

# ASSET MANAGEMENT PLAN

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# TABLE OF CONTENTS

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<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
A. STATE OF THE LOCAL INFRASTRUCTURE.....	1
B. LEVEL OF SERVICE .....	1
C. ASSET MANAGEMENT STRATEGY .....	2
D. FINANCING STRATEGY.....	2
E. KEY FINDINGS AND RECOMMENDATIONS .....	3
<b>I INTRODUCTION .....</b>	<b>7</b>
A. ASSET MANAGEMENT OVERVIEW .....	7
B. ASSETS INCLUDED IN THIS PLAN .....	8
C. NET BOOK VALUE VS. REPLACEMENT VALUE.....	8
D. ASSET MANAGEMENT INTERNAL NETWORK .....	10
E. PLAN MONITORING .....	11
F. TIMEFRAMES FOR REVIEW AND UPDATES.....	11
G. ASSET MANAGEMENT PLAN STRUCTURE.....	12
<b>II STATE OF LOCAL INFRASTRUCTURE.....</b>	<b>13</b>
A. CONDITION ASSESSMENTS AND UPDATES .....	13
B. STATE OF LOCAL INFRASTRUCTURE .....	15
C. TOWNSHIP OWNED LAND.....	26
<b>III LEVEL OF SERVICE.....</b>	<b>27</b>
A. LEVEL OF SERVICE OVERVIEW.....	27
B. COPORATE GOALS AND LEVELS OF SERVICE MEASURE .....	27
C. GAS TAX PROJECT OUTCOMES.....	30
<b>IV ASSET MANAGEMENT STRATEGY .....</b>	<b>32</b>
A. SET OF PLANNED ACTIONS .....	32
B. COST REDUCTION STRATEGIES.....	40
C. RISK MANAGEMENT .....	42
<b>V FINANCING STRATEGY .....</b>	<b>43</b>
A. OPERATING BUDGET EXPENDITURES .....	43
B. REPAIR AND REPLACEMENT SCHEDULE.....	44
C. CAPITAL PROVISION SCHEDULE .....	45
D. CURRENT INFRASTRUCTURE DEFICIT .....	47
E. FINANCING STRATEGY.....	47
F. AVAILABLE FUNDING TOOLS .....	53
G. FINANCING AND FINANCIAL MANAGEMENT PRACTICES.....	55
H. FUTURE DEMAND.....	56
<b>VI CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>58</b>
A. SUMMARY OF KEY FINDINGS .....	58
B. SUMMARY OF RECOMMENDATIONS.....	59

**APPENDIX A - FINANCING STRATEGY DETAILED TABLES**

**APPENDIX B – HIGH PRIORITY CAPITAL PROJECTS**

## **EXECUTIVE SUMMARY**

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The following summarizes the findings of the Township of Scugog Asset Management Plan (2016 Plan) as it relates to the remaining Township assets not completed under the 2013 Asset Management Plan (2013 Plan). However, the results of the 2013 Plan have been incorporated into the State of the Local Infrastructure and Financing Strategy summary pages to provide a complete overview. Infrastructure in Scugog for which the Region of Durham is responsible – Regional roads, social housing, water and wastewater services for example, is not included.

The 2016 Plan follows the format set out in the *Building Together: Guide for Municipal Asset Management Plans* document released by the Ontario Ministry of Infrastructure. The Plan was prepared to meet the requirements in the Township's Gas Tax Funding Agreement.

### **A. STATE OF THE LOCAL INFRASTRUCTURE**

- The Township's infrastructure has a total replacement value of \$422.2 million.
  - Roads, Bridges and Culverts represent the majority of Township infrastructure, amounting to \$320.4 million; and
  - The remaining tax supported assets represent \$101.8 million.
- The 2013 Asset Management Plan prepared for Township Roads, Bridges and Culverts identify about \$116.6 million in works which are recommended as "Now" needs.
- The remaining assets identified in the 2016 Plan identifies a high proportion (about 60% or \$60.8 million) of Township assets are considered to be in "Good" to "Very Good" condition. At the same time, about 27% (\$27.0 million) of infrastructure is considered to be in "Poor" to "Very Poor" condition.

### **B. LEVEL OF SERVICE**

- Current service levels in Scugog have been developed based on a combination of internal asset management practices, community expectations, statutory requirements, and industry operation and safety standards;

- The Township has in the past been responsive to infrastructure repair needs to address immediate environmental or health risks and to infrastructure needs for new development; and
- The Township measures the level of services it provides using a number of key performance indicators. Service levels have remained relatively constant and in some cases are anticipated to increase moving forward.

### C. ASSET MANAGEMENT STRATEGY

- The Township employs several actions to maintain assets in a state of good repair and to ensure that assets continue to be in service for their full life cycle, and in many cases, beyond the expected design life.
- The Township of Scugog currently has a corporate by-law for procurement. The Purchasing of Goods and Services by-law ensures openness, accountability and transparency of Township purchasing while protecting the financial best interest of the Township of Scugog.

### D. FINANCING STRATEGY

- The current 2016 infrastructure deficit for all tax supported assets is calculated to be about \$141.8 million. This represents the difference between the required in-year contributions to capital and the current contributions to capital for both the assets in this 2016 Plan and the tax supported core infrastructure assets included in the 2013 Plan.
- It is unrealistic in the current fiscal context to expect the Township to fully address the infrastructure deficit in the short-medium term;
- Three financing strategies were developed to determine what capital contributions would be required to meet asset replacement needs (Note: in any given year, actual capital expenditures may be greater or less than the noted capital contributions as reserves are assumed to accommodate variances between the contributions and actual expenditures);
  - Under the *first* strategy, in addition to current capital funding generated from the dedicated 1% infrastructure levy, the Township would increase these contributions, on average, by about \$390,000 per year. The annual provision requirement is met in 25 years (e.g. annual funding gap is closed by 2040) and the infrastructure deficit would be \$261.8 million for tax supported assets by 2055;

- Under the *second* strategy, in addition to current capital funding generated from the dedicated 1% infrastructure levy, the Township would increase these contributions, on average, by about \$173,000 per year. The annual provision requirement is met in 40 years (e.g. annual funding gap is closed by 2055) and the infrastructure deficit would be \$396.0 million for tax supported assets by 2055;
- Under the *third* strategy, no additional contribution to capital reserves are considered and existing practices are maintained. Under this approach, the infrastructure deficit would be \$486.5 million for tax supported assets in 2055.

## **E. KEY FINDINGS AND RECOMMENDATIONS**

The key report findings and asset management recommendations the Township should consider moving forward are identified below:

### **1. Key Findings**

- The Township's asset base is extensive, valued at \$422.2 million, in relation to the total population of about 22,000 persons.
- The 2013 Asset Management Plan prepared for Township Roads, Bridges and Culverts identify about \$116.6 million in works which are recommended as "Now" needs.
- The remaining assets identified in the 2016 plan identifies a high proportion (about 60% or \$60.8 million) of Township assets are considered to be in "Good" to "Very Good" condition. Although, about 27% (\$27.0 million) of infrastructure is considered to be in "Poor" to "Very Poor" condition
- The Township of Scugog has made considerable effort in recent years to address the infrastructure gap and improve the condition of assets:
  - Implementation of a dedicated 1% infrastructure levy to address overdue road and related infrastructure requirements;
  - Donations received from the Great Blue Heron Casino are directed to capital repair and replacement activities;
  - Through its annual capital budgeting process, the Township addresses critical issues and assets in need for repair or replacement; and
  - Overall, the Township have some reserves available to fund capital projects.

- The responsibility to maintain existing infrastructure is challenging, however, in addition to current capital funding generated from the dedicated 1% infrastructure levy, 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;
  - Explore and research the validity of implementing a stormwater user fee to fund the repair and replacement of stormwater pond and linear infrastructure; and
  - Explore alternative arrangements to provide services – public private partnerships or shared services.
- The Township is considered to be in good fiscal standing with strong budgetary performance and low debt – the Township’s total net debt charges of \$32,500 equates to less than 1% (out of 100%) of the total allowable annual repayment limit of \$4.0 million. This debt capacity could allow the Township to use debt to carry out emergency repairs or other strategic projects which typically provide a return on investment such as reduction in operating costs.
- The Township should continue to seek funding from the federal and provincial government (when available) to undertake capital related works.

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

- The Township should adopt multi-year capital budgets and forecasts for all services based on a minimum 10 year forecast horizon.
- 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;
  - timing and phasing;
  - funding sources;
  - growth-related components;
  - potential financing and debt servicing costs;
  - long-term costs, including operations, maintenance, and asset rehabilitation costs;
  - capacity to deliver; and
  - alternative service delivery and procurement options.

- A range of quantifiable service level targets that incorporate the quantity and quality of capital assets should be established for all services. Targets should be measured, reported on, and adjusted annually.
- Repair and replacement capital works should be prioritized based on asset condition ratings with assets overdue for replacement and/or identified as “Very Poor” and “Poor” for immediate attention.
  - Advanced capital prioritization processes include the use of a risk matrix to assist in determining annual capital spending.
- Infrastructure assets which have been provided a “Fair” condition rating should be targeted for maintenance to ensure they continue to perform at the expected level.
- The Township should, where possible coordinate the construction of new (growth-related) infrastructure with infrastructure repairs and replacement to achieve cost efficiencies.

### **3. Ensure Asset Inventories are Updated Regularly**

- The Township should establish an asset management internal network including individuals from Finance, Parks, Recreation & Culture, Public Works, Fire and Emergency Services. The internal network should be lead by a designated asset management champion.
- Sound asset management decisions are only possible if information in the asset registry is accurate. The Township’s designated asset management champion 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 update and refine the condition assessments for all assets considered under this plan;
- This Asset Management Plan should be updated at a minimum every 3-5 years.

### **4. 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. A number of municipalities in Ontario have had success in this regard by:
  - Regular and ongoing maintenance work;
  - Daily vehicle and equipment inspections; and

- Substituting retrofitting and rehabilitation work for (more costly) full replacement of an asset.
- The Township should explore opportunities to dispose under utilized infrastructure/facilities which may not warrant repair/replacement. For example, underutilized Township halls could be disposed; and
- Coordinate assets into specific hubs to create operating and capital repair/maintenance efficiencies where possible. Example: Sport fields into centralized areas (Port Perry downtown).



# I INTRODUCTION

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Building on the Township's 2013 Asset Management Plan for roads, bridges and culverts, this 2016 Plan covers non-engineering related assets of buildings, land improvements, vehicles and equipment, and marina facilities as well as engineered assets of stormwater, streetlights and sidewalks. The 2016 Plan follows the format set out by the Ministry of Infrastructure through the *Building Together: Guide for Municipal Asset Management Plans*. All figures reported in this 2016 Plan are in constant \$2016.

## 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:

- Can make informed and traceable decisions;
- Risks are managed where necessary and in advance so the Township has the opportunity to coordinate accordingly;
- Higher customer satisfaction;
- Documents 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 2016 Plan is to build on existing practices by identifying how best to manage Township infrastructure over the planning period to 2055. A strategy for maintaining infrastructure so that desired service levels are achieved is an important element. In this respect, the 2016 Plan has been prepared with reference to the Township's recently completed Strategic Plan, in particular relating to completion of an asset management plan and updating the Township's capital funding strategy. Ultimately, the Plan will provide Council with information that can guide sustainable infrastructure investment decisions.

## B. ASSETS INCLUDED IN THIS PLAN

The 2016 Plan addresses all non-engineering related assets the Township owns and operates, including; buildings, land improvements, vehicles and equipment and marina facilities as well as engineering related assets of stormwater infrastructure, streetlights and sidewalks. The 2016 Plan builds on the 2013 Asset Management Plan prepared for the Township which included all road, bridges and culverts. It should be noted that:

- Section II: State of the Local Infrastructure of this 2016 Plan summarizes the total value of all Township assets covered in both the 2016 Plan and the 2013 Plan.
- Section V: Financing Strategy of this 2016 Plan analyzes the funding requirements from a corporate-wide perspective, therefore, tax-supported road, bridge and culvert capital requirements identified in the 2013 Plan are included in this document.
- All other sections of this 2016 Plan refer only to the assets not included in the 2013 Plan.

The assets included in both the 2013 and 2016 Plan are consistent with the asset categories included in Schedule 51 of the Township's Financial Information Return. Together they meet the requirements in the Township's Gas Tax Funding Agreement. Table 1 summarizes the assets included in both Plans.

<b>Table 1</b>	
<b>Assets Included in the 2013 and 2016 AMPs</b>	
<b>2013 AMP</b>	<b>2016 AMP</b>
• Roads	• Buildings
• Bridges	• Land Improvements
• Culverts	• Vehicles and Equipment
	• Marina
	• Stormwater
	• Streetlights
	• Sidewalks
<b>Total Value: \$320.4 Million*</b>	<b>Total Value: \$ 101.8 Million</b>

*Note\*: The replacement value identified in the 2013 AMP was \$307.9 million. This figure has been inflated to current 2016\$ = \$320.4 Million.*

## C. NET BOOK VALUE VS. REPLACEMENT VALUE

As specified in the Ministry Guide, the value of the Township's assets is presented in two different formats: 'Net Book Value' and 'Replacement Value'. These are described below.

**Net Book Value (NBV)** is consistent with the financial accounting practices defined by the Public Sector Accounting Board and is reported on the Township's financial statements. The Township of Scugog reported Net Book Value covers the full scope of the Township's Tangible Capital Assets, including land. It is noted that the same scope of assets are considered under this plan.

The Net Book Value is the original acquisition cost less accumulated depreciation, depletion or amortization. It is reported on annually in accordance with reporting standards established by the Public Sector Accounting Board (PSAB) of the Canadian Institute of Chartered Accountants. As shown on Table 2 below, the Township's 2015 Consolidated Financial Statement reported the Net Book Value of the Township's Tangible Capital Assets as of December 31, 2015 at \$82.0 million, inclusive of land. Under the financial accounting approach many assets may be fully depreciated yet remain in use across the Township. Therefore, Net Book Value is not the appropriate methodology to be employed for infrastructure renewal planning.

<b>Table 2</b>	
<b>Summary of Tangible Capital Asset Value</b>	
<b>Asset Category</b>	<b>2015 Closing NBV</b>
Land	\$ 9,361,051
Land Improvements (ball diamonds, parks)	\$ 4,216,231
Buildings	\$ 15,847,725
Machinery and Equipment	\$ 834,204
Vehicles	\$ 3,294,493
Linear Assets (roads, stormwater, bridges)	\$ 48,172,850
Other	\$ 293,573
<b>Total</b>	<b>\$ 82,020,127</b>

*Note: Categories/information derived from the 2015 Financial Information Return.*

**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 \$422.2 million.

## Replacement Cost Valuation

The three basic methods to estimate replacement costs needed for infrastructure renewal planning:

- Local price indices: This is the most accurate method. The Township has collected recent acquisition data demonstrating similar replacement activities.
- Published price indices: Where local indices are not available, the Township uses published indices (e.g. Non-residential Building Construction Price Index).
- Accounting estimates: When assets cannot be estimated against either index, the Township uses historic cost, estimated useful life and inflationary effects to determine replacement value.

### D. ASSET MANAGEMENT INTERNAL NETWORK

In order to operationalize a plan, it really starts with involving the necessary Township staff in the asset management process. In order to address asset management, an internal network (Asset Management Committee) should be created and comprised of representatives from Township departments such as: Corporate Services, Finance, Fire and Emergency Services, Recreation & Culture, Parks and Public Works. Furthermore, to facilitate execution of any asset management strategy, the Township can appoint an individual to be the asset management “champion”. The champion is intended to be the person who maintains and regulates the quality of the asset register and is fully informed on all asset management matters.

An asset management champion does not and should not be alone in the process. It is important that all other departments contribute to the process to ensure that reliable data is available. For example, as new assets are acquired for Recreation and Culture services, it is required that Recreation & Culture staff provide the information to the champion to update the asset register. This ensures that the register is up to date and that there is no data loss.

To ensure buy-in and co-operation from all departments, the Committee representatives and the data champion should meet frequently to identify and address any gaps or challenges that may arise throughout the process. This strengthens the internal network, and in turn, facilitates communication between departments.

**E. PLAN MONITORING**

The Township should look to monitor the effectiveness of the Plan. This ensures that the Plan is utilized to its full extent and any gaps are identified. The Township should look to review these six compliance mechanisms:

1. Compliance with legislative requirements – Is the Township meeting all legislated mandates?
2. Service delivery – 100% compliance with service targets or targets exceeded.
3. Capital project delivery outputs delivered to schedule (or better) and on budget (or better).
4. Operational and maintenance budgets met (or better).
5. Risk Management—No events occurring outside the risk profile. How have projects with high risk been handled?
6. Benchmarking with comparable jurisdiction — Maintain performance.

**F. TIMEFRAMES FOR REVIEW AND UPDATES**

This Asset Management Plan should be reviewed and updated on a regular basis. Recognizing that a full Asset Management Plan and related policies should only be updated at key intervals, it is important that other asset management components such as capital budgeting exercises, risk assessments and updates to the asset register should be integrated into staff’s regular routine. Table 3 below outlines the key timelines for updates and reviews.

<b>Table 3</b>	
<b>Timeframes for Reviews and Updates</b>	
<b>Asset Management Framework</b>	<b>Timeframe</b>
Asset Management Policy	3-5 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

## **G. ASSET MANAGEMENT PLAN STRUCTURE**

The Asset Management Plan is structured as follows:

**Section II** summarizes the state of the Township's infrastructure with reference to infrastructure quantity and quality.

**Section III** current service levels and service level targets are described.

**Section IV** sets out several strategies that will assist the Township in maintaining assets so that desired service levels are achieved.

**Section V** establishes how asset management can be delivered in a financially sustainable way.

**Section VI** provides recommendations based on the analysis undertaken.

## II STATE OF LOCAL INFRASTRUCTURE

The State of the Local Infrastructure section of the 2016 Plan provides a summary of Township assets with reference to asset quantity and quality. Condition assessments for some assets, are based on staff visual inspection and input, while the balance of assets considered are based on the useful life of the asset relative to its age. Useful life assumptions for the assets considered under this plan were acquired from the Township's tangible capital database and are summarized in Table 4 below.

<b>Asset Category</b>	<b>Useful Life Assumptions (Years)</b>	<b>Replacement Cost Valuation Assumptions</b>
Buildings (includes components)	5-75	Local price indices (DC) Accounting Estimates
Land Improvements	15-30	Accounting Estimates
Vehicles & Equipment	5-20	Accounting Estimates
Marina	20-80	Accounting Estimates
Stormwater	30-75	Local price indices Published price indices
Streetlights	5-20	Accounting Estimates
Sidewalks	30-40	Local price indices Published price indices

### A. CONDITION ASSESSMENTS AND UPDATES

The Township's asset inventory is documented in a municipal asset registry which contains detailed information about the asset acquisition cost, year of emplacement, expansions and upgrades (if applicable), useful life and asset descriptions.

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 5-tier condition assessment is based on the remaining useful life of the asset as a percentage of the assumed useful life of the asset. The percentage of remaining useful life was used for assets where condition data based on inspection was not available. Table 5 summarizes the assumed parameters.

<b>Table 5 Condition Assessment Parameters</b>		
<b>Condition Assessment</b>	<b>Percentage of Useful Life Range</b>	<b>Definition</b>
Very Good	80% - 100%	Well maintained, good condition, new or recently rehabilitated asset.
Good	60% - 80%	Good condition, few elements exhibit existing deficiencies.
Fair	40% - 60%	Some elements exhibit significant deficiencies. Asset requires attention.
Poor	20% - 40%	A large portion of the system exhibits significant deficiencies. Asset mostly below standard and approaching end of service life.
Very Poor	0% - 20%	Widespread signs of deterioration, some assets may be unusable. Service is affected.

Asset conditions based on staff assumptions and inspections took priority over accounting based remaining useful life. The inspection based condition assessments were consolidated into the 5-tier condition system as shown in Table 5 above. If an asset had a staff condition assumption, then the remaining useful life of the asset was set to a defined percentage of total useful life. In general, this resulted in assets having several more years of remaining useful life than what the accounting method suggested. Table 6 provides the parameters used in this calculation.



<b>Condition Assessment</b>	<b>Percentage of Useful Life Remaining</b>
Very Good	80%
Good	60%
Fair	40%
Poor	20%
Very Poor	10%

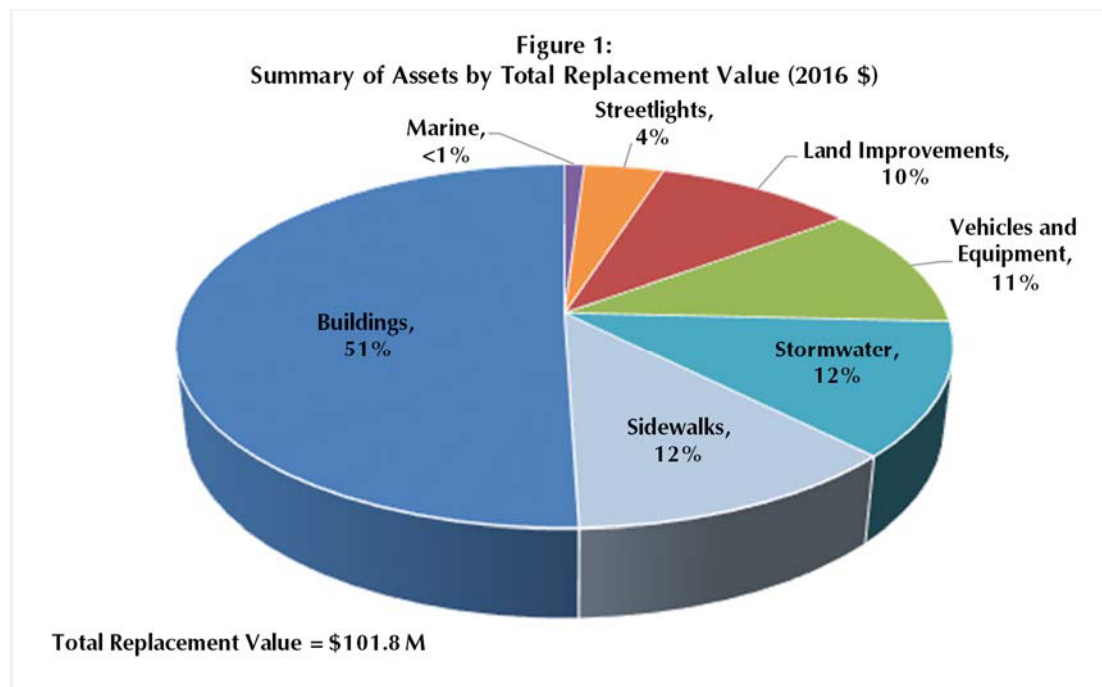
Moving forward, updating and identifying asset conditions should be part of regular inventory updates. There are several methods to identify asset conditions. The ideal methods are outlined below:

1. Condition rating systems based on engineered metrics and professional standards. For example, Facility Condition Index for buildings or professional mechanic inspections for vehicles. These metrics can then be translated into a 5-tier rating system.
2. Estimates based on expert staff opinion. This approach is important where there is low confidence that age and useful life properly represents a particular asset.
3. Estimates based on age and the remaining useful life of the asset. This has been used for all assets which the Township was not able to provide a condition assessment based on existing knowledge or site inspection. It is the intention that the Township move towards a condition assessment methodology using approach 1 and 2 above.

## **B. STATE OF LOCAL INFRASTRUCTURE**

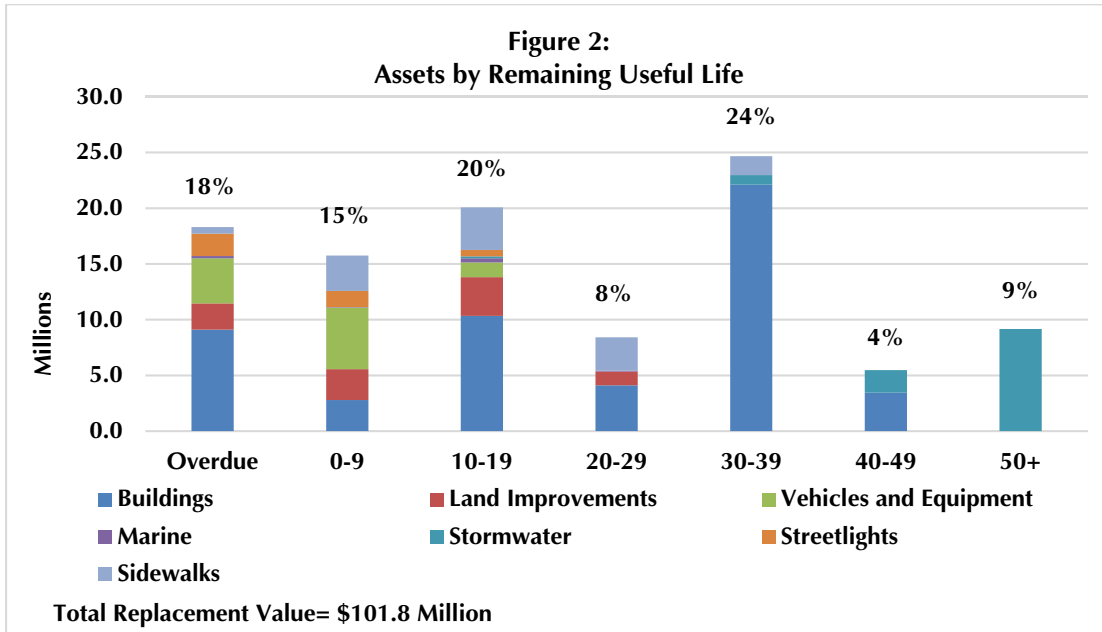
The replacement cost of all Township assets considered in the 2016 Plan, is estimated at \$101.8 million (represented in constant \$2016). The largest share is related to buildings and accounts for about \$51.9 million (51%) of the total replacement cost. Sidewalks and stormwater assets each account for \$12.2 million (12%). Approximately \$10.8 million (11%) is related to vehicles and equipment and \$9.8 million (10%) is

related to land improvements. Streetlights amount to \$4.0 million (4%). Marina assets represent the smallest component (1% or \$0.7 million) of the total value. Figure 1 below illustrates the value of assets by category.

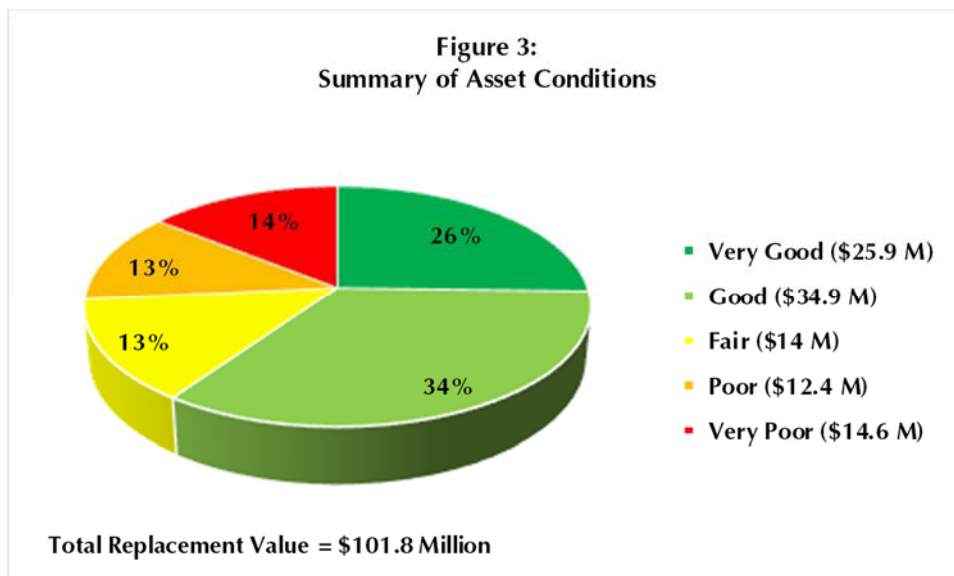


It should be noted that although this 2016 Plan relates primarily to non-engineering asset categories, the total replacement value of all infrastructure owned by the Township is estimated at \$422.2 million. Of that amount, the Township's roads, bridge and culvert infrastructure represents 76%, or \$320.4 million.

Over half of the assets, \$54.1 million (53%), considered in this AMP have less than 20 years remaining useful life. Approximately \$18.3 million (18%) of the assets are considered overdue for replacement and an additional \$15.7 million (15%) are near the end of their useful life and have less than 10 years remaining. That being said, \$39.3 million (39%) are due for replacement in the long term and have over 30 years of useful life remaining. Figure 2 below summarizes the assets by remaining useful life and by category.



In total, the Township maintains about 60%, or \$60.8 million, of the assets in Good to Very Good condition. Approximately \$14.0 million (14%) are considered to be in Fair condition. The balance of the asset base, 27% or \$27 million, are considered to be in Poor to Very Poor condition and may require immediate repair/replacement. Many of the assets in the Very Poor to Poor condition category are attributed to the Township’s vehicle, equipment and streetlight assets. As the Township moves to further refine and assess the assets based on engineered analyses and staff inspections, it can be expected that asset conditions will be adjusted. The asset replacement cost by condition rating is summarized in Figure 3.

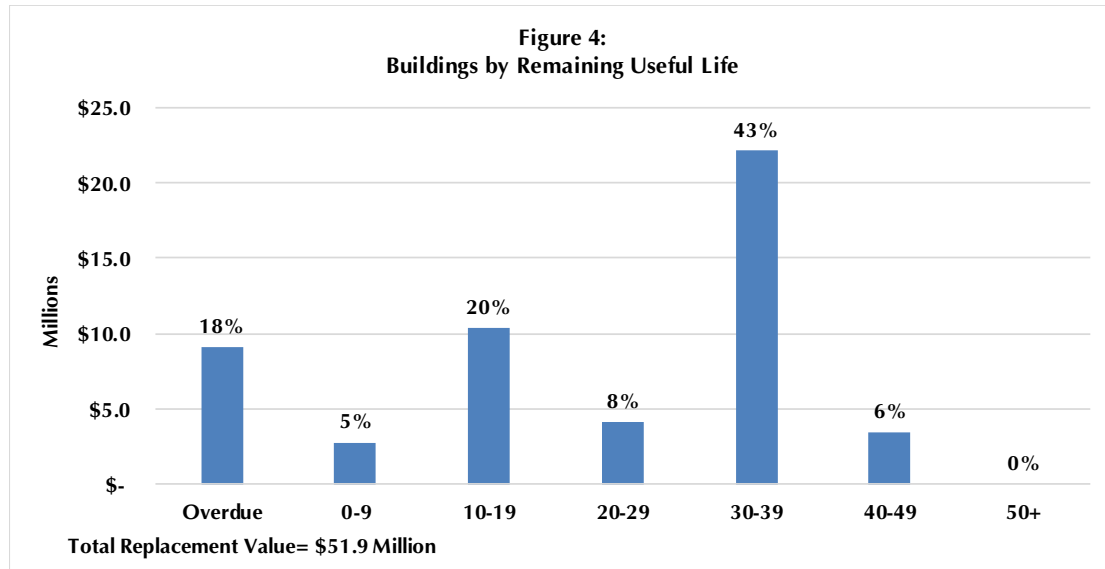


Importantly, as this plan primarily examines much of the non-engineered assets, which represent less than 25% of the total value of the Township assets; it is crucial the condition assessment be considered from a Township-wide perspective. The 2013 Asset Management Plan prepared for Township Roads, Bridges and Culverts identify about \$116.6 million in works which are recommended as “Now” needs.

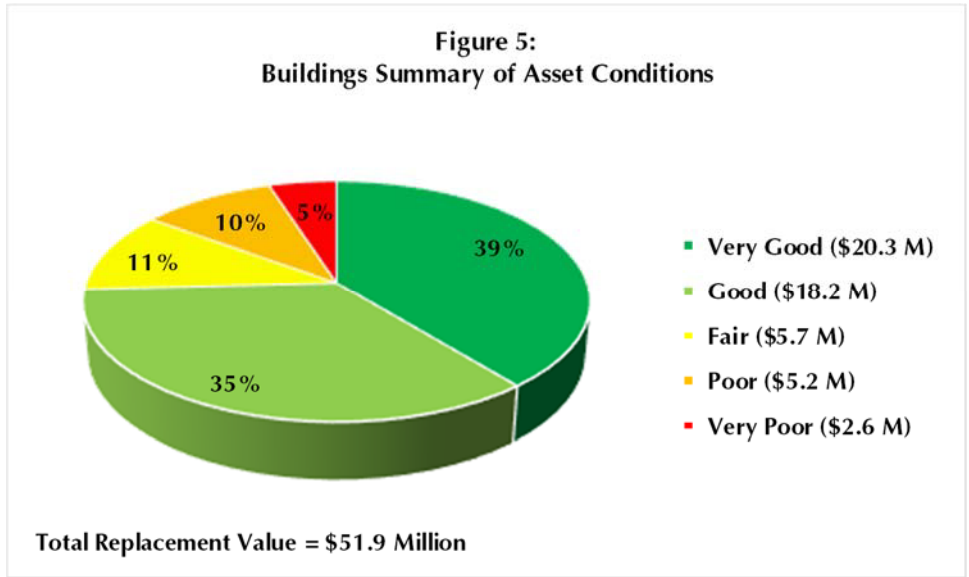
**1. Buildings**

The Township maintains over 16 landmark buildings (arenas, library, fire hall, etc.) with several other small structures valued at \$51.9 million. Of this total inventory, \$9.1 million (18%) of the building assets are considered overdue for replacement with an additional \$2.8 million (5%) near the end of their useful life with less than ten years remaining. That being said, the largest share, \$22.1 million (43%), are due for replacement in the medium term and have 30-39 years of remaining useful life. Figure 4 summarizes the remaining useful life for buildings.

This information highlights that although a portion of the Township’s facilities are not required for replacement immediately, future capital works may be required in forty years as those assets continue to age.

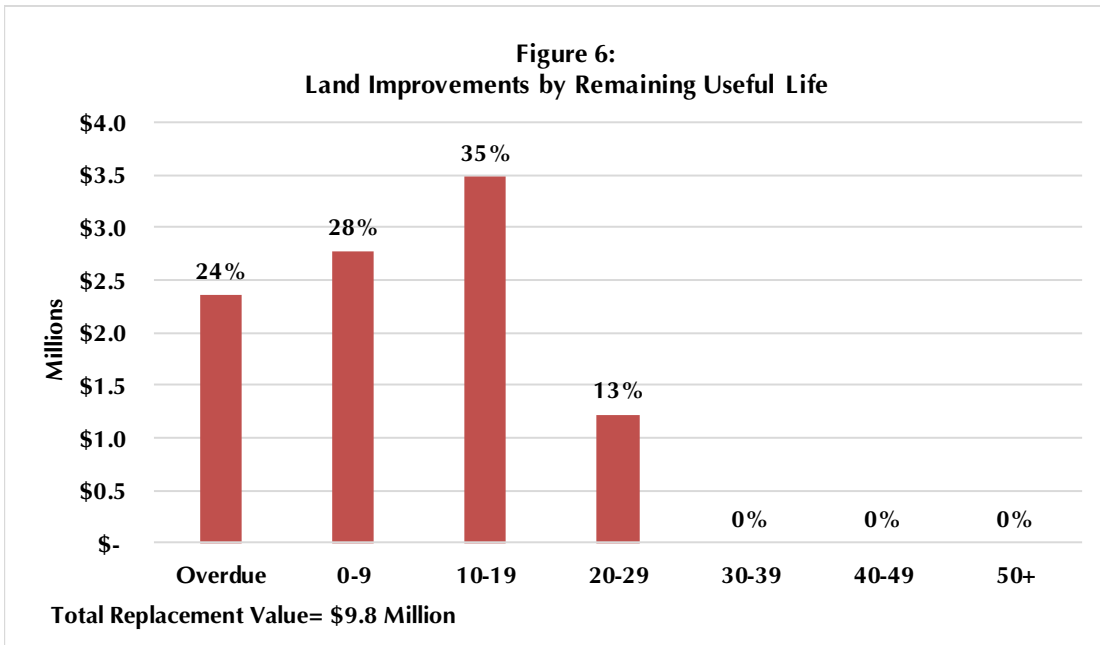


The Township maintains \$20.3 million (39%) of the buildings in Very Good condition and \$18.2 million (35%) are considered to be in Good condition. Although, about 15% (\$7.8 million) of these assets are considered to be in Poor to Very Poor condition and may require immediate repair/replacement. Figure 5 summarizes the condition of the building assets.

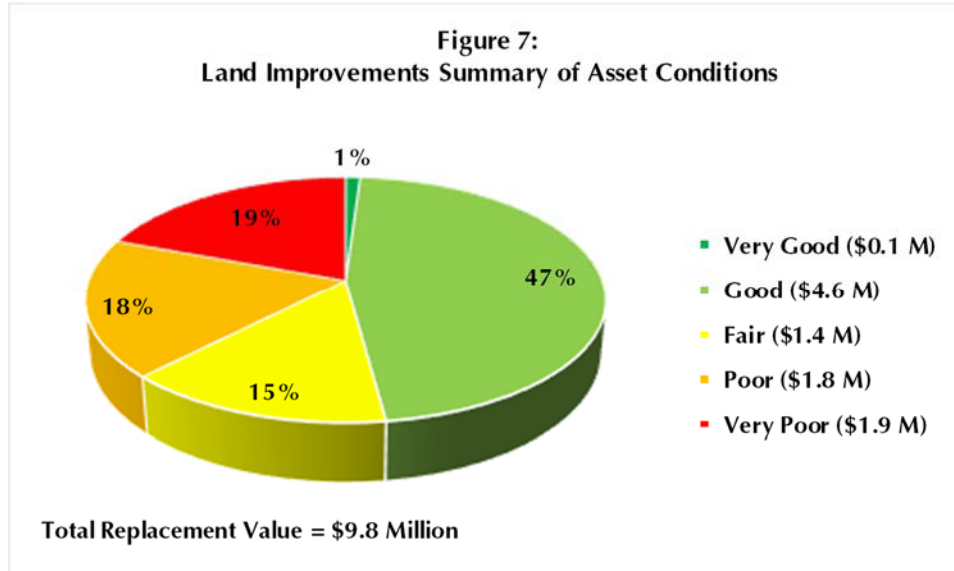


**2. Land Improvements**

Most of the land improvement related assets have less than 20 years remaining useful life. About \$2.4 million (24%), of land improvement assets are considered overdue for replacement and an additional \$2.8 million (28%) of the assets are near the end of their useful life and have less than 10 years remaining. A large portion of the land improvement assets, \$3.5 million (35%), have a remaining useful life between 10-19 years. Figure 6 summarizes the age and value of the land improvement inventory.



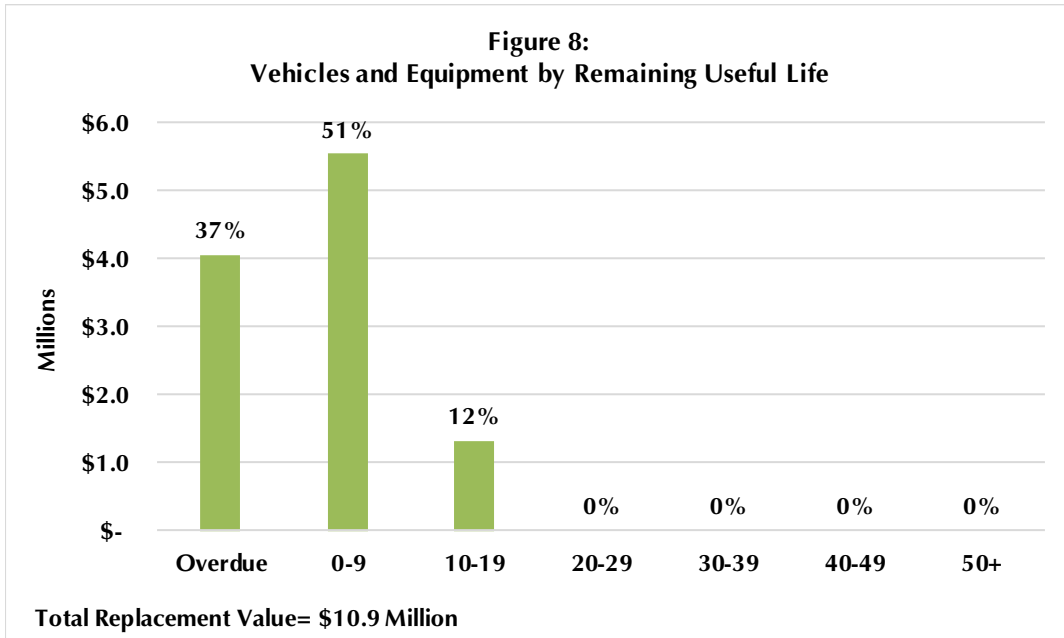
In total, the Township maintains about \$4.7 million (48%) of the land improvements in Good to Very Good condition. However, about \$3.7 million (37%) of infrastructure is considered to be in Poor to Very Poor condition which may require immediate repair/replacement. Figure 7 summarizes the condition and value of the land improvement inventory.



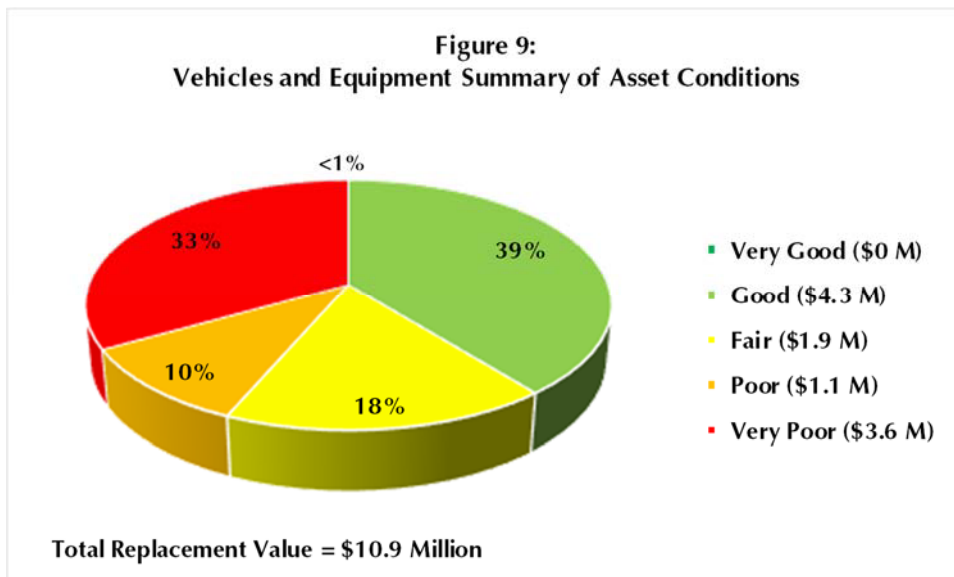
### 3. Vehicles and Equipment

The Township is responsible for maintaining 44 vehicles and other equipment valued at \$10.9 million. Of this total inventory, a significant portion, \$4 million (37%), are considered overdue for replacement. In addition, \$5.5 million (51%) are near the end of their useful life and have less than ten years remaining. The remaining assets, \$1.3 million (12%), are due for replacement in the medium term and have 10-19 years of remaining useful life. Figure 8 summarizes the remaining useful life for all vehicles and equipment.

This information highlights that although much of the Township's vehicles and equipment are currently overdue or will be required for repair and replacement in the short-term, the vehicles are still in use and continue to provide service. Although, as the vehicles and equipment continue to be used, perhaps the Township should be prepared to provide enhanced maintenance and repair activities to continue to extend the life of some of the assets.



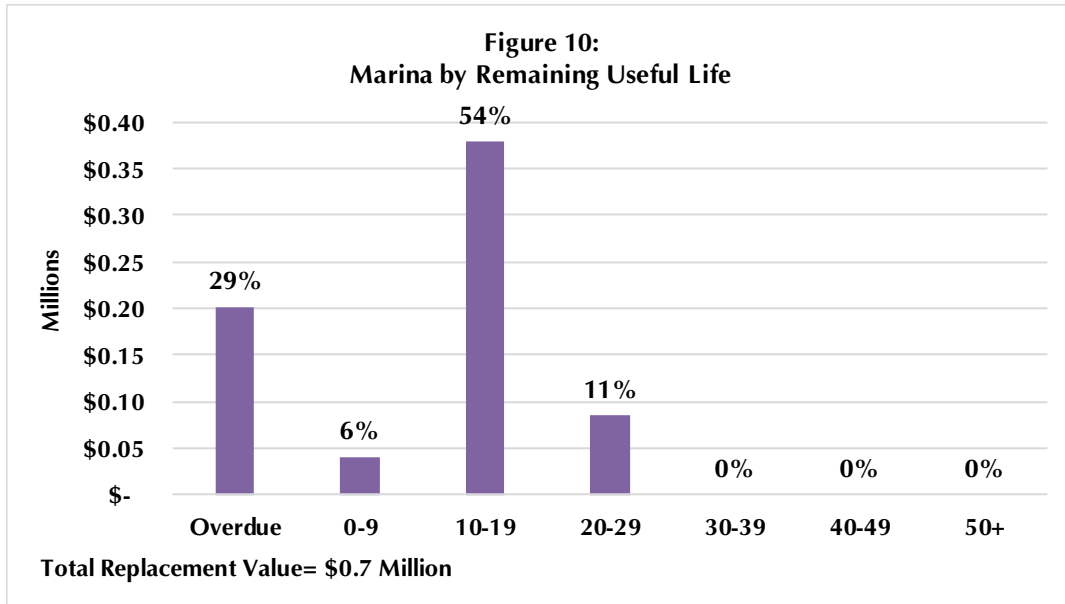
The Township maintains \$4.3 million (39%) of the vehicles and equipment in good condition. Although, about \$4.7 million (43%), of the vehicles are considered to be in Poor to Very Poor condition. The balance of the inventory (18% or \$1.9 million) is in Fair condition. Figure 9 summarizes the condition and value of the vehicle and equipment assets.



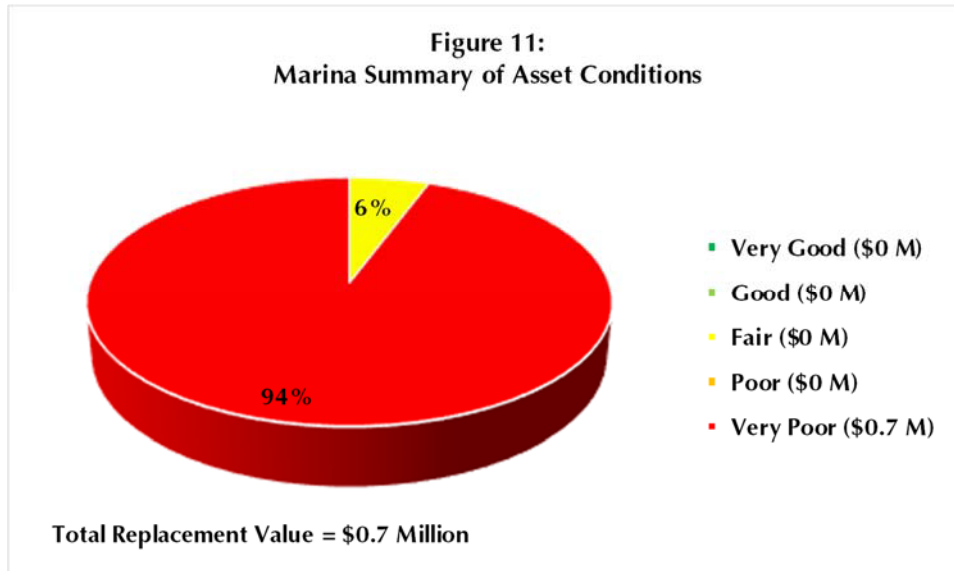
#### 4. Marina Facilities

The Township is responsible for the operation of marina assets. The assets associated with the operation of the marina facilities are valued at \$705,000. Of this amount, about \$202,000 or 29%, of marina assets are considered overdue for replacement. That

being said, over half of the marina assets (\$379,100) have 10-19 years useful life remaining. Figure 10 summarizes the age and value of marina assets.



Although by virtue of design life much of the marina assets are not considered overdue for replacement, the Township considers much of the assets (94% or \$665,400) to be in very poor condition, which may require immediate repair/replacement. Figure 11 summarizes the condition and value of the marina assets.

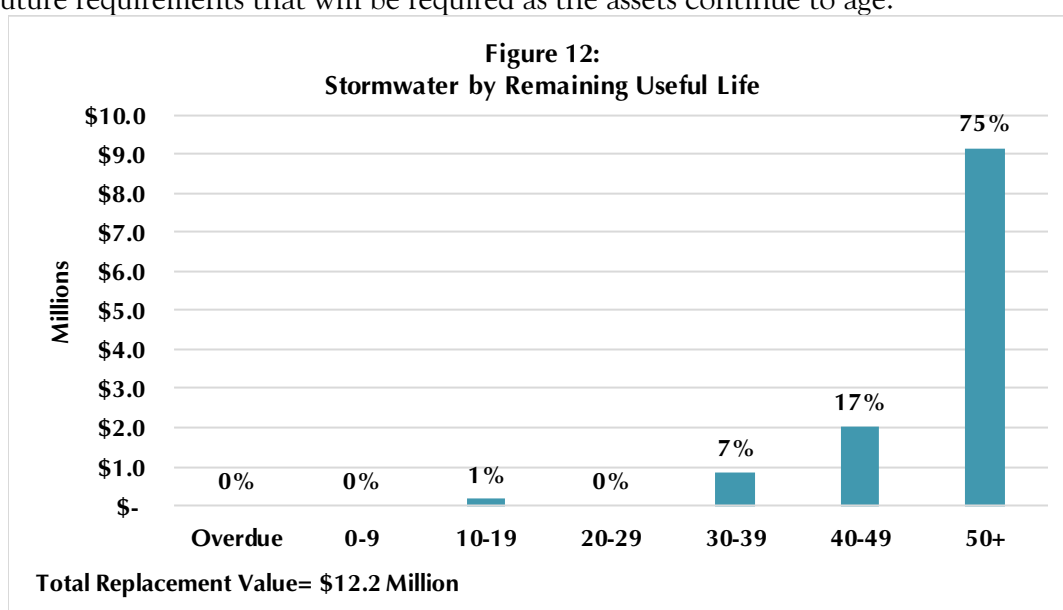




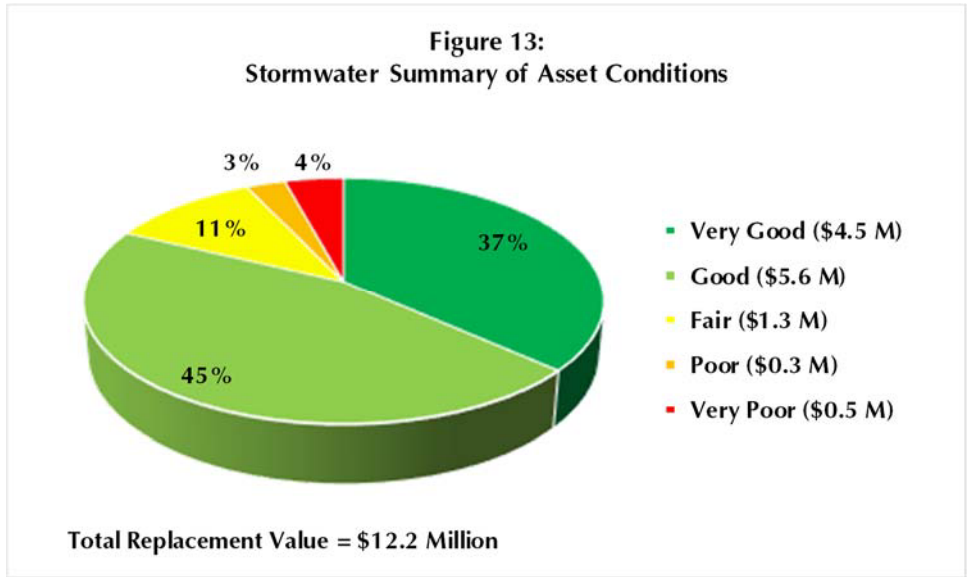
## 5. Stormwater Assets

The Township maintains 12 stormwater ponds, over 400 manholes, nearly 700 catchbasins and other storm trunks and assets valued at \$12.2 million. As much of the stormwater infrastructure is relatively new, the majority of the assets, \$9.2 million (75%) have a useful life of 50 years or more. None of the stormwater infrastructure is considered overdue for replacement and no imminent requirements are identified by virtue of the assets design life. Figure 12 summarizes the remaining useful life of stormwater assets.

This information highlights that although there are no immediate fiscal pressures to address stormwater infrastructure works, the Township should be cognisant of the future requirements that will be required as the assets continue to age.

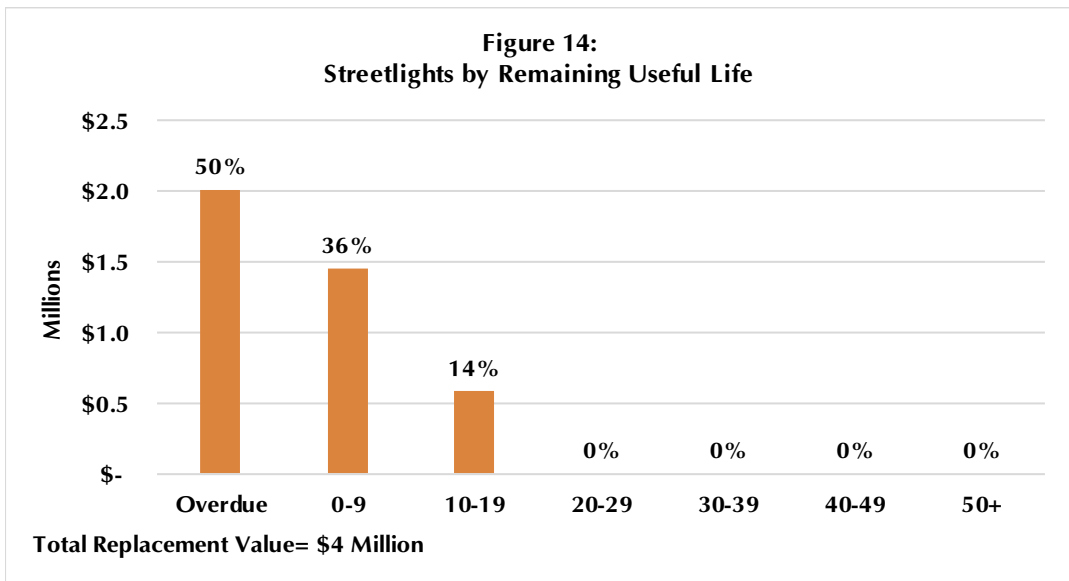


In total, the Township maintains 82% or \$10.1 million of the stormwater assets in Good to Very Good condition. Although, about 7%, or \$0.8 million, of the assets are considered to be in Poor to Very Poor condition. The remaining balance of the inventory, 11% or \$1.3 million, is in Fair condition. Figure 13 summarizes the condition and the value of the stormwater assets.

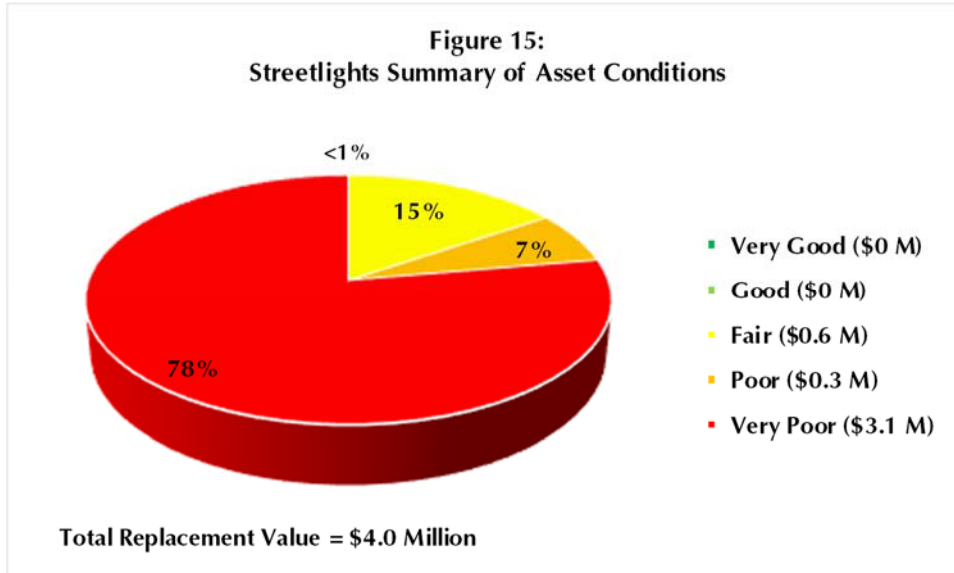


## 6. Streetlights

In total, the Township maintains nearly 1,500 streetlights valued at \$4.0 million. About 50%, or \$2.0 million, of the streetlight assets are considered overdue for replacement with an additional \$1.4 million (36%) near the end of their useful life and have less than 10 years remaining. Figure 14 summarizes the remaining useful life all streetlight assets.

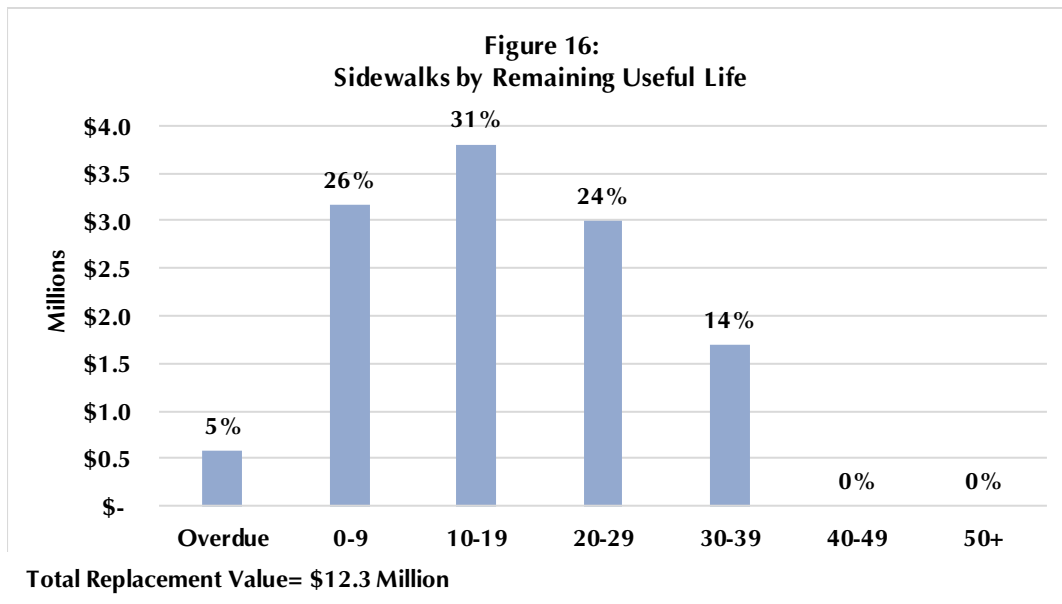


In total, about \$3.1 million (78%) of the streetlight assets are considered to be in very poor condition and may require immediate repair/replacement. Figure 15 summarizes the condition and value of the streetlights assets.

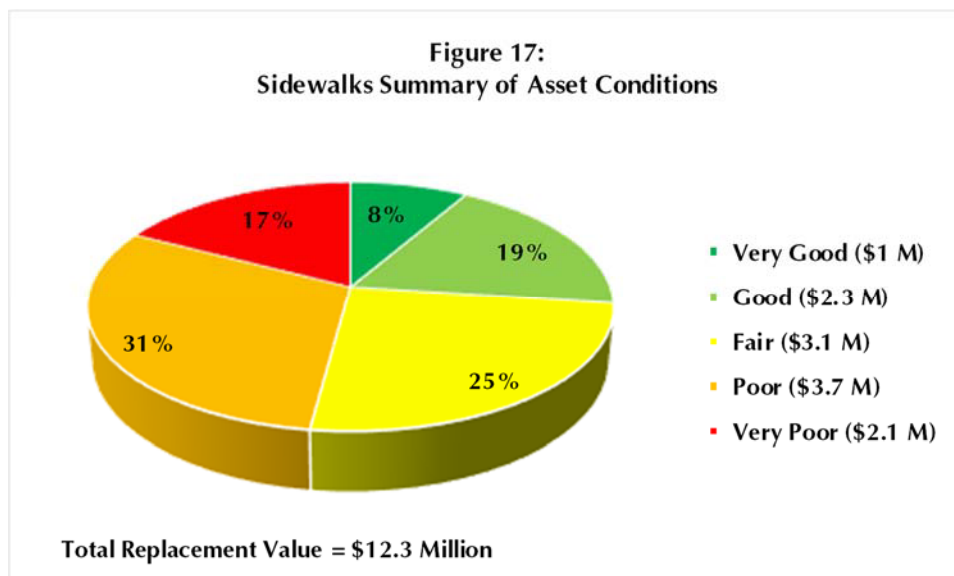


## 7. Sidewalks

The Township maintains approximately 74,000 square meters of sidewalk assets valued at \$12.3 million. The majority of the assets, \$6.8 million (55%) have a remaining useful life of 10 – 29 years. Less than 5% (\$579,100) of the total asset base is considered overdue for replacement. Figure 16 summarizes the remaining useful life of all sidewalk assets.



The Township maintains 27% or \$3.3 million of the sidewalk assets in Good to Very Good condition. Although, about 17%, or \$2.1 million, of the assets are considered to be in Very Poor condition with an additional 31% (\$3.7 million) considered to be in Poor condition. The balance of the inventory (25% or \$3.1 million) is in Fair condition. Figure 17 summarizes the condition and the value of the sidewalk assets.



### C. TOWNSHIP OWNED LAND

The Township also accounts for land assets in the tangible capital asset registry. According to the Township's 2015 Financial Information Return, the total value of Township owned lands is estimated at approximately \$9.4 million. This category has been excluded from the analysis as land is generally an "appreciating" asset, which does not necessarily require renewal or replacement requirements.

### **III LEVEL OF SERVICE**

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#### **A. LEVEL OF SERVICE OVERVIEW**

Asset management decisions must be made with reference to the level of service planned for by the Township. Current service levels in Scugog have been developed 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.

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

Developing levels of service and tracking over time is essential to measuring the success of service delivery and the asset management strategy overall. This section outlines historical levels of service and performance of the non-engineered services.

#### **B. CORPORATE GOALS AND LEVELS OF SERVICE MEASURE**

The Township has recently completed a strategic plan in an effort to set forth tactical priorities and how those initiatives can be implemented over the short to medium term. Strategic Direction 1 and 2 identify the importance of building and maintaining municipal infrastructure and capital assets while improving the financial sustainability of the Township. These considerations, among others identified in the strategic plan consider asset management and infrastructure renewal to be at the forefront of future decision making.

The Township of Scugog Corporate Strategic Plan identifies several overarching corporate and strategic community goals and provide a high level expectation as to what should be achieved by Council, staff and through the services provided. The table below outlines the corporate goals established by the Township as they relate to the delivery of services. It should be noted that the upcoming Parks and Recreation Master Plan will build on these corporate objectives.

**Table 7**  
**Township of Scugog Strategic Directions**

Roads and Other Infrastructure	Financial Sustainability	Economic Development	Municipal Services	Natural Environment	Community Engagement
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In order to measure if corporate goals are being met, levels of service need to be established and performance indicators need to be measured. Level of service measures widely vary across services and municipalities. Table 8 on the following page provides a range of service levels and associated performance measures which the Township should look to utilize. The Township has been tracking a select few, however, moving forward, the Township should look to incorporate and track, at a minimum, the remaining performance measures so these indicators can be incorporated into future iterations of the Township's Asset Management Plan.

Key performance indicators for which the Township tracks relative to a target level is illustrated in Table 9. At this time, target levels of service has been developed in keeping with existing trends and through discussions with Township staff. Moving forward, as the Township continues to build and refine their level of service database, targeted levels of service should be developed in consultation with Council and the Public.

**Table 8  
Suggested Service Level Descriptions and Associated Service Measures  
Township of Scugog**

Asset Category	Level of Service	Level of Service Measure
Fire Vehicles, Equipment and Stations	<ul style="list-style-type: none"> <li>Provide fire and emergency services that meet best practices as recommended by the Ontario Fire Marshalls office and regulatory authorities.</li> <li>Provide timely and efficient emergency response times.</li> <li>Maintain fire emergency vehicles and equipment in a state of good repair.</li> <li>Maintain fire stations in state of good repair.</li> </ul>	<ul style="list-style-type: none"> <li>Number of staffed fire in-service vehicle hours per capita for both the rural and urban areas</li> <li>Total fire cost per in-service vehicle hour for both the rural and urban areas.</li> <li>Percentage of repair work hours that is for non-planned/emergency repairs for fire vehicles and equipment.</li> <li>Number of outstanding repair/rehabilitation activities at the Port Perry Fire Station and Caesarea Fire Station.</li> </ul>
Vehicles and Equipment (other than Fire)	<ul style="list-style-type: none"> <li>Provide timely and efficient service and response times.</li> <li>Maintain vehicles and equipment in state of good repair.</li> <li>Perform preventative maintenance and repairs to meet industry standards of safety and operation.</li> </ul>	<ul style="list-style-type: none"> <li>Percentage of repair work hours that is for non-planned/emergency repairs for vehicles and equipment.</li> <li>Number of in-service vehicle hours per capita.</li> <li>Number of equipment units inspected (weekly, monthly, etc).</li> <li>Total cost to operate a vehicle per kilometre.</li> </ul>
Buildings (including Recreational)	<ul style="list-style-type: none"> <li>All buildings should comply with the Accessibility for Ontarians with Disabilities Act (AODA)</li> <li>Minimize the number of liable accidents and legal action attributed to improper facility maintenance.</li> <li>Maintain facilities in a state of good repair.</li> </ul>	<ul style="list-style-type: none"> <li>Number of facilities in the Township that do not meet AODA regulations.</li> <li>Number of accidents and legal action directly attributed to improper facility maintenance.</li> <li>Number of outstanding repair/rehabilitation activities for all facilities.</li> <li>Proportion of facilities in good to very good condition.</li> <li>Total cost of facility maintenance per square meter by facility type.</li> </ul>
Parks and Recreation	<ul style="list-style-type: none"> <li>Provide variety of different sized parks for residents.</li> <li>Provide a trail network that offers local and regional linkages to land and water.</li> <li>Maintain outdoor park space in a state of good repair.</li> <li>Provide residents with a variety of recreational services and amenities to promote active living.</li> </ul>	<ul style="list-style-type: none"> <li>Number of parks by size and type.</li> <li>Square meters of maintained and natural parkland per person.</li> <li>Length of trails in kilometres per person.</li> <li>Number of access points on trails to land and water.</li> <li>Total participation hours for recreation programs</li> <li>Total square meters of indoor recreation space per capita</li> <li>Total cost to operate parks per person.</li> <li>Total cost to operate parks per square meter.</li> </ul>
Library	<ul style="list-style-type: none"> <li>Provide a wide range of educational materials and learning tools for all Township residents</li> </ul>	<ul style="list-style-type: none"> <li>Total library uses (i.e. collection materials) in your municipality</li> <li>Total collection materials per capita</li> <li>Total number of electronic uses vs. non-electronic uses</li> </ul>

**Table 9**  
**Key Performance Indicators**

<b>Demographics</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>Target</b>
Population	21,569	21,569	21,569	21,570	21,570	
<b>Trails</b>						
Trails : Total kilometres of trails (owned by municipality and third parties)	239	239	239	239	239	<b>239</b>
Total Kilometres of Trails per 1000 persons	11.08	11.08	11.08	11.08	11.08	<b>11.08</b>
<b>Recreation</b>						
Indoor recreation facility space : Square metres of indoor recreation facilities (municipally owned)	9890	9890	9890	9890	9890	<b>9,890</b>
Square metres of indoor recreation facilities per 1,000 persons (municipally owned)	459	459	459	459	459	<b>459</b>
Outdoor recreation facility space : Square metres of outdoor recreation facility space (municipally owned)	221	221	221	221	221	<b>221</b>
Square metres of outdoor recreation facility space per 1,000 persons (municipally owned)	10	10	10	10	10	<b>10</b>
<b>Fire &amp; Emergency</b>						
Average Emergency Call Response Times (Minutes):						
Fire				12:02	13:28	<b>11:00</b>
Motor Vehicle Accident				10:23	10:25	<b>11:00</b>
Medical				11:32	11:57	<b>11:00</b>
<b>Buildings &amp; Facilities</b>						
Number of facilities that meet AODA regulations	4	4	4	4	4	<b>4</b>
Number of accidents and legal action directly attributed to improper facility maintenance	0	0	0	0	0	<b>0</b>
<b>Stormwater</b>						
Urban Storm Water Management : Total KM of Urban Drainage System plus (0.005 KM times No. of Catch basins)	32	32	32	35	35	<b>35</b>

Source: 2011-2015 FIR, Fire Master Plan and Township staff.

The table shows that by these numbers, service levels have remained relatively constant.

### C. GAS TAX PROJECT OUTCOMES

Moving forward it is expected that municipalities will report on various performance metrics to meet the federal gas tax funding requirements. These “project outcomes” are due March 31<sup>st</sup> 2017 for projects completed between April 1<sup>st</sup> 2014 and December 31<sup>st</sup> 2016. Municipalities are required to report on at least one outcome per asset category to demonstrate positive benefits to communities and to show the benefits of gas tax funds as a predictable funding source. Best practice is for the Township to begin tracking these project outcomes for all assets. Table 10 shows project outcomes relevant to the assets included in the 2016 Plan.



<b>Table 10</b>	
<b>Relevant Project Outcomes Required for Gas Tax Funding</b>	
<b>Category</b>	<b>Outcomes</b>
Local Roads and Bridges Subcategory: Active Transportation	<ul style="list-style-type: none"> <li>• Percentage of total streets with sidewalks</li> <li>• Number of residents with access to new/ repaired/improved/replaced bike lanes, sidewalks, hiking and walking trails</li> </ul>
Sport Infrastructure	<ul style="list-style-type: none"> <li>• Number of visitors (sports tourism) to the community</li> <li>• Available ice/field time per year (hours)</li> <li>• Number of registered users per year</li> <li>• Sporting events held per year</li> </ul>
Recreational Infrastructure	<ul style="list-style-type: none"> <li>• Number of registered users per year</li> <li>• Number of residents who will benefit from the new or upgraded recreational infrastructure</li> </ul>
Cultural Infrastructure	<ul style="list-style-type: none"> <li>• Number of residents benefitted from the investment</li> <li>• Number of cultural events held per year</li> <li>• Number of people participating in cultural activities in the community</li> </ul>
Tourism Infrastructure	<ul style="list-style-type: none"> <li>• Number of businesses positively affected by the investment</li> <li>• Number of visitors</li> <li>• Number of online or in-person inquiries at visitor information centre(s)</li> <li>• Number of room-nights sold in a year</li> </ul>
Disaster Mitigation Infrastructure	<ul style="list-style-type: none"> <li>• Area of properties projected to be less at-risk due to the investment</li> <li>• Emergency response costs</li> </ul>

*Source: AMO.*

For 2016, it is expected that the Township report on the assets included in this Asset Management Plan as a percentage of total assets. It is expected that this 2016 Plan in conjunction with the 2013 Plan will update this value to 100% of total assets included for 2017, meeting the gas tax funding requirement.

## **IV ASSET MANAGEMENT STRATEGY**

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This section sets out an action plan that will assist the Township in maintaining assets so that desired service levels are achieved. 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 matrix which can be used to assist Township staff and Council measure and manage risks to achieve desired levels of service.

### **A. SET OF PLANNED ACTIONS**

The Township employs various practices to achieve desired levels of service. This set of existing actions involve activities to maintain assets in a state of good repair and to ensure that assets continue to be in service for their full life cycle, and in many cases, beyond the expected design life. The set of existing actions and planned activities are summarized for each of the asset categories in the 2016 Plan (Tables 11-16).

#### **Buildings**

There are a variety of buildings in the Township that are utilized for various purposes. Customized maintenance plans are required for each facility depending on their purpose. Table 11 summarizes general actions that can be employed to ensure that Township buildings are maintained in a state of good repair.

<b>Table 11 Planned Actions: Buildings</b>	
<b>Areas</b>	<b>Planned Actions</b>
Non-Infrastructure Solutions	<ul style="list-style-type: none"> <li>• Operating budgets should be informed by condition assessments and regular inspections as needed.</li> <li>• Business cases, special studies and consultation with stakeholders should be done when constructing a new facility or modifying an existing facility.</li> <li>• Adjust service levels if necessary.</li> <li>• Review of the design and layout of buildings and properties, to take into account the minimization of maintenance costs.</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>• Buildings and facilities inspected monthly in accordance with occupational health and safety regulations.</li> <li>• Community Halls are inspected annually by staff.</li> <li>• HVAC and heating systems inspected annually. HVAC is inspected in the spring and the heating system inspected in the fall.</li> <li>• Septic tanks are inspected regularly and pumped when necessary.</li> <li>• Maintain electrical systems to Electrical Safety Authority standards.</li> <li>• Fire alarms, fire extinguishers and emergency lights inspected monthly.</li> </ul>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>• Regular component repairs based on inspections.</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>• Component replacement based on inspections.</li> </ul>
Disposal	<ul style="list-style-type: none"> <li>• Selling or demolishing buildings that are no longer in use.</li> <li>• Re-use or sell land not in use.</li> </ul>
Expansion	<ul style="list-style-type: none"> <li>• Identify needs through regular capital planning.</li> <li>• Assumptions on required facility space through development agreements.</li> <li>• Service improvements made where possible (accessibility, etc.)</li> </ul>

## Land Improvements

Land improvement assets are mostly encompassed in Township parks, trails and parking lots. Table 12 summarizes general actions that are taken to ensure that Township land improvement related assets are maintained in a state of good repair.

<b>Table 12</b>	
<b>Planned Actions: Land Improvements</b>	
<b>Areas</b>	<b>Planned Actions</b>
Non-Infrastructure Solutions	<ul style="list-style-type: none"> <li>• Operating budgets should be informed by condition assessments and regular inspections as needed.</li> <li>• Business cases, special studies, consultation with stakeholders should be done when constructing a new park or playground.</li> <li>• Adjust service levels if necessary.</li> <li>• Development of a new Master Plan for Parks and Sports fields. This will include revised design and maintenance standards, levels of service commentary, consolidation of amenities and facilities, and a long-term projection regarding the types of sports fields needed to serve the community.</li> <li>• Review of the design and layout of recreation buildings and properties, to take into account the minimization of maintenance costs.</li> <li>• Review the use and training of temporary or seasonal parks and recreation staff.</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>• Playground equipment inspected monthly.</li> <li>• All Parks department equipment inspected daily before each use.</li> <li>• Splash pad is visually inspected daily, with a thorough inspection twice a season at opening and closing.</li> <li>• Township staff and a team of volunteers walk the trails frequently for inspections and report on whom would complete any repairs necessary.</li> <li>• Regularly scheduled grass cutting, trimming and field observations of Township parks.</li> <li>• Regular review of the approach to snow removal on trails.</li> </ul>

<b>Table 12 Planned Actions: Land Improvements</b>	
<b>Areas</b>	<b>Planned Actions</b>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>• Regular component repairs based on inspections.</li> <li>• Dragging of baseball diamonds is completed daily for premier fields. All other diamonds are dragged once per week.</li> <li>• Note: soccer and baseball clubs are responsible for the lining of the fields.</li> <li>• Implementing enhanced tree trimming and inspection programs to address damage due to storms before they occur.</li> <li>• Regular tree cutting to curb Emerald Ash Borer infestation.</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>• Component replacement based on inspections.</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> <li>• Re-use or sell land not in use.</li> </ul>
Expansion	<ul style="list-style-type: none"> <li>• Identify needs through regular capital planning.</li> <li>• Assumptions on required park space and assets through development agreements.</li> <li>• The development of Service Level Agreements covering the level of maintenance to be carried out for all parks, sports fields, boulevards and other green spaces to ensure they can be maintained within the agreed budgets.</li> <li>• Service improvements made where possible (accessibility, etc.)</li> </ul>

**Vehicles and Equipment**

Vehicles and equipment consider all service areas including Fire & Emergency Services, Parks, Recreation, Public Works and other general government vehicles. Actions related to maintaining vehicles and equipment are unique to each type of vehicle or piece of equipment. Table 13 summarizes general actions that can be taken to ensure that Township vehicles and equipment are maintained in a state of good repair.

<b>Table 13 Planned Actions: Vehicles and Equipment</b>	
<b>Areas</b>	<b>Planned Actions</b>
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>• Opportunity to implement inventory software for fire equipment to record testing and certification. Data can be tracked for equipment defects, repairs and maintenance.</li> <li>• Annually provide the necessary departments with related information when new and additional equipment is acquired.</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>• Suppression division staff (full-time firefighters) perform weekly basic checks on the apparatus, including a check of equipment, pump and emergency lighting.</li> <li>• For immediate service needs vehicles and equipment are sent to outside contractors or manufacturers for repair.</li> <li>• Vehicles requiring MTO certificates have scheduled maintenance throughout the year. Examples include, brake checks, chassis greasing (auto greaser), fall coolant tests, as well as semi-annual oil and filter service and tire pressure checks and adjustments.</li> <li>• Preventative maintenance for Fire vehicles occur at the time of certification and six months after. All units receive annual rust-proofing.</li> <li>• Pump testing (including foam system testing and calibration) is completed annually.</li> <li>• Regular inspection, service and certification performed in accordance with regulatory requirements.</li> <li>• Schedule and perform ongoing repairs in accordance with frequency and user department requirements.</li> <li>• Replacement schedule reviewed annually.</li> </ul>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>• Regular component repairs based on inspections.</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>• Vehicle and equipment replacement based on inspections.</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>

<b>Table 13 Planned Actions: Vehicles and Equipment</b>	
<b>Areas</b>	<b>Planned Actions</b>
Expansion	<ul style="list-style-type: none"> <li>• Identify needs through regular capital planning.</li> <li>• Service improvements made where possible (new technologies, etc.).</li> </ul>

**Stormwater**

The Township operates a network of stormwater infrastructure which includes several stormwater ponds, manholes and catchbasins. Many routine maintenance activities are outlined in the Port Perry Stormwater Management Plan Report 2013. The report outlines many valid recommendations to ensure that the Township’s stormwater network is operational for its full life cycle. Table 14 below outlines these recommendations.

<b>Table 14 Planned Actions: Stormwater</b>	
<b>Areas</b>	<b>Planned Actions</b>
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>• Follow up on reports of potential illegal dumping or pollutants.</li> <li>• Implement educational, outreach and other stewardship activities included in the Port Perry Stormwater Master Plan. These include:               <ul style="list-style-type: none"> <li>○ Raising awareness about nutrient loading in Lake Scugog.</li> <li>○ Best management practices for residents including rainfall gardens, animal waste pick-up and water conservation.</li> <li>○ Informing public works staff, visitors and tourists about the importance of stormwater quality.</li> </ul> </li> </ul>

<b>Table 14</b> <b>Planned Actions: Stormwater</b>	
<b>Areas</b>	<b>Planned Actions</b>
Maintenance Activities	<ul style="list-style-type: none"> <li>• Implementation of regular maintenance activities in the Port Perry Stormwater Master Plan. These include:               <ul style="list-style-type: none"> <li>○ Provision for erosion/sedimentation controls.</li> <li>○ Regular CCTV inspections.</li> <li>○ Regular cleaning and inspections of maintenance holes catch basins and pipes.</li> <li>○ Regular stormwater pond cleanouts.</li> <li>○ Implementation of priority maintenance activities for stormwater ponds.</li> </ul> </li> </ul>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>• Regular stormwater component repairs based on inspections.</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>• Stormwater structural component replacement based on inspections.</li> <li>• Implement capital priority recommendations included in the Port Perry Stormwater Master Plan.</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>• Level of service agreements in relation to new development (required neighbourhood storm ponds, drainage, etc.)</li> <li>• Service improvements made where possible. For example, new technologies such as storm drain defenders/catch basin inserts, rainwater harvesting barrels, permeable pavements, etc.</li> </ul>

## Streetlights

Township streetlights require regular inspections and maintenance. Usually, maintenance requirements are limited to light bulb replacements, however poles may require other types of maintenance specific to the type of pole. In addition, the Township should strive to track streetlights by linking them to their associated street or trail. Table 15 below, highlights general actions that can be taken to maintain streetlights in a state of good repair.



<b>Table 15 Planned Actions: Streetlights</b>	
<b>Areas</b>	<b>Planned Actions</b>
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>• Timely response times for reports of flickering lights through the “Report It” page on the Township website.</li> <li>• Streetlights should be tracked/linked to their corresponding road or trail network.</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>• Preventative maintenance program.</li> <li>• Regular inspection, service and certification performed in accordance with regulatory requirements.</li> <li>• Replacement schedule reviewed annually.</li> </ul>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>• Regular component repairs based on inspections.</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>• Street light pole and light bulb replacement based on inspections.</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. For example, new technologies such as solar LED streetlights, etc.</li> </ul>

## Sidewalks

In general, sidewalks should be maintained along with its corresponding road network. Table 16 below, highlights general actions that can be taken to maintain sidewalks in a state of good repair.

<b>Table 16 Planned Actions: Sidewalks</b>	
<b>Areas</b>	<b>Planned Actions</b>
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>• Timely response times for reports of sidewalk issues through the “Report It” page on the Township website.</li> </ul>
Maintenance Activities	<ul style="list-style-type: none"> <li>• Regular maintenance such as sweeping, levelling, etc.</li> <li>• Regular inspection, service and certification performed in accordance with regulatory requirements.</li> <li>• Schedule and perform ongoing repairs in accordance with frequency and user department requirements.</li> <li>• Replacement schedule reviewed annually.</li> <li>• Regular review of the approach to snow and ice removal on sidewalks.</li> </ul>
Renewal/Rehabilitation	<ul style="list-style-type: none"> <li>• Regular component repairs based on inspections.</li> </ul>
Replacement	<ul style="list-style-type: none"> <li>• Equipment replacement based on inspections.</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, etc.).</li> </ul>

## **B. COST REDUCTION STRATEGIES**

The *Guide for Municipal Asset Management Plans (Guide)* states that ‘to ensure the most efficient allocation of resources, best practice is for a number of delivery mechanisms to be considered — such as working with other municipalities to pool projects and resources, or considering an AFP (Alternate Financing and Procurement) model.’ The design-build-finance-maintain AFP model takes a lifecycle perspective and builds effective asset management directly into a contract. The *Guide* also states that municipalities should have procurement by-laws in place to serve as the basis for considering various delivery mechanisms.

## 1. Procurement Policy

The Township of Scugog currently has a corporate by-law for procurement and the following outlines its purpose:

- Ensure openness, accountability and transparency of Township purchasing while protecting the financial best interest of the Township of Scugog.
- Set out guidelines for the Township to ensure that purchases of goods and services are made on a competitive basis at a best value consistent with the quality and service required and availability.
- To encourage the purchases of goods, services, or construction which are environmentally preferred.
- To incorporate the requirements of the *Ontarians with Disabilities Act* with the purchase of goods, services, or construction.

The by-law encompasses market fairness and equitability to ensure the Township can repair, maintain and acquire assets at a minimized cost.

## 2. Alternative Service Delivery Options – Shared Services

Alternative service delivery options should also be assessed for feasibility. Shared services for example, allow the Township to share the costs of acquiring and maintaining assets through joint agreements. Such agreements are typically done with neighbouring municipalities or as private public partnerships in an effort to share risk and minimize costs. The Township of Scugog shares the delivery of certain services, these cost savings can help offset and/or reduce future repair and replacement requirements. A few examples include:

- Animal Control in the Township of Scugog ensures the community is safe and healthy for animals and residents. The Animal Control program runs in partnership with the Township of Uxbridge.
- The Township is involved with a Mutual Aid Fire Plan with all departments in Durham Region. This plan allows each department to request assistance from another department with no fees involved. The Township gains access to specialized equipment or additional personnel without having to outlay initial capital costs or assume increased operating expenditures (e.g. salary and benefits).

- The Township has a Fire Protection Agreement in place with the bordering municipalities of Uxbridge and the City of Kawartha Lakes. The agreements arrange for fire protection services to areas of the municipality which are too far removed from the municipality’s own fire station.

Moving forward, the Township could explore alternative shared services agreements to provide recreation services with neighbouring municipalities. In many of the recreation cost-sharing agreements, the objective of the provider is to reduce the cost while maintaining services and increasing the number of users. These agreements can help maximize benefits to a wide range of users while minimizing costs.

### C. RISK MANAGEMENT

It is important to assess the risk associated with each asset and the likelihood of 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 “Very Poor” or “Poor” condition. The evaluation rating is then linked to the condition assessment parameter discussed in Section II. Assigning probability of failure parameters to each asset would require an appropriate condition assessment and rating of the asset. The Township should look to implement a risk matrix approach for all assets in the next iteration of the Asset Management Plan. Table 17 illustrates a typical risk matrix.

**Table 17 - The Risk Assessment Matrix**

Evaluation Rating		Probability of Failure				
		1	2	3	4	5
Consequence of Failure	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

**Risk Matrix Example:** Probability of Failure level 5 (Very Poor Asset) multiplied by Consequence of Failure level 5 (Severe Consequence of Failure) = Risk Score of 25. This would illustrate that the particular asset assessed should be prioritized for replacement immediately as it would have the highest risk.

## V FINANCING STRATEGY

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This section of the 2016 Plan is intended to provide a framework for the Township to integrate asset management with annual budgeting and long-term financial planning.

The Township has traditionally followed a “pay-as-you-go” approach to financing infrastructure, whereby capital expenditures are prioritized and approved with reference to the availability of funds. It should be noted that historically, capital projects have typically been funded through existing reserves (incl. donations received from the Great Blue Heron casino) with limited funding from the tax base. Although, in recent years, Council and staff have adopted some strategies to address the infrastructure gap and have been successful in undertaking a series of capital projects to improve the Township’s position. Additionally, the implementation of a dedicated special levy intended to fund the capital repair or replacement of existing roads/structures further enhances Council’s commitment to its strategic objective to ensure infrastructure sustainability.

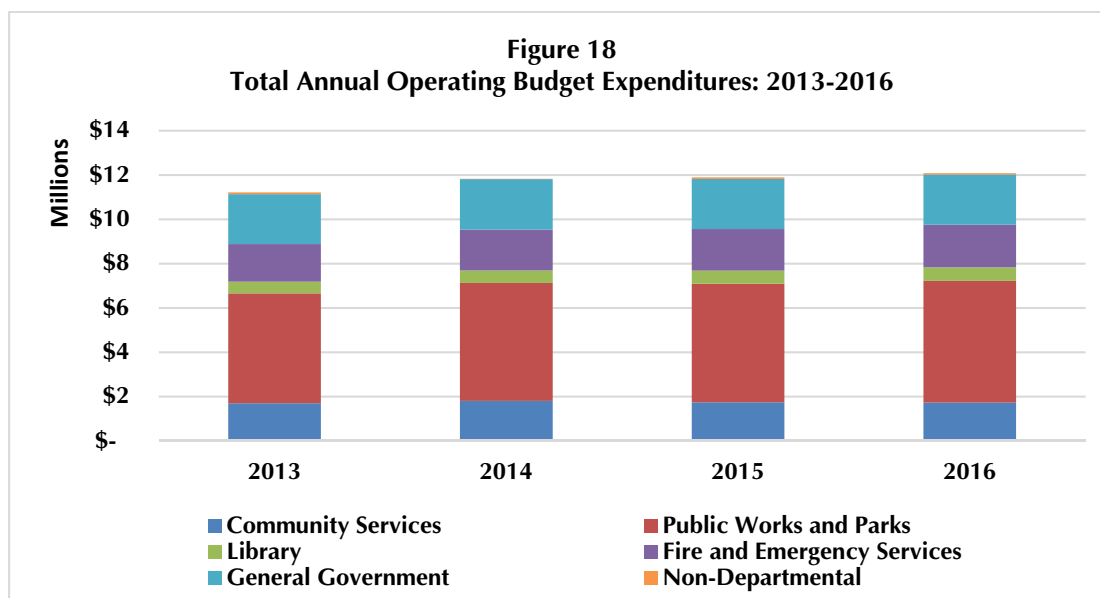
### A. OPERATING BUDGET EXPENDITURES

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’s budget has risen year-over-year in response to increased capital repair and operating needs.

Figure 18 illustrates total expenditures by major category based on the 2014-2016 budget reports on the Township website. Total expenditures were \$11.2 million in 2013 and increased to \$12.1 million by 2016. The largest share of expenditures, which includes regular maintenance of assets, was in Public Works and Parks which accounted for 46% of total expenditures in 2016. Historically, the Township has used gas tax money to fund regular road maintenance and gravel road resurfacing programs from the operating budget. The analysis assumes, moving forward, annual gas tax money will be reallocated to fund capital repair and replacement activities in the capital budget.

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 annual inflation adjustments.



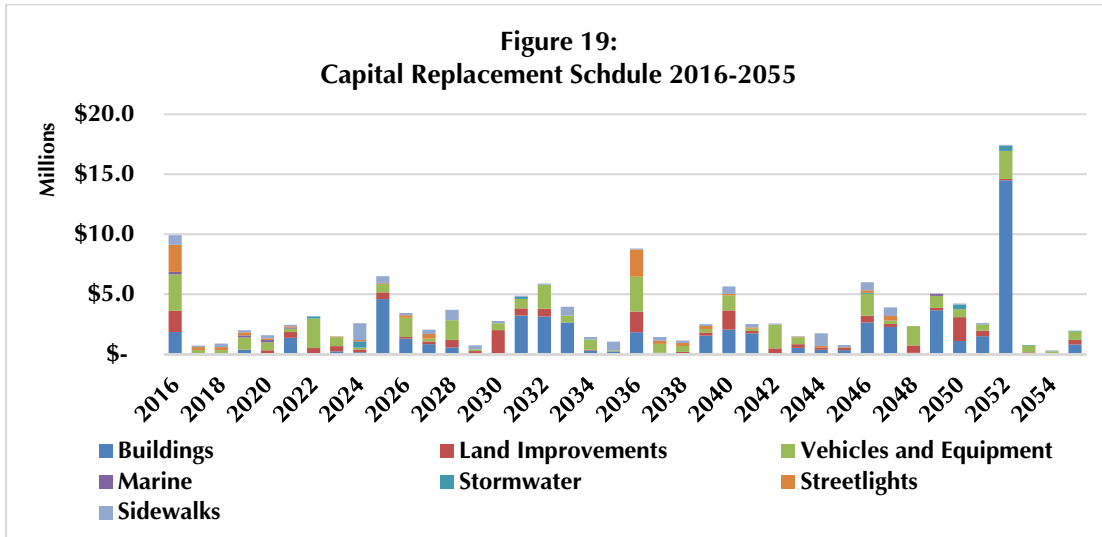
Source: 2013-2016 budget reports.

## B. REPAIR AND REPLACEMENT SCHEDULE

Figure 19 sets out the schedule of repair and replacement of assets required to meet service level targets for the assets considered in the 2016 Plan. Over the 40-year period, to 2055, the tax supported repair and replacement program totals about \$134.1 million. The average yearly replacement costs of these assets amount to approximately \$3.4 million.

In 2016, significant expenditures have been identified that are required to repair or replace overdue assets amounting to a total of \$9.9 million. Of this amount, vehicles and equipment assets represent 31%, or \$3.0 million, and streetlights represent 23%, or \$2.3 million. Should this work or other works be delayed, asset conditions and service levels may decline.

In 2052, there is a notable spike in required replacement expenditures due to the Scugog Recreation Centre (SCRC) having fully depreciated and identified for replacement at a total cost of \$13.7 million.



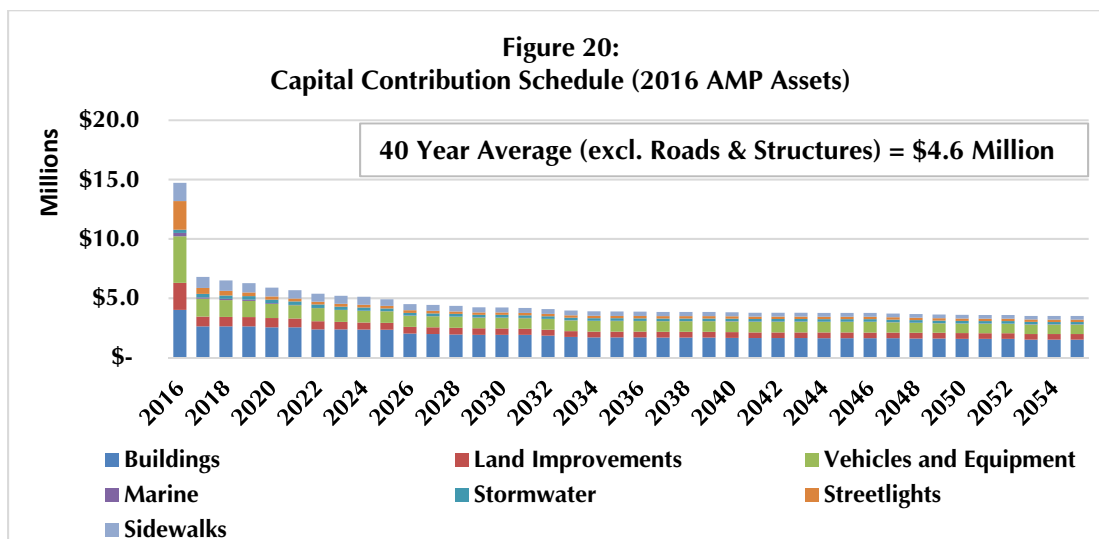
**C. CAPITAL PROVISION SCHEDULE**

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 Township 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 current \$2016. The aggregate of all individual provisions form an annual contribution to reserves for the purpose of asset repair and replacement.

Figure 20 below shows the funds that would have to be contributed annually to reserves to meet service level targets for all assets included in this 2016 Asset Management Plan to 2055.

Figure 20 demonstrates that:

- The Township has limited reserves on hand so a higher level of capital contributions is required over the long term in order to meet service level requirements.
- Excluding the assets considered under the 2013 Plan (road, bridges and culverts), average annual contributions over the 40-year period would have to be in the order of \$4.6 million per year (net of existing reserve funds), mostly related to buildings, vehicles and equipment.



In addition to the assets included in this 2016 Plan, the findings outlined in the 2013 Asset Management Plan have been incorporated into the capital provision schedule. Total recommended work over the first 10-year period identified in the 2013 Plan amounts to \$171.2 million. The total depreciation of these assets amounts to approximately \$6.6 million per year which is based on an assumed 50-year lifecycle for roads and 32-year lifecycle for bridges/culverts. The depreciation of road, bridge and culvert assets plus the recommended works in the first 10-year period was accounted for in the analysis. All values from the 2013 Plan have been adjusted to current dollars to account for the effects of inflation at a rate of 2%. A summary of the results including the 2016 Plan requirement with the results identified in the 2013 Plan are as follows:

- Average annual contributions over the 40-year period would have to be in the order of \$15.2 million per year (net of existing reserve funds), mostly relating to road assets.
- Higher capital contributions would be required in the short-term to pay for significant road, bridge and culvert expenditures identified in 2016. However, there will likely be measures the Township could take to mitigate this financial pressure in 2016 (and future years). These measures are more fully discussed in Part E and G of this section.
- The Township spent approximately \$2.6 million (including gas tax and reserves) in 2016 for repair/replacement of assets. Investment in Township assets would need to increase by \$12.6 million to achieve the \$15.2 million requirement (including roads, bridges and culverts).



#### D. CURRENT INFRASTRUCTURE DEFICIT

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 annual contributions to capital, identified in Part C: Capital Provision Schedule, be delayed.

The current infrastructure deficit shown in Table 18 represents the difference between the required in-year contributions to capital and the current contributions to capital for both the assets in this 2016 Plan and the road, bridge and culvert assets included in the 2013 Plan. The total 2016 capital provision required is \$144.3 million (including infrastructure backlog) while current capital spending is \$2.6 million (includes grants and reserve funding). The current in-year infrastructure deficit is therefore \$141.8 million. The infrastructure deficit would continue to grow should the required annual contributions to capital, identified in Part C, be delayed.

<b>Table 18</b>		
<b>Infrastructure Deficit for Base Year 2016</b>		
<b>Legend</b>	<b>Calculation of Current Infrastructure Deficit</b>	
A	Projected 2016 Capital Provision (2016 AMP)	\$ 14,723,015
B	Projected 2016 Capital Provision (2013 AMP Roads, Bridges and Culverts)	\$ 129,615,955
C	Total 2016 Capital Provision = (A+B)	\$ 144,338,970
D	Total 2016 Capital Spending (Budget)	\$ 2,555,872
E	Funding Gap = (C-D)	\$ 141,783,098
F	Cumulative Infrastructure Deficit = (sum of E)	\$ 141,783,098
<i>Note: Total 2016 capital funding (D) is derived from 2016 capital budget of \$584,372 of tax supported funding, \$1,501,000 CEF, \$180,000 gas tax, and \$290,500 from reserves. Does not include funding from development charges for growth-related projects.</i>		

#### E. FINANCING STRATEGY

It is unrealistic to expect the Township to address the total \$141.8 million infrastructure deficit in the short-term. Therefore, a long-term funding strategy that identifies options for addressing current and future asset expenditures is required. This analysis recognizes that the Township has not kept pace with the required contributions to perform the work set out in the calculated asset repair and replacement schedule in Part B: Repair and Replacement Schedule.

If the Township were to implement a funding strategy to eliminate the infrastructure deficit by 2055, the Township would be required to increase capital contributions on an annual basis by an average of about \$784,000. The total additional funding required over the 40 year period amounts to about \$486.5 million – this revenue requirement is equivalent to implementing an additional 4.25% cumulative capital levy over the 40 year period. Eliminating the infrastructure deficit by 2055 is an aggressive objective and is an initiative the Township is unlikely to explore at this time; a few reasons include:

- The required capital contributions (to eliminate the deficit) will necessitate an increase to property taxes beyond a reasonable measure;
- The Township may need to decrease or limit funding of other key Township services or initiatives in lieu for capital repair and replacement activity;
- Assets can remain in use past their engineered design life and are capable of performing to meet the Township’s desired 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 (Section IV: Asset Management Strategies) can often extend the requirement of major repair or replacement of capital assets and may prolong the life of the asset.

Further to the above noted comments, three financing strategies were developed to illustrate a rational capital contribution level to meet asset replacement needs for tax supported assets (shown in Table 20). The financing strategies illustrate the “smoothed options” to the capital repair and replacement requirements identified in Part B. Assumptions for each of the three funding strategies is shown in Table 19 and each financing strategy is shown in Table 20.

<b>Table 19</b>	
<b>Financing Strategy Key Assumptions</b>	
<b>Funding Source</b>	<b>Assumptions</b>
1% Dedicated Special Levy	<ul style="list-style-type: none"> <li>Dedicated 1% capital levy is cumulative for 15 years until 2030, then held constant thereafter (\$1.9 million per year after 2030).</li> </ul>
Community Enhancement Fund (CEF)	<ul style="list-style-type: none"> <li>Donation from the Great Blue Heron Casino for 2017 is projected to be \$835,000. Donations beyond 2017 is projected to be \$800,000 per annum.</li> </ul>
Gas Tax Reserve Fund	<ul style="list-style-type: none"> <li>Gas tax funding is assumed to be applied on an annual basis to fund capital repair and replacement activities (\$620,000 per year).</li> </ul>
Solar Fund Agreement	<ul style="list-style-type: none"> <li>Solar fund proceeds (\$50,000 per year) continue until agreement end date of 2035.</li> </ul>

<b>Table 20</b>	
<b>Summary of Financing Strategies</b>	
<b>Financing Strategy</b>	<b>Strategy Parameters</b>
<b>Strategy 1</b> <b>Close in-year Funding Gap by 2040</b>	<ul style="list-style-type: none"> <li>Increase in annual capital contributions amount to approximately \$390,000 per year.</li> <li>Total additional funding required over the 40 year period equal to \$225 million. This revenue requirement is equivalent to implementing an additional 2% cumulative capital levy over the 40 year period.</li> </ul>
<b>Strategy 2</b> <b>Close in-year Funding Gap by 2055</b>	<ul style="list-style-type: none"> <li>Increase in annual capital contributions amount to approximately \$173,000 per year.</li> <li>Total additional funding required over the 40 year period equal to \$90 million. This revenue requirement is equivalent to implementing an additional 0.8% cumulative capital levy over the 40 year period.</li> </ul>
<b>Strategy 3</b> <b>Maintain Status Quo</b>	<ul style="list-style-type: none"> <li>No additional funding mechanisms have been assumed.</li> <li>The cumulative infrastructure deficit exceeds \$480 million by 2055.</li> </ul>

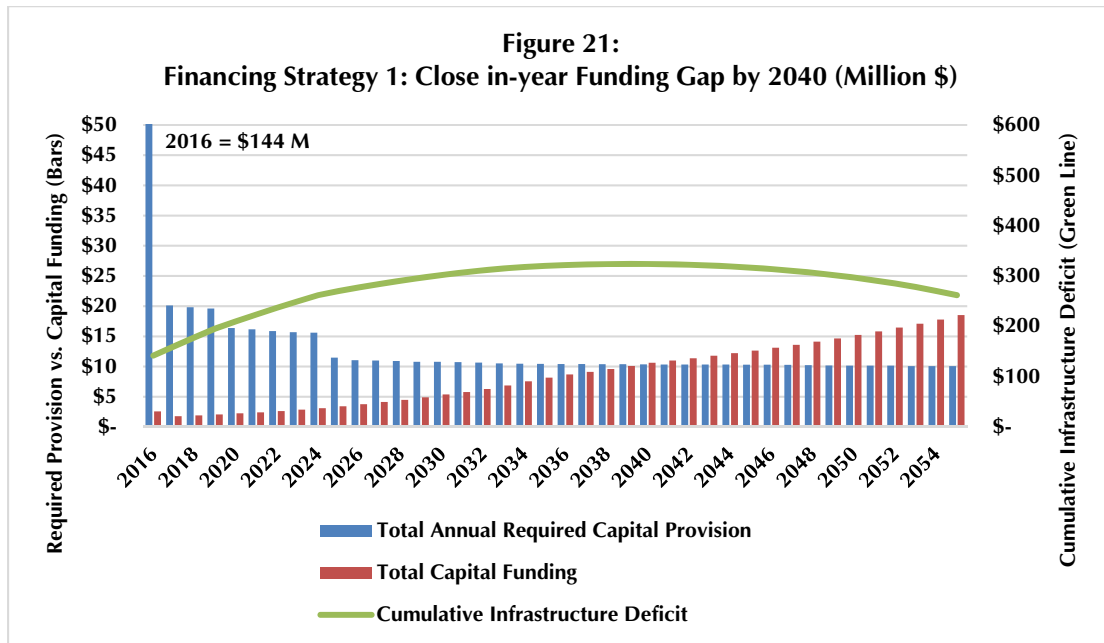
*Note: Key assumptions noted in Table 19 are maintained for all three financing strategies.*

**1. Strategy 1 – Close in-year Funding Gap by 2040**

Given the capital expenditure requirement to meet the asset replacement needs, the cumulative infrastructure deficit will reach \$324.2 million before the Township begins to reduce this amount by increasing capital contributions by more than the annual provision requirement in 2040 (Figure 21). The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. By 2055, the infrastructure deficit will be at \$261.8 million. This strategy represents an average annual increase in capital contributions (including transfers to reserves) of about \$390,000 per year. This represents 3.4% of the Township’s 2017 budget of about \$11.5 million.

The additional revenue requirement under this strategy is equivalent to implementing a supplementary 2% cumulative capital levy over the 40 year period. A detailed table of Strategy 1 can be found in Appendix A – Table 1.

It is important to note that even though the in-year funding gap has been addressed by 2040, the infrastructure deficit poses risk to the Township. The cumulative deficit in 2040 of \$324.2 million, 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.



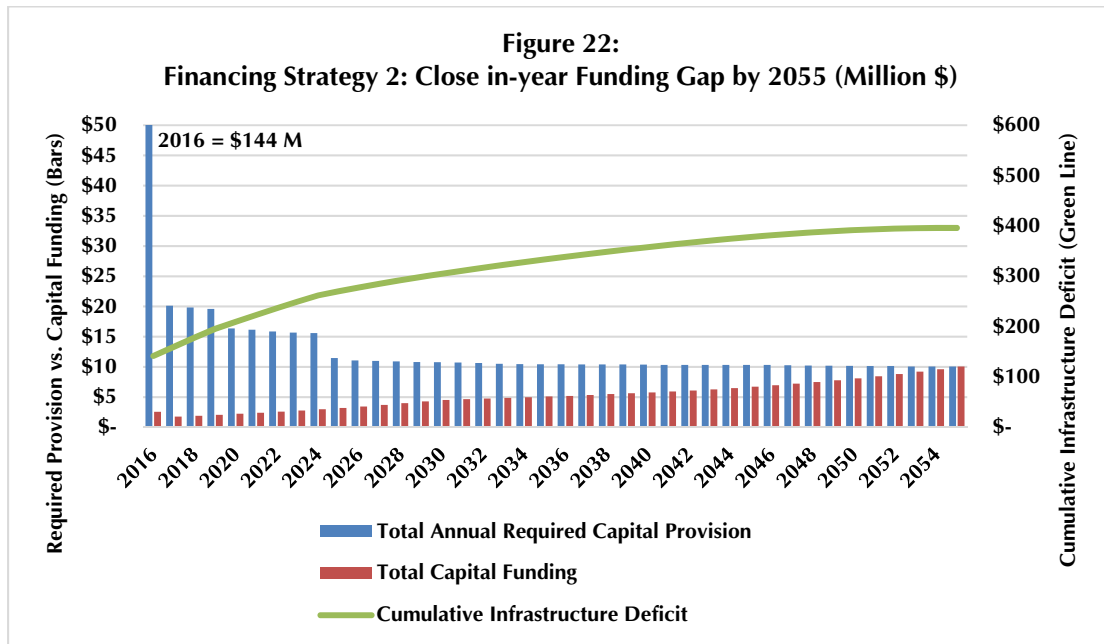
*Note : The projected capital provision represents the annual requirement to repair and replace existing Township assets as scheduled, based on the remaining useful of each asset. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated) and includes the asset requirements identified in the both the 2013 Plan and the 2016 Plan.*

## 2. Strategy 2 – Close in-year Funding Gap by 2055

Given the capital expenditure requirement to meet the asset replacement needs, the cumulative infrastructure deficit will reach \$396.0 million before the Township begins to reduce this amount by increasing capital contributions by more than the annual provision requirement in 2055 (Figure 22). The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision. This strategy represents an average annual increase in capital contributions (including transfers to reserves) of about \$173,000 per year. This represents 1.5% of the Township’s 2017 budget of about \$11.5 million.

The additional revenue requirement under this strategy is equivalent to implementing a supplementary 0.8% cumulative capital levy over the 40 year period. A detailed table of Strategy 2 can be found in Appendix A – Table 2.

Similar to Strategy 1, it is important to note that even though the in-year funding gap has been addressed by 2055, the infrastructure deficit poses a risk to the Township. The cumulative deficit in 2055 of \$396.0 million, 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 greater risk for asset failure.

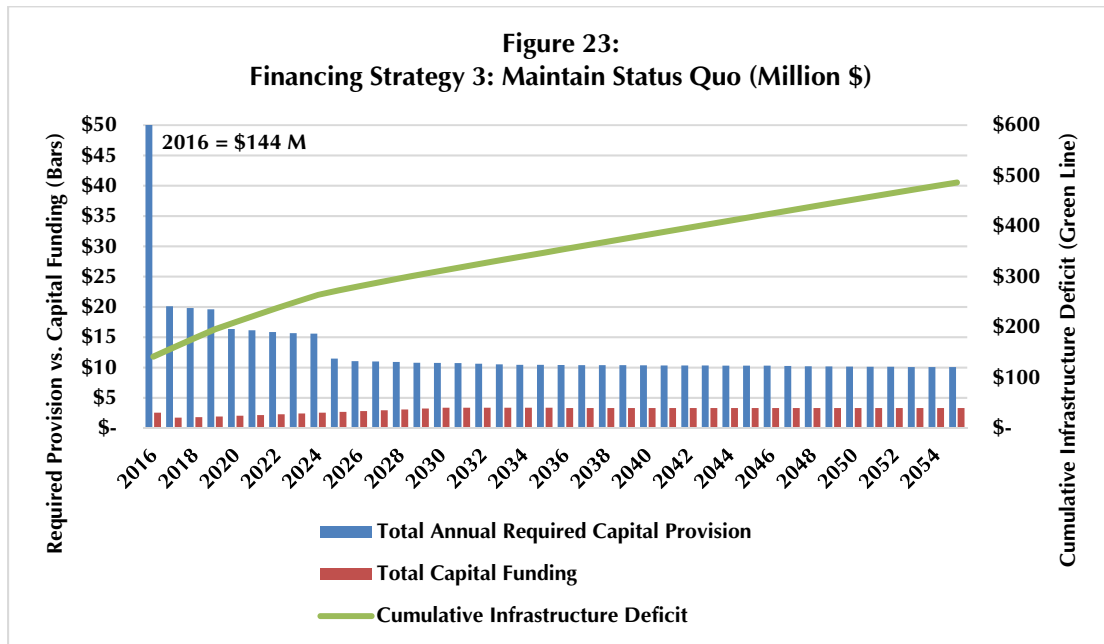


Note : The projected capital provision represents the annual requirement to repair and replace existing Township assets as scheduled, based on the remaining useful of each asset. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated) and includes the asset requirements identified in the both the 2013 Plan and the 2016 Plan.

### 3. Strategy 3 – Maintain Status Quo

The third strategy assumes capital contributions are kept at current levels with no further funding mechanisms assumed. Figure 23 illustrates the analysis of Strategy 3. A detailed table of Strategy 3 can be found in Appendix A – Table 3.

This analysis indicates that the Township would not close the in-year funding gap by 2055 and the cumulative infrastructure deficit will reach \$486.5 million in 2055 and will continue to grow beyond the planning period. Strategy 3 represents the scenario with the greatest risk. The growing infrastructure deficit represents an increasing number of assets that have fully depreciated and may be in very poor condition.



Note : The projected capital provision represents the annual requirement to repair and replace existing Township assets as scheduled, based on the remaining useful of each asset. The projected annual capital provision requirement shown is net of existing reserves (e.g. existing funds have been incorporated) and includes the asset requirements identified in the both the 2013 Plan and the 2016 Plan.

## **F. 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 – these funds have been incorporated into the financing strategies at current levels.

### **Development Charges**

Development charges may be imposed to pay for increased capital costs required because of increased needs for services arising from development. Historically, the Township has used development charges to the extent possible to fund “development-related” capital costs. It is noted that capital costs of new infrastructure that benefit existing Township residents cannot be funded from development charges. Furthermore, 10% of all development-related capital costs for certain services must be funded from non-development charge sources (typically property taxes).

### **Property Taxes**

Property taxes represented nearly 65% of revenues in 2015 as per the Financial Information Return. The use of property taxes to fund municipal services is the most secure source of funding for the Township. As such, the Township would likely be required to increase property tax revenue to fund additional capital expenditures.

The Township has taken initiative by implementing a dedicated special levy for roads and related infrastructure. The levy is intended to be used for capital repair or replacement of existing assets to maintain them in good working order. The levy has been set to 1% of the prior year’s total tax levy and implemented on a cumulative basis; \$111,000 in 2016 and \$223,000 for 2017.

### **Rate Supported Funding Tools (Stormwater)**

The Region of Durham is responsible for the operation of the Township's water and wastewater infrastructure, which is supported by utility rates. The replacement of stormwater infrastructure in the Township of Scugog is currently funded through property taxes.

Many municipalities have recently began the process of moving stormwater pond and linear infrastructure to a utility based charge to better align the nexus between who benefits and who pays for the service. As such, the Township of Scugog could explore the opportunity to undertake a Stormwater Financing Strategy with the intention of shifting the funding of this service from property taxes to utility rates. Shifting recovery of stormwater services to a user rate system away from property taxes will allow a traditionally underfunded service to generate sufficient revenues to cover costs, particularly as capital costs are expected to increase significantly in the future.

### **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 has recently undertaken a comprehensive review of its building, planning and development fees in order to recover the full cost of providing services – the full cost recovery user fee rates incorporate a portion 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. The Township could explore P3s as a tool to carry out capital related activities.

### **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 municipality’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. It is recommended that the Township review local service definitions as part of future Development Charges Background Studies.

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 municipality could endeavour to require the developer to undertake, or fund, the road improvements as a condition of the subdivision agreement. The municipality benefits 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.

## **G. FINANCING AND FINANCIAL MANAGEMENT PRACTICES**

This section discusses, at a high level, the means by which capital revenue can be raised or secured.

### **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 to ensure the tax payers who benefit from the asset share the cost. Therefore, the burden of capital is distributed equally between the current tax payer and future tax payers. The Township has in the past exercised the ability to fund capital works through the issuance of debt when necessary.

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 Township

currently operates well below the annual repayment limit of \$4.0 million in total net debt charges as identified in the Township's 2015 Financial Information Return. The Township's total net debt charges of \$32,500 equates to less than 1% (out of 100%) of the total allowable annual repayment limit of \$4.0 million. As a safe practice, 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 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 Township to have at any given time, but they should be sufficient to cover emergency work (if required).

As of January 1st 2016, the Township had a total capital reserve balance of \$11.8 million. The reserve balances consider only the money the Township has on hand to carry out capital projects related to the services to which this asset management plan applies and excludes operating and user rate stabilization capital reserves. A portion of these reserves (\$5.9 million) have been considered in the calculation of the infrastructure deficit in the funding strategy. The balance of funds, as they relate to hydro reserves and the Community Enhancement Funds, have not been considered in the calculation as the Township would continue to use those funds to complete specific projects determined by Council and staff on a case-by-case basis.

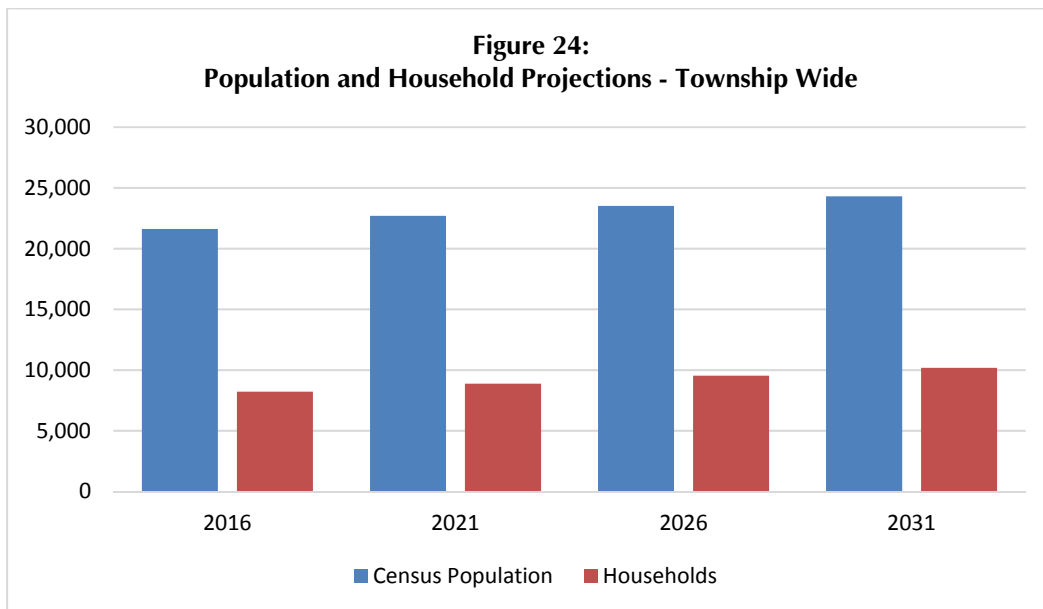
### **H. FUTURE DEMAND**

The 2016 Plan reflects the assets that the Township currently owns and operates. As the Township grows, it is expected that new growth related assets will be acquired to facilitate development. As a result, the financial requirements of the Township can be expected to increase relative to the assets acquired. Regular updates of the 2016 Plan will include newly acquired assets.

It should be noted that future updates to the Township's Development Charges Background Study must now include a detailed Asset Management Plan that

demonstrates the financial sustainability of all assets to be funded by development charges. When the Development Charges Background Study is updated, currently planned for 2019, the new capital assets identified will be incorporated into the Township's next Asset Management Plan.

Figure 24 below illustrates the growth anticipated in the Township from the period 2006 to 2031. Over this period, a total of about 2,000 new occupied units are expected with the census population growing to over 24,000 persons by 2031. As a result, the Township should expect to acquire assets in all categories to meet increased demand. This will place increased pressure on the tax base to fund the repair and replacement of these newly acquired assets, while managing the existing infrastructure backlog.



Source: Township of Scugog Development Charges Background Study and 2016 Census data

## **VI CONCLUSIONS AND RECOMMENDATIONS**

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The objective of this Asset Management Plan is to provide the Township of Scugog with the information it needs to make decisions on how best to manage capital assets in a sustainable way to 2055. In this section, recommendations based on the analysis undertaken as part of the 2016 Plan are made.

### **A. SUMMARY OF KEY FINDINGS**

- The Township’s asset base is extensive, valued at \$422.2 million, in relation to the total population of about 22,000 persons.
- The 2013 Asset Management Plan prepared for Township Roads, Bridges and Culverts identify about \$116.6 million in works which are recommended as “Now” needs.
- The remaining assets identified in the 2016 Plan identifies a high proportion (about 60% or \$60.8 million) of Township assets are considered to be in “Good” to “Very Good” condition. About 27% (\$27.0 million) of infrastructure is considered to be in “Poor” to “Very Poor” condition.
- The Township of Scugog has made considerable effort in recent years to address the infrastructure gap and improve the condition of assets:
  - Implementation of a dedicated 1% infrastructure levy to address overdue road and related infrastructure requirements;
  - Donations received from the Great Blue Heron Casino are directed to capital repair and replacement activities;
  - Through its annual capital budgeting process, the Township addresses critical issues and assets in need for repair or replacement; and
  - Overall, the Township have some reserves available to fund capital projects.
- The responsibility to maintain existing infrastructure is challenging, however, in addition to current capital funding generated from the dedicated 1% infrastructure levy, 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;
- Explore and research the validity of implementing a stormwater user fee to fund the repair and replacement of stormwater pond and linear infrastructure; and
- Explore alternative arrangements to provide services – public private partnerships or shared services.
- The Township is considered to be in good fiscal standing with strong budgetary performance and low debt – the Township’s total net debt charges of \$32,500 equates to less than 1% (out of 100%) of the total allowable annual repayment limit of \$4.0 million. This debt capacity could allow the Township to use debt to carry out emergency repairs or other strategic projects which typically provide a return on investment such as reduction in operating costs.
- 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 research and analysis undertaken for this 2016 Plan the following conclusions can be reached:

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

- The Township should adopt multi-year capital budgets and forecasts for all services based on a minimum 10 year forecast horizon.
- 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;
  - timing and phasing;
  - funding sources;
  - growth-related components;
  - potential financing and debt servicing costs;
  - long-term costs, including operations, maintenance, and asset rehabilitation costs;
  - capacity to deliver; and
  - alternative service delivery and procurement options.

- A range of quantifiable service level targets that incorporate the quantity and quality of capital assets should continue to be expanded on and established for all services. Targets should be measured, reported on, and adjusted annually.
- Repair and replacement capital works should be prioritized based on asset condition ratings with assets overdue for replacement and/or identified as “Very Poor” recognized for immediate attention.
  - Advanced capital prioritization processes include the use of a risk matrix to assist in determining annual capital spending.
- Infrastructure assets which have been provided a “Fair” condition rating should be targeted for maintenance to ensure they continue to perform at the expected level.
- The Township should, where possible coordinate the construction of new (growth-related) infrastructure with infrastructure repairs and replacement to achieve cost efficiencies.

## **2. Ensure Asset Inventories are Updated Regularly**

- The Township should establish an asset management internal network. This network can include individuals from Finance, Parks, Recreation & Culture, Public Works, Fire and Emergency Services. The internal network should be lead by a designated data champion.
- Sound asset management decisions are only possible if information in the asset registry is accurate. The Township designated data champion 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 needs to refine the condition assessments for non-engineered assets considered under this plan; and
- The Township should update this Asset Management Plan at a minimum every 3-5 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. A number of municipalities in Ontario have had success in this regard by:
  - Regular and ongoing maintenance work;
  - Daily vehicle and equipment inspections; and

- Substituting retrofitting and rehabilitation work for (more costly) full replacement of an asset.
- The Township should explore opportunities to dispose under utilized infrastructure/facilities which may not warrant repair/replacement. For example, underutilized Township halls could be disposed; and
- Coordinate assets into specific hubs to create operating and capital repair/maintenance efficiencies where possible. Example: Sport fields into centralized areas (Port Perry downtown).

## **APPENDIX A**

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### ***FINANCING STRATEGY DETAILED TABLES***



**Appendix A - Table 1  
Township of Scugog  
Asset Management Plan  
Financing Strategy 1: Close in-year Funding Gap by 2040 (in constant \$2016)**

Legend	A	B	C	D	E	F	G	H	I	J	K	L
Year	Projected Annual Capital Provision (2016 AMP Assets)	Projected Annual Capital Provision (Roads and Road Structures)	Total Annual Required Capital Provision	Annual Capital Contributions (Tax Supported Net of 1% Levy)	% Annual Increase in Capital Contributions	Existing 1% Capital Levy - Roads	CEF Funding	Gas Tax	Other Funding (Total)*	Total Capital Funding	Annual Funding Gap = (C-J)	Cumulative Infrastructure Deficit
			A + B + C							D+F+G+H+I = J	C - J = K	SUM OF K
2016	\$ 14,723,015	\$ 129,615,955	\$ 144,338,970	\$ 473,500		\$ 110,872	\$ 1,501,000	\$ 180,000	\$ 290,500	\$ 2,555,872	\$ 141,783,098	\$ 141,783,098
2017	\$ 6,784,522	\$ 13,329,360	\$ 20,113,882	\$ 50,000		\$ 223,000	\$ 835,000	\$ 620,000	\$ 50,000	\$ 1,778,000	\$ 18,335,882	\$ 160,118,980
2018	\$ 6,489,207	\$ 13,329,360	\$ 19,818,567	\$ 100,000	40.0%	\$ 337,512	\$ 800,000	\$ 620,000	\$ 50,000	\$ 1,770,512	\$ 17,911,054	\$ 178,030,034
2019	\$ 6,264,454	\$ 13,329,360	\$ 19,593,813	\$ 140,000	40.0%	\$ 454,243	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,064,243	\$ 17,529,570	\$ 195,559,604
2020	\$ 5,880,348	\$ 10,482,435	\$ 16,362,783	\$ 196,000	40.0%	\$ 573,309	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,239,309	\$ 14,123,475	\$ 209,683,078
2021	\$ 5,661,842	\$ 10,482,435	\$ 16,144,277	\$ 254,800	30.0%	\$ 694,756	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,419,556	\$ 13,724,721	\$ 223,407,800
2022	\$ 5,378,115	\$ 10,482,435	\$ 15,860,551	\$ 331,240	30.0%	\$ 818,631	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,619,871	\$ 13,240,679	\$ 236,648,479
2023	\$ 5,197,202	\$ 10,482,435	\$ 15,679,638	\$ 430,612	30.0%	\$ 944,985	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,845,597	\$ 12,834,041	\$ 249,482,520
2024	\$ 5,118,055	\$ 10,482,435	\$ 15,600,490	\$ 559,796	30.0%	\$ 1,073,865	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,103,661	\$ 12,496,830	\$ 261,979,350
2025	\$ 4,905,492	\$ 6,559,412	\$ 11,464,904	\$ 727,734	30.0%	\$ 1,205,323	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,403,057	\$ 12,041,196	\$ 270,041,196
2026	\$ 4,493,094	\$ 6,559,412	\$ 11,052,506	\$ 946,055	30.0%	\$ 1,339,414	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,755,465	\$ 7,297,042	\$ 277,338,238
2027	\$ 4,427,480	\$ 6,559,412	\$ 10,986,892	\$ 1,182,568	25.0%	\$ 1,476,179	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,128,747	\$ 6,858,145	\$ 284,196,383
2028	\$ 4,351,036	\$ 6,559,412	\$ 10,910,448	\$ 1,395,430	18.0%	\$ 1,615,683	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,481,114	\$ 6,429,335	\$ 290,625,717
2029	\$ 4,230,406	\$ 6,559,412	\$ 10,789,818	\$ 1,674,517	20.0%	\$ 1,757,977	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,902,494	\$ 5,887,324	\$ 296,513,041
2030	\$ 4,209,404	\$ 6,559,412	\$ 10,768,816	\$ 2,009,420	20.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,382,537	\$ 5,386,279	\$ 301,899,320
2031	\$ 4,167,825	\$ 6,559,412	\$ 10,727,237	\$ 2,411,304	20.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,784,421	\$ 4,942,816	\$ 306,842,136
2032	\$ 4,079,242	\$ 6,559,412	\$ 10,638,654	\$ 2,893,565	20.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 6,266,682	\$ 4,371,972	\$ 311,214,108
2033	\$ 3,955,179	\$ 6,559,412	\$ 10,514,591	\$ 3,472,278	20.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 6,845,395	\$ 3,669,196	\$ 314,883,304
2034	\$ 3,891,412	\$ 6,559,412	\$ 10,450,824	\$ 4,166,733	20.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 7,539,851	\$ 2,910,973	\$ 317,794,277
2035	\$ 3,878,590	\$ 6,559,412	\$ 10,438,002	\$ 4,791,743	15.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 8,164,861	\$ 2,273,141	\$ 320,067,418
2036	\$ 3,858,530	\$ 6,559,412	\$ 10,417,942	\$ 5,366,752	12.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 8,689,870	\$ 1,728,072	\$ 321,795,490
2037	\$ 3,839,773	\$ 6,559,412	\$ 10,399,185	\$ 5,796,092	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 9,119,210	\$ 1,279,975	\$ 323,075,465
2038	\$ 3,832,961	\$ 6,559,412	\$ 10,392,373	\$ 6,259,780	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 9,582,897	\$ 809,476	\$ 323,884,940
2039	\$ 3,829,203	\$ 6,559,412	\$ 10,388,615	\$ 6,760,562	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 10,083,680	\$ 304,935	\$ 324,189,876
2040	\$ 3,805,694	\$ 6,559,412	\$ 10,365,106	\$ 7,301,407	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 10,624,525	\$ (259,419)	\$ 323,930,457
2041	\$ 3,771,856	\$ 6,559,412	\$ 10,331,268	\$ 7,666,478	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 10,989,595	\$ (658,327)	\$ 323,272,130
2042	\$ 3,767,351	\$ 6,559,412	\$ 10,326,763	\$ 8,049,801	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 11,372,919	\$ (1,046,156)	\$ 322,225,975
2043	\$ 3,766,314	\$ 6,559,412	\$ 10,325,726	\$ 8,452,291	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 11,775,409	\$ (1,449,683)	\$ 320,776,291
2044	\$ 3,758,848	\$ 6,559,412	\$ 10,318,260	\$ 8,874,906	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 12,198,024	\$ (1,879,764)	\$ 318,896,528
2045	\$ 3,752,034	\$ 6,559,412	\$ 10,311,446	\$ 9,318,651	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 12,641,769	\$ (2,330,323)	\$ 316,566,205
2046	\$ 3,747,862	\$ 6,559,412	\$ 10,307,274	\$ 9,784,584	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 13,107,701	\$ (2,800,427)	\$ 313,765,778
2047	\$ 3,706,109	\$ 6,559,412	\$ 10,265,521	\$ 10,273,813	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 13,596,931	\$ (3,311,410)	\$ 310,434,368
2048	\$ 3,652,699	\$ 6,559,412	\$ 10,212,111	\$ 10,787,504	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 14,110,621	\$ (3,898,510)	\$ 306,535,858
2049	\$ 3,613,945	\$ 6,559,412	\$ 10,173,357	\$ 11,326,879	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 14,649,996	\$ (4,476,640)	\$ 302,059,218
2050	\$ 3,587,644	\$ 6,559,412	\$ 10,147,056	\$ 11,893,223	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 15,216,340	\$ (5,069,284)	\$ 296,989,934
2051	\$ 3,577,544	\$ 6,559,412	\$ 10,136,956	\$ 12,487,884	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 15,811,002	\$ (5,674,045)	\$ 291,315,889
2052	\$ 3,573,001	\$ 6,559,412	\$ 10,132,413	\$ 13,112,278	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 16,435,396	\$ (6,302,982)	\$ 285,012,906
2053	\$ 3,503,482	\$ 6,559,412	\$ 10,062,894	\$ 13,767,892	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 17,091,010	\$ (7,028,116)	\$ 277,984,791
2054	\$ 3,502,759	\$ 6,559,412	\$ 10,062,171	\$ 14,456,287	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 17,779,204	\$ (7,717,233)	\$ 270,267,558
2055	\$ 3,502,717	\$ 6,559,412	\$ 10,062,129	\$ 15,179,101	5.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 18,502,219	\$ (8,440,089)	\$ 261,827,468
<b>40-Year Infrastructure Deficit</b>												<b>\$ 261,827,468</b>

Note\*: Beyond 2016, the "Other Funding" relates to the solar fund proceeds (\$50,000 per year) continuing until the agreement ends in 2035.

Note: Historically, capital projects have typically been funded through existing reserves (incl. donations received from the Great Blue Heron casino). Limited funding was received from the tax base and therefore prior years are not shown on this table

Total Funding	\$ 224,649,960
Average Annual Funding Increase	\$ 389,208
	15.7%



**Appendix A - Table 2  
Township of Scugog  
Asset Management Plan  
Financing Strategy 2: Close in-year Funding Gap by 2055 (in constant \$2016)**

Legend	A	B	C	D	E	F	G	H	I	J	K	L
Year	Projected Annual Capital Provision (2016 AMP Assets)	Projected Annual Capital Provision (Roads and Road Structures)	Total Annual Required Capital Provision	Annual Capital Contributions (Tax Supported Net of 1% Levy)	% Annual Increase in Capital Contributions	Existing 1% Capital Levy - Roads	CEF Funding	Gas Tax	Other Funding (Total)*	Total Capital Funding	Annual Funding Gap = (C-J)	Cumulative Infrastructure Deficit
			A + B = C							D+F+G+H+I=J	C - J = K	SUM OF K
2016	\$ 14,723,015	\$ 129,615,955	\$ 144,338,970	\$ 473,500		\$ 110,872	\$ 1,501,000	\$ 180,000	\$ 290,500	\$ 2,555,872	\$ 141,783,098	\$ 141,783,098
2017	\$ 6,784,522	\$ 13,329,360	\$ 20,113,882	\$ 50,000		\$ 223,000	\$ 835,000	\$ 620,000	\$ 50,000	\$ 1,778,000	\$ 18,335,882	\$ 160,118,980
2018	\$ 6,489,207	\$ 13,329,360	\$ 19,818,567	\$ 100,000		\$ 337,512	\$ 800,000	\$ 620,000	\$ 50,000	\$ 1,907,512	\$ 17,911,054	\$ 178,030,034
2019	\$ 6,264,454	\$ 13,329,360	\$ 19,593,813	\$ 140,000	40.0%	\$ 454,243	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,064,243	\$ 17,529,570	\$ 195,559,604
2020	\$ 5,880,348	\$ 10,482,435	\$ 16,362,783	\$ 196,000	40.0%	\$ 573,309	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,239,309	\$ 14,123,475	\$ 209,683,078
2021	\$ 5,661,842	\$ 10,482,435	\$ 16,144,277	\$ 245,000	25.0%	\$ 694,756	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,409,756	\$ 13,734,521	\$ 223,417,600
2022	\$ 5,378,115	\$ 10,482,435	\$ 15,860,551	\$ 306,250	25.0%	\$ 818,631	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,594,881	\$ 13,265,669	\$ 236,683,269
2023	\$ 5,197,202	\$ 10,482,435	\$ 15,679,638	\$ 367,500	20.0%	\$ 944,985	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,782,485	\$ 12,897,153	\$ 249,580,422
2024	\$ 5,118,055	\$ 10,482,435	\$ 15,600,490	\$ 441,000	20.0%	\$ 1,073,865	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,984,865	\$ 12,615,625	\$ 262,196,047
2025	\$ 4,905,492	\$ 6,559,412	\$ 11,464,904	\$ 529,200	20.0%	\$ 1,203,323	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,204,523	\$ 8,260,381	\$ 270,456,428
2026	\$ 4,493,094	\$ 6,559,412	\$ 11,052,506	\$ 635,040	20.0%	\$ 1,339,417	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,444,430	\$ 7,608,056	\$ 278,064,484
2027	\$ 4,427,480	\$ 6,559,412	\$ 10,986,892	\$ 762,048	20.0%	\$ 1,476,179	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,708,227	\$ 7,278,665	\$ 285,343,149
2028	\$ 4,351,036	\$ 6,559,412	\$ 10,910,448	\$ 914,458	20.0%	\$ 1,615,683	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,000,141	\$ 6,910,307	\$ 292,253,457
2029	\$ 4,230,406	\$ 6,559,412	\$ 10,789,818	\$ 1,051,626	15.0%	\$ 1,757,977	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,279,604	\$ 6,510,214	\$ 298,763,671
2030	\$ 4,209,404	\$ 6,559,412	\$ 10,768,816	\$ 1,156,789	10.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,529,906	\$ 6,238,910	\$ 305,002,581
2031	\$ 4,167,825	\$ 6,559,412	\$ 10,727,237	\$ 1,274,468	10.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,747,324	\$ 5,957,267	\$ 311,084,233
2032	\$ 4,079,242	\$ 6,559,412	\$ 10,638,654	\$ 1,374,265	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,747,383	\$ 5,891,272	\$ 316,975,504
2033	\$ 3,955,179	\$ 6,559,412	\$ 10,514,591	\$ 1,484,206	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,857,324	\$ 5,657,267	\$ 322,632,771
2034	\$ 3,891,412	\$ 6,559,412	\$ 10,450,824	\$ 1,602,943	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 4,976,060	\$ 5,474,763	\$ 328,107,535
2035	\$ 3,878,590	\$ 6,559,412	\$ 10,438,002	\$ 1,731,178	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,104,296	\$ 5,333,706	\$ 333,441,240
2036	\$ 3,858,530	\$ 6,559,412	\$ 10,417,942	\$ 1,869,673	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,192,790	\$ 5,225,151	\$ 338,666,392
2037	\$ 3,839,773	\$ 6,559,412	\$ 10,399,185	\$ 2,019,246	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,342,364	\$ 5,056,821	\$ 343,723,213
2038	\$ 3,832,961	\$ 6,559,412	\$ 10,392,373	\$ 2,180,786	8.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,503,904	\$ 4,888,469	\$ 348,611,682
2039	\$ 3,829,203	\$ 6,559,412	\$ 10,388,615	\$ 2,311,633	6.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,634,751	\$ 4,753,864	\$ 353,365,547
2040	\$ 3,805,694	\$ 6,559,412	\$ 10,365,106	\$ 2,450,331	6.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,773,449	\$ 4,591,657	\$ 357,957,204
2041	\$ 3,771,856	\$ 6,559,412	\$ 10,331,268	\$ 2,597,351	6.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 5,920,469	\$ 4,410,800	\$ 362,368,003
2042	\$ 3,767,351	\$ 6,559,412	\$ 10,326,763	\$ 2,753,192	6.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 6,076,310	\$ 4,250,454	\$ 366,618,457
2043	\$ 3,766,314	\$ 6,559,412	\$ 10,325,726	\$ 2,949,451	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 6,272,568	\$ 4,053,158	\$ 370,671,614
2044	\$ 3,758,848	\$ 6,559,412	\$ 10,318,260	\$ 3,159,699	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 6,482,817	\$ 3,835,443	\$ 374,507,058
2045	\$ 3,752,034	\$ 6,559,412	\$ 10,311,446	\$ 3,384,935	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 6,708,052	\$ 3,603,394	\$ 378,110,452
2046	\$ 3,747,862	\$ 6,559,412	\$ 10,307,274	\$ 3,626,226	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 6,949,344	\$ 3,357,930	\$ 381,468,382
2047	\$ 3,706,109	\$ 6,559,412	\$ 10,265,521	\$ 3,884,718	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 7,207,835	\$ 3,057,685	\$ 384,526,067
2048	\$ 3,652,699	\$ 6,559,412	\$ 10,212,111	\$ 4,161,636	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 7,484,753	\$ 2,727,358	\$ 387,253,425
2049	\$ 3,613,945	\$ 6,559,412	\$ 10,173,357	\$ 4,458,294	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 7,781,411	\$ 2,391,945	\$ 389,645,370
2050	\$ 3,587,644	\$ 6,559,412	\$ 10,147,056	\$ 4,776,098	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 8,099,216	\$ 2,047,841	\$ 391,693,211
2051	\$ 3,577,544	\$ 6,559,412	\$ 10,136,956	\$ 5,116,557	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 8,439,675	\$ 1,697,281	\$ 393,390,492
2052	\$ 3,573,001	\$ 6,559,412	\$ 10,132,413	\$ 5,481,286	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 8,804,403	\$ 1,328,010	\$ 394,718,502
2053	\$ 3,503,482	\$ 6,559,412	\$ 10,062,894	\$ 5,872,013	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 9,195,131	\$ 867,763	\$ 395,586,265
2054	\$ 3,502,759	\$ 6,559,412	\$ 10,062,171	\$ 6,290,594	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 9,613,711	\$ 448,460	\$ 396,034,726
2055	\$ 3,502,717	\$ 6,559,412	\$ 10,062,129	\$ 6,739,012	7.1%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 10,062,129	\$ (0)	\$ 396,034,726
<b>40-Year Infrastructure Deficit</b>												<b>\$ 396,034,726</b>

Note\*: Beyond 2016, the "Other Funding" relates to the solar fund proceeds (\$50,000 per year) continuing until the agreement ends in 2035.

Note: Historically, capital projects have typically been funded through existing reserves (incl. donations received from the Great Blue Heron casino). Limited funding was received from the tax base and therefore prior years are not shown on this table

Total Funding	\$ 90,442,703
Average Annual Funding Increase	\$ 172,795
	12.4%



**Appendix A - Table 3**  
**Township of Scugog**  
**Asset Management Plan**  
**Financing Strategy 3: Maintain Status Quo (in constant \$2016)**

Legend	A	B	C	D	E	F	G	H	I	J	K	L
Year	Projected Annual Capital Provision (2016 AMP Assets)	Projected Annual Capital Provision (Roads and Road Structures)	Total Annual Required Capital Provision	Annual Capital Contributions (Tax Supported Net of 1% Levy)	% Annual Increase in Capital Contributions	Existing 1% Capital Levy - Roads	CEF Funding	Gas Tax	Other Funding (Total)*	Total Capital Funding	Annual Funding Gap = (C-J)	Cumulative Infrastructure Deficit
			A + B = C							D+F+G+H+I=J	C-J=K	SUM OF K
2016	\$ 14,723,015	\$ 129,615,955	\$ 144,338,970	\$ 473,500		\$ 110,872	\$ 1,501,000	\$ 180,000	\$ 290,500	\$ 2,555,872	\$ 141,783,098	\$ 141,783,098
2017	\$ 6,784,522	\$ 13,329,360	\$ 20,113,882		0.0%	\$ 223,000	\$ 835,000	\$ 620,000	\$ 50,000	\$ 1,728,000	\$ 18,385,882	\$ 160,168,980
2018	\$ 6,489,207	\$ 13,329,360	\$ 19,818,567		0.0%	\$ 337,512	\$ 800,000	\$ 620,000	\$ 50,000	\$ 1,807,512	\$ 18,011,054	\$ 178,180,034
2019	\$ 6,264,454	\$ 13,329,360	\$ 19,593,813		0.0%	\$ 454,243	\$ 800,000	\$ 620,000	\$ 50,000	\$ 1,924,243	\$ 17,669,570	\$ 195,849,604
2020	\$ 5,880,348	\$ 10,482,435	\$ 16,362,783		0.0%	\$ 573,309	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,043,309	\$ 17,669,570	\$ 195,849,604
2021	\$ 5,661,842	\$ 10,482,435	\$ 16,144,277		0.0%	\$ 694,756	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,164,756	\$ 14,319,475	\$ 210,169,078
2022	\$ 5,378,115	\$ 10,482,435	\$ 15,860,551		0.0%	\$ 818,631	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,288,631	\$ 13,571,919	\$ 237,720,519
2023	\$ 5,197,202	\$ 10,482,435	\$ 15,679,638		0.0%	\$ 944,985	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,414,985	\$ 13,264,653	\$ 250,985,172
2024	\$ 5,118,055	\$ 10,482,435	\$ 15,600,490		0.0%	\$ 1,073,865	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,543,865	\$ 13,056,625	\$ 264,041,797
2025	\$ 4,905,492	\$ 6,559,412	\$ 11,464,904		0.0%	\$ 1,205,323	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,675,323	\$ 8,789,581	\$ 272,831,378
2026	\$ 4,493,094	\$ 6,559,412	\$ 11,052,506		0.0%	\$ 1,339,418	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,809,418	\$ 8,243,096	\$ 281,074,474
2027	\$ 4,427,480	\$ 6,559,412	\$ 10,986,892		0.0%	\$ 1,476,179	\$ 800,000	\$ 620,000	\$ 50,000	\$ 2,946,179	\$ 8,040,713	\$ 289,115,187
2028	\$ 4,351,036	\$ 6,559,412	\$ 10,910,448		0.0%	\$ 1,615,683	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,085,683	\$ 7,824,765	\$ 296,939,952
2029	\$ 4,230,406	\$ 6,559,412	\$ 10,789,818		0.0%	\$ 1,757,977	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,227,977	\$ 7,561,840	\$ 304,501,793
2030	\$ 4,209,404	\$ 6,559,412	\$ 10,768,816		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,395,699	\$ 311,897,491
2031	\$ 4,167,825	\$ 6,559,412	\$ 10,727,237		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,354,120	\$ 319,251,611
2032	\$ 4,079,242	\$ 6,559,412	\$ 10,638,654		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,265,537	\$ 326,517,148
2033	\$ 3,955,179	\$ 6,559,412	\$ 10,514,591		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,141,474	\$ 333,658,621
2034	\$ 3,891,412	\$ 6,559,412	\$ 10,450,824		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,077,706	\$ 340,736,328
2035	\$ 3,878,590	\$ 6,559,412	\$ 10,438,002		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,064,884	\$ 347,801,212
2036	\$ 3,858,530	\$ 6,559,412	\$ 10,417,942		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,052,062	\$ 354,896,036
2037	\$ 3,839,773	\$ 6,559,412	\$ 10,399,185		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,039,240	\$ 361,972,103
2038	\$ 3,832,961	\$ 6,559,412	\$ 10,392,373		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,026,418	\$ 369,041,359
2039	\$ 3,829,203	\$ 6,559,412	\$ 10,388,615		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,013,600	\$ 376,106,856
2040	\$ 3,805,694	\$ 6,559,412	\$ 10,365,106		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,000,782	\$ 383,148,845
2041	\$ 3,771,856	\$ 6,559,412	\$ 10,331,268		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,008,151	\$ 390,156,995
2042	\$ 3,767,351	\$ 6,559,412	\$ 10,326,763		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,003,646	\$ 397,160,641
2043	\$ 3,766,314	\$ 6,559,412	\$ 10,325,726		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 7,002,608	\$ 404,163,249
2044	\$ 3,758,848	\$ 6,559,412	\$ 10,318,260		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,995,143	\$ 411,158,392
2045	\$ 3,752,034	\$ 6,559,412	\$ 10,311,446		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,988,328	\$ 418,146,720
2046	\$ 3,747,862	\$ 6,559,412	\$ 10,307,274		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,984,157	\$ 425,130,877
2047	\$ 3,706,109	\$ 6,559,412	\$ 10,265,521		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,942,403	\$ 432,073,280
2048	\$ 3,652,699	\$ 6,559,412	\$ 10,212,111		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,888,994	\$ 438,962,274
2049	\$ 3,613,945	\$ 6,559,412	\$ 10,173,357		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,850,239	\$ 445,812,513
2050	\$ 3,587,644	\$ 6,559,412	\$ 10,147,056		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,823,939	\$ 452,636,452
2051	\$ 3,577,544	\$ 6,559,412	\$ 10,136,956		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,813,839	\$ 459,450,290
2052	\$ 3,573,001	\$ 6,559,412	\$ 10,132,413		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,809,296	\$ 466,259,586
2053	\$ 3,503,482	\$ 6,559,412	\$ 10,062,894		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,739,777	\$ 472,999,363
2054	\$ 3,502,759	\$ 6,559,412	\$ 10,062,171		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,739,054	\$ 479,738,417
2055	\$ 3,502,717	\$ 6,559,412	\$ 10,062,129		0.0%	\$ 1,903,118	\$ 800,000	\$ 620,000	\$ 50,000	\$ 3,373,118	\$ 6,739,012	\$ 486,477,428
<b>40-Year Infrastructure Deficit</b>												<b>\$ 486,477,428</b>

Note\*: Beyond 2016, the "Other Funding" relates to the solar fund proceeds (\$50,000 per year) continuing until the agreement ends in 2035.

Note: Historically, capital projects have typically been funded through existing reserves (incl. donations received from the Great Blue Heron casino). Limited funding was received from the tax base and therefore prior years are not shown on this table

Total Funding	\$	-
Average Annual Funding Increase	\$	0.0%



## **APPENDIX B**

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### ***HIGH PRIORITY CAPITAL PROJECTS***