,308,106	\$ 5,452,744	\$ 20,495,628	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 27,553,767	\$ (8,245,661)	\$ 166,057,842
2051	\$ 50,000	\$ 5,477,992	\$ 12,094,702	\$ 1,771,755	\$ 19,344,449	\$ 5,477,992	\$ 21,119,804	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 28,203,191	\$ (8,808,742)	\$ 157,249,100
2052	\$ 50,000	\$ 5,503,240	\$ 12,089,076	\$ 1,832,850	\$ 19,475,166	\$ 5,503,240	\$ 21,743,980	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 28,852,615	\$ (9,377,449)	\$ 147,871,650
2053	\$ 50,000	\$ 5,528,488	\$ 12,089,249	\$ 1,893,945	\$ 19,561,682	\$ 5,528,488	\$ 22,368,156	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 29,502,039	\$ (9,940,357)	\$ 137,931,293
2054	\$ 50,000	\$ 5,553,736	\$ 12,089,249	\$ 1,955,040	\$ 19,648,025	\$ 5,553,736	\$ 22,992,332	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 30,151,463	\$ (10,503,438)	\$ 127,427,855
2055	\$ 50,000	\$ 5,578,984	\$ 12,075,164	\$ 2,016,135	\$ 19,720,283	\$ 5,578,984	\$ 23,616,508	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 30,800,887	\$ (11,080,604)	\$ 116,347,251
2056	\$ 50,000	\$ 5,604,232	\$ 12,075,164	\$ 2,077,230	\$ 19,806,626	\$ 5,604,232	\$ 24,240,684	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 31,450,311	\$ (11,643,685)	\$ 104,703,565
2057	\$ 50,000	\$ 5,629,480	\$ 12,075,164	\$ 2,138,325	\$ 19,892,969	\$ 5,629,480	\$ 24,864,860	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 32,099,735	\$ (12,206,766)	\$ 92,496,799
2058	\$ 50,000	\$ 5,654,728	\$ 12,075,164	\$ 2,199,420	\$ 19,979,312	\$ 5,654,728	\$ 25,489,036	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 32,749,159	\$ (12,769,847)	\$ 79,726,951
2059	\$ 50,000	\$ 5,679,976	\$ 12,053,117	\$ 2,260,515	\$ 20,043,608	\$ 5,679,976	\$ 26,113,212	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 33,398,583	\$ (13,354,975)	\$ 66,371,976
2060	\$ 50,000	\$ 5,705,224	\$ 12,053,117	\$ 2,321,610	\$ 20,129,951	\$ 5,705,224	\$ 26,737,388	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 34,048,007	\$ (13,918,056)	\$ 52,453,920
2061	\$ 50,000	\$ 5,730,472	\$ 11,960,834	\$ 2,382,705	\$ 20,124,011	\$ 5,730,472	\$ 27,361,564	\$ 624,176	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 34,697,431	\$ (14,573,420)	\$ 37,880,500
<b>Total</b>	<b>\$ 1,950,000</b>	<b>\$ 209,525,440</b>	<b>\$ 671,758,554</b>	<b>\$ 47,654,100</b>	<b>\$ 930,888,094</b>	<b>\$ 209,525,440</b>	<b>\$ 607,605,280</b>	<b>\$ -</b>	<b>\$ 28,585,992</b>	<b>\$ 2,836,133</b>	<b>\$ 35,600,000</b>	<b>\$ 8,854,748</b>	<b>\$ 893,007,593</b>	<b>\$ -</b>	<b>\$ -</b>

Annual Increase	\$ 624,176
2022 Total Tax Levy	\$ 15,604,400
Inc. as % of Tax Levy	4.00%



**Table 2**  
**Township of Scugog**  
**2022 Asset Management Plan**  
**Financing Strategy 2: Close In-Year Funding Gap by 2051**

Legend	1. Lifecycle Costs					2. Forecast of Revenues							3. Funding Gap Calculation			
	Year	Non-Infrastructure Solutions	Operations & Maintenance	Capital Renewal/ Replacement and Disposal	Expansion Activities (Annual Provision for Replacement)	Total Lifecycle Costs	O&M from Taxation	Capital from Taxation (Including Transfers)	Yearly Increase in Tax Funding (\$)	Canada Community Building Fund CCBF (formerly Gas Tax)	Other Grants (Solar Funds and OCIF)	OLG	Existing Reserves (for Capital)	Total Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2022	\$	-	\$ 4,745,800	\$ 36,030,312	\$ -	\$ 40,776,112	\$ 4,745,800	\$ 3,018,700	\$	\$ 685,587	\$ 477,227	\$ 890,000	\$ 8,854,748	\$ 18,672,062	\$ 22,104,050	\$ 22,104,050
2023	\$	50,000	\$ 4,771,048	\$ 35,880,331	\$ 61,095	\$ 40,762,474	\$ 4,771,048	\$ 3,339,126	\$ 320,426	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 10,192,796	\$ 30,569,678	\$ 52,673,728
2024	\$	50,000	\$ 4,796,296	\$ 34,449,737	\$ 122,190	\$ 39,418,223	\$ 4,796,296	\$ 3,659,553	\$ 320,426	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 10,538,470	\$ 28,879,753	\$ 81,553,481
2025	\$	50,000	\$ 4,821,544	\$ 31,374,367	\$ 183,285	\$ 36,429,196	\$ 4,821,544	\$ 3,979,979	\$ 320,426	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 10,884,144	\$ 25,545,052	\$ 107,098,533
2026	\$	50,000	\$ 4,846,792	\$ 28,459,124	\$ 244,380	\$ 33,600,296	\$ 4,846,792	\$ 4,300,405	\$ 320,426	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 11,229,819	\$ 22,370,477	\$ 129,469,011
2027	\$	50,000	\$ 4,872,040	\$ 28,285,604	\$ 305,475	\$ 33,513,119	\$ 4,872,040	\$ 4,620,831	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 11,148,266	\$ 22,364,853	\$ 151,833,864
2028	\$	50,000	\$ 4,897,288	\$ 26,975,351	\$ 366,570	\$ 32,289,209	\$ 4,897,288	\$ 4,941,258	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 11,493,941	\$ 20,795,268	\$ 172,629,132
2029	\$	50,000	\$ 4,922,536	\$ 26,504,468	\$ 427,665	\$ 31,904,669	\$ 4,922,536	\$ 5,261,684	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 11,839,615	\$ 20,065,054	\$ 192,694,186
2030	\$	50,000	\$ 4,947,784	\$ 26,490,000	\$ 488,760	\$ 31,976,544	\$ 4,947,784	\$ 5,582,110	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 12,185,289	\$ 19,791,255	\$ 212,485,441
2031	\$	50,000	\$ 4,973,032	\$ 25,578,421	\$ 549,855	\$ 31,151,308	\$ 4,973,032	\$ 5,902,536	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 12,530,963	\$ 18,620,345	\$ 231,105,786
2032	\$	50,000	\$ 4,998,280	\$ 13,097,333	\$ 610,950	\$ 18,756,563	\$ 4,998,280	\$ 6,222,963	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 12,876,638	\$ 5,879,925	\$ 236,985,711
2033	\$	50,000	\$ 5,023,528	\$ 12,798,107	\$ 672,045	\$ 18,543,680	\$ 5,023,528	\$ 6,543,389	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 13,222,312	\$ 5,321,368	\$ 242,307,079
2034	\$	50,000	\$ 5,048,776	\$ 12,798,107	\$ 733,140	\$ 18,630,023	\$ 5,048,776	\$ 6,863,815	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 13,567,986	\$ 5,062,036	\$ 247,369,115
2035	\$	50,000	\$ 5,074,024	\$ 12,692,916	\$ 794,235	\$ 18,611,175	\$ 5,074,024	\$ 7,184,241	\$ 320,426	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 13,913,660	\$ 4,697,515	\$ 252,066,630
2036	\$	50,000	\$ 5,099,272	\$ 12,692,262	\$ 855,330	\$ 18,696,864	\$ 5,099,272	\$ 7,504,668	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 14,209,335	\$ 4,487,529	\$ 256,554,160
2037	\$	50,000	\$ 5,124,520	\$ 12,843,462	\$ 916,425	\$ 18,934,407	\$ 5,124,520	\$ 7,825,094	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 14,555,009	\$ 4,379,398	\$ 260,933,557
2038	\$	50,000	\$ 5,149,768	\$ 12,734,788	\$ 977,520	\$ 18,912,076	\$ 5,149,768	\$ 8,145,520	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 14,900,683	\$ 4,011,393	\$ 264,944,950
2039	\$	50,000	\$ 5,175,016	\$ 12,620,849	\$ 1,038,615	\$ 18,884,480	\$ 5,175,016	\$ 8,465,946	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 15,246,357	\$ 3,638,122	\$ 268,583,072
2040	\$	50,000	\$ 5,200,264	\$ 12,620,849	\$ 1,099,710	\$ 18,970,823	\$ 5,200,264	\$ 8,786,373	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 15,592,032	\$ 3,378,791	\$ 271,961,863
2041	\$	50,000	\$ 5,225,512	\$ 12,497,756	\$ 1,160,805	\$ 18,934,073	\$ 5,225,512	\$ 9,106,799	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 15,937,706	\$ 2,996,367	\$ 274,958,230
2042	\$	50,000	\$ 5,250,760	\$ 12,482,412	\$ 1,221,900	\$ 19,005,072	\$ 5,250,760	\$ 9,427,225	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 16,283,380	\$ 2,721,692	\$ 277,679,922
2043	\$	50,000	\$ 5,276,008	\$ 12,467,753	\$ 1,282,995	\$ 19,076,756	\$ 5,276,008	\$ 9,747,652	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 16,629,055	\$ 2,447,702	\$ 280,127,624
2044	\$	50,000	\$ 5,301,256	\$ 12,467,753	\$ 1,344,090	\$ 19,163,099	\$ 5,301,256	\$ 10,068,078	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 16,974,729	\$ 2,188,371	\$ 282,315,995
2045	\$	50,000	\$ 5,326,504	\$ 12,467,753	\$ 1,405,185	\$ 19,249,442	\$ 5,326,504	\$ 10,388,504	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 17,320,403	\$ 1,929,039	\$ 284,245,034
2046	\$	50,000	\$ 5,351,752	\$ 12,467,753	\$ 1,466,280	\$ 19,335,785	\$ 5,351,752	\$ 10,708,930	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 17,666,077	\$ 1,669,708	\$ 285,914,742
2047	\$	50,000	\$ 5,377,000	\$ 12,403,204	\$ 1,527,375	\$ 19,357,579	\$ 5,377,000	\$ 11,029,357	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 18,011,752	\$ 1,345,827	\$ 287,260,570
2048	\$	50,000	\$ 5,402,248	\$ 12,403,572	\$ 1,588,470	\$ 19,444,290	\$ 5,402,248	\$ 11,349,783	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 18,357,426	\$ 1,086,864	\$ 288,347,434
2049	\$	50,000	\$ 5,427,496	\$ 12,349,509	\$ 1,649,565	\$ 19,476,570	\$ 5,427,496	\$ 11,670,209	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 18,703,100	\$ 773,470	\$ 289,120,904
2050	\$	50,000	\$ 5,452,744	\$ 12,094,702	\$ 1,710,660	\$ 19,308,106	\$ 5,452,744	\$ 11,990,635	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 19,048,774	\$ 259,331	\$ 289,380,236
2051	\$	50,000	\$ 5,477,992	\$ 12,094,702	\$ 1,771,755	\$ 19,394,449	\$ 5,477,992	\$ 12,311,062	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 19,394,449	\$ -	\$ 289,380,236
2052	\$	50,000	\$ 5,503,240	\$ 12,089,076	\$ 1,832,850	\$ 19,475,166	\$ 5,503,240	\$ 12,631,488	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 19,740,123	\$ (264,957)	\$ 289,115,279
2053	\$	50,000	\$ 5,528,488	\$ 12,089,249	\$ 1,893,945	\$ 19,561,682	\$ 5,528,488	\$ 12,951,914	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 20,085,797	\$ (524,115)	\$ 288,591,163
2054	\$	50,000	\$ 5,553,736	\$ 12,089,249	\$ 1,955,040	\$ 19,648,025	\$ 5,553,736	\$ 13,272,340	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 20,431,471	\$ (783,447)	\$ 287,807,717
2055	\$	50,000	\$ 5,578,984	\$ 12,075,164	\$ 2,016,135	\$ 19,720,283	\$ 5,578,984	\$ 13,592,767	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 20,777,146	\$ (1,056,863)	\$ 286,750,854
2056	\$	50,000	\$ 5,604,232	\$ 12,075,164	\$ 2,077,230	\$ 19,806,626	\$ 5,604,232	\$ 13,913,193	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 21,122,820	\$ (1,316,194)	\$ 285,434,659
2057	\$	50,000	\$ 5,629,480	\$ 12,075,164	\$ 2,138,325	\$ 19,892,969	\$ 5,629,480	\$ 14,233,619	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 21,468,494	\$ (1,575,526)	\$ 283,859,134
2058	\$	50,000	\$ 5,654,728	\$ 12,075,164	\$ 2,199,420	\$ 19,979,312	\$ 5,654,728	\$ 14,554,045	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 21,814,168	\$ (1,834,857)	\$ 282,024,277
2059	\$	50,000	\$ 5,679,976	\$ 12,053,117	\$ 2,260,515	\$ 20,043,608	\$ 5,679,976	\$ 14,874,472	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 22,159,843	\$ (2,116,235)	\$ 279,908,042
2060	\$	50,000	\$ 5,705,224	\$ 12,053,117	\$ 2,321,610	\$ 20,129,951	\$ 5,705,224	\$ 15,194,898	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 22,505,517	\$ (2,375,566)	\$ 277,532,476
2061	\$	50,000	\$ 5,730,472	\$ 11,960,834	\$ 2,382,705	\$ 20,124,011	\$ 5,730,472	\$ 15,515,324	\$ 320,426	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 22,851,191	\$ (2,727,180)	\$ 274,805,296
<b>Total</b>	<b>\$</b>	<b>1,950,000</b>	<b>\$ 209,525,440</b>	<b>\$ 671,758,554</b>	<b>\$ 47,654,100</b>	<b>\$ 930,888,094</b>	<b>\$ 209,525,440</b>	<b>\$ 370,680,484</b>	<b>\$</b>	<b>\$ 28,585,992</b>	<b>\$ 2,836,133</b>	<b>\$ 35,600,000</b>	<b>\$ 8,854,748</b>	<b>\$ 656,082,798</b>		

Annual Increase	\$	320,426
2022 Total Tax Levy	\$	15,604,400
Inc. as % of Tax Levy		2.05%



**Table 3**  
**Township of Scugog**  
**2022 Asset Management Plan**  
**Financing Strategy 3: Maintain Existing Funding at Today's Levels**

Legend	1. Lifecycle Costs					2. Forecast of Revenues							3. Funding Gap Calculation			
	Year	Non-Infrastructure Solutions	Operations & Maintenance	Capital Renewal/Replacement and Disposal	Expansion Activities (Annual Provision for Replacement)	Total Lifecycle Costs	O&M from Taxation	Capital from Taxation (Including Transfers)	Yearly Increase in Tax Funding (\$)	Canada Community Building Fund CCBF (formerly Gas Tax)	Other Grants (Solar Funds and OCIF)	OLG	Existing Reserves (for Capital)	Total Funding	Annual Funding Gap	Cumulative Infrastructure Deficit
2022	\$	-	\$ 4,745,800	\$ 36,030,312	\$ -	\$ 40,776,112	\$ 4,745,800	\$ 3,018,700	\$	\$ 685,587	\$ 477,227	\$ 890,000	\$ 8,854,748	\$ 18,672,062	\$ 22,104,050	\$ 22,104,050
2023	\$	50,000	\$ 4,771,048	\$ 35,880,331	\$ 61,095	\$ 40,762,474	\$ 4,771,048	\$ 3,018,700	\$	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 9,872,370	\$ 30,890,104	\$ 52,994,154
2024	\$	50,000	\$ 4,796,296	\$ 34,449,737	\$ 122,190	\$ 39,418,223	\$ 4,796,296	\$ 3,018,700	\$ -	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 9,897,618	\$ 29,520,606	\$ 82,514,760
2025	\$	50,000	\$ 4,821,544	\$ 31,374,367	\$ 183,285	\$ 36,429,196	\$ 4,821,544	\$ 3,018,700	\$ -	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 9,922,866	\$ 26,506,331	\$ 109,021,091
2026	\$	50,000	\$ 4,846,792	\$ 28,459,124	\$ 244,380	\$ 33,600,296	\$ 4,846,792	\$ 3,018,700	\$ -	\$ 715,395	\$ 477,227	\$ 890,000	\$ -	\$ 9,948,114	\$ 23,652,182	\$ 132,673,273
2027	\$	50,000	\$ 4,872,040	\$ 28,285,604	\$ 305,475	\$ 33,513,119	\$ 4,872,040	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,546,135	\$ 23,966,984	\$ 156,640,257
2028	\$	50,000	\$ 4,897,288	\$ 26,975,351	\$ 366,570	\$ 32,289,209	\$ 4,897,288	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,571,383	\$ 22,717,826	\$ 179,358,083
2029	\$	50,000	\$ 4,922,536	\$ 26,504,468	\$ 427,665	\$ 31,904,669	\$ 4,922,536	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,596,631	\$ 22,308,038	\$ 201,666,122
2030	\$	50,000	\$ 4,947,784	\$ 26,490,000	\$ 488,760	\$ 31,976,544	\$ 4,947,784	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,621,879	\$ 22,354,665	\$ 224,020,787
2031	\$	50,000	\$ 4,973,032	\$ 25,578,421	\$ 549,855	\$ 31,151,308	\$ 4,973,032	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,647,127	\$ 21,504,181	\$ 245,524,968
2032	\$	50,000	\$ 4,998,280	\$ 13,097,333	\$ 610,950	\$ 18,756,563	\$ 4,998,280	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,672,375	\$ 9,084,188	\$ 254,609,156
2033	\$	50,000	\$ 5,023,528	\$ 12,798,107	\$ 672,045	\$ 18,543,680	\$ 5,023,528	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,697,623	\$ 8,846,057	\$ 263,455,212
2034	\$	50,000	\$ 5,048,776	\$ 12,798,107	\$ 733,140	\$ 18,630,023	\$ 5,048,776	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,722,871	\$ 8,907,152	\$ 272,362,364
2035	\$	50,000	\$ 5,074,024	\$ 12,692,916	\$ 794,235	\$ 18,611,175	\$ 5,074,024	\$ 3,018,700	\$ -	\$ 715,395	\$ 50,000	\$ 890,000	\$ -	\$ 9,748,119	\$ 8,863,056	\$ 281,225,420
2036	\$	50,000	\$ 5,099,272	\$ 12,692,262	\$ 855,330	\$ 18,696,864	\$ 5,099,272	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,773,367	\$ 8,973,497	\$ 290,198,917
2037	\$	50,000	\$ 5,124,520	\$ 12,843,462	\$ 916,425	\$ 18,934,407	\$ 5,124,520	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,748,615	\$ 9,185,792	\$ 299,384,709
2038	\$	50,000	\$ 5,149,768	\$ 12,734,788	\$ 977,520	\$ 18,912,076	\$ 5,149,768	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,773,863	\$ 9,138,213	\$ 308,522,922
2039	\$	50,000	\$ 5,175,016	\$ 12,620,849	\$ 1,038,615	\$ 18,884,480	\$ 5,175,016	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,799,111	\$ 9,085,369	\$ 317,608,291
2040	\$	50,000	\$ 5,200,264	\$ 12,620,849	\$ 1,099,710	\$ 18,970,823	\$ 5,200,264	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,824,359	\$ 9,146,464	\$ 326,754,754
2041	\$	50,000	\$ 5,225,512	\$ 12,497,756	\$ 1,160,805	\$ 18,934,073	\$ 5,225,512	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,849,607	\$ 9,084,466	\$ 335,839,220
2042	\$	50,000	\$ 5,250,760	\$ 12,482,412	\$ 1,221,900	\$ 19,005,072	\$ 5,250,760	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,874,855	\$ 9,130,217	\$ 344,969,437
2043	\$	50,000	\$ 5,276,008	\$ 12,467,753	\$ 1,282,995	\$ 19,076,756	\$ 5,276,008	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,900,103	\$ 9,176,653	\$ 354,146,090
2044	\$	50,000	\$ 5,301,256	\$ 12,467,753	\$ 1,344,090	\$ 19,163,099	\$ 5,301,256	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,925,351	\$ 9,237,748	\$ 363,383,839
2045	\$	50,000	\$ 5,326,504	\$ 12,467,753	\$ 1,405,185	\$ 19,249,442	\$ 5,326,504	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,950,599	\$ 9,298,843	\$ 372,682,682
2046	\$	50,000	\$ 5,351,752	\$ 12,467,753	\$ 1,466,280	\$ 19,335,785	\$ 5,351,752	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 9,975,847	\$ 9,359,938	\$ 382,042,621
2047	\$	50,000	\$ 5,377,000	\$ 12,403,204	\$ 1,527,375	\$ 19,357,579	\$ 5,377,000	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,001,095	\$ 9,356,484	\$ 391,399,105
2048	\$	50,000	\$ 5,402,248	\$ 12,403,572	\$ 1,588,470	\$ 19,444,290	\$ 5,402,248	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,026,343	\$ 9,417,947	\$ 400,817,052
2049	\$	50,000	\$ 5,427,496	\$ 12,349,509	\$ 1,649,565	\$ 19,476,570	\$ 5,427,496	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,051,591	\$ 9,424,979	\$ 410,242,031
2050	\$	50,000	\$ 5,452,744	\$ 12,094,702	\$ 1,710,660	\$ 19,308,106	\$ 5,452,744	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,076,839	\$ 9,231,267	\$ 419,473,298
2051	\$	50,000	\$ 5,477,992	\$ 12,094,702	\$ 1,771,755	\$ 19,394,449	\$ 5,477,992	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,102,087	\$ 9,292,362	\$ 428,765,660
2052	\$	50,000	\$ 5,503,240	\$ 12,089,076	\$ 1,832,850	\$ 19,475,166	\$ 5,503,240	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,127,335	\$ 9,347,831	\$ 438,113,490
2053	\$	50,000	\$ 5,528,488	\$ 12,089,249	\$ 1,893,945	\$ 19,561,682	\$ 5,528,488	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,152,583	\$ 9,409,099	\$ 447,522,589
2054	\$	50,000	\$ 5,553,736	\$ 12,089,249	\$ 1,955,040	\$ 19,648,025	\$ 5,553,736	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,177,831	\$ 9,470,194	\$ 456,992,783
2055	\$	50,000	\$ 5,578,984	\$ 12,075,164	\$ 2,016,135	\$ 19,720,283	\$ 5,578,984	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,203,079	\$ 9,517,204	\$ 466,509,987
2056	\$	50,000	\$ 5,604,232	\$ 12,075,164	\$ 2,077,230	\$ 19,806,626	\$ 5,604,232	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,228,327	\$ 9,578,299	\$ 476,088,285
2057	\$	50,000	\$ 5,629,480	\$ 12,075,164	\$ 2,138,325	\$ 19,892,969	\$ 5,629,480	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,253,575	\$ 9,639,394	\$ 485,727,679
2058	\$	50,000	\$ 5,654,728	\$ 12,075,164	\$ 2,199,420	\$ 19,979,312	\$ 5,654,728	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,278,823	\$ 9,700,489	\$ 495,428,167
2059	\$	50,000	\$ 5,679,976	\$ 12,053,117	\$ 2,260,515	\$ 20,043,608	\$ 5,679,976	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,304,071	\$ 9,739,537	\$ 505,167,704
2060	\$	50,000	\$ 5,705,224	\$ 12,053,117	\$ 2,321,610	\$ 20,129,951	\$ 5,705,224	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,329,319	\$ 9,800,632	\$ 514,968,336
2061	\$	50,000	\$ 5,730,472	\$ 11,960,834	\$ 2,382,705	\$ 20,124,011	\$ 5,730,472	\$ 3,018,700	\$ -	\$ 715,395	\$ -	\$ 890,000	\$ -	\$ 10,354,567	\$ 9,769,444	\$ 524,737,780
<b>Total</b>	<b>\$</b>	<b>1,950,000</b>	<b>\$ 209,525,440</b>	<b>\$ 671,758,554</b>	<b>\$ 47,654,100</b>	<b>\$ 930,888,094</b>	<b>\$ 209,525,440</b>	<b>\$ 120,748,000</b>	<b>\$</b>	<b>\$ 28,585,992</b>	<b>\$ 2,836,133</b>	<b>\$ 35,600,000</b>	<b>\$ 8,854,748</b>	<b>\$ 406,150,313</b>		

Annual Increase	\$	-
2022 Total Tax Levy	\$	15,604,400
Inc. as % of Tax Levy		0.00%

