

**Final Report**

Prepared by Hemson for the Township of North Kawartha

# Asset Management Plan

June 2022



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# Contents

|   |    |
|---|----|
| Executive Summary   | 1  |
| 1. Introduction   | 6  |
| A. Asset Management Overview                              | 6  |
| B. Ontario's Asset Management Regulation (O. Reg. 588/17) | 7  |
| C. Asset Management Plan Structure                        | 10 |
| 2. State of Local Infrastructure                          | 12 |
| A. Replacement Cost of Infrastructure                     | 12 |
| B. Summary of State of Local Infrastructure               | 14 |
| C. Condition Assessments                                  | 15 |
| 3. Level of Service                                       | 18 |
| A. Current Levels of Service                              | 18 |
| B. Costs to Maintain Current Levels of Service            | 20 |
| 4. Asset Management Strategy                              | 23 |
| A. Overview of Full Lifecycle Cost Model                  | 23 |
| B. Risk Analysis  | 28 |
| C. Climate Change Integration                             | 32 |
| D. Consideration of Asset Management Software Solutions   | 37 |
| 5. Financing Strategy                                     | 39 |
| A. Operating Budget Expenditures                          | 39 |
| B. Capital Replacement Schedule                           | 40 |
| C. Summary of the Cumulative Full Lifecycle Costs         | 43 |
| D. Summary of Revenues                                    | 45 |
| E. Infrastructure Deficit and Financing Strategies        | 47 |

|    |  |     |
|----|--|-----|
| F. | Costs to Maintain Levels of Service and Relationship with Financing Strategies | 51  |
| G. | Available Funding Tools  | 54  |
| H. | Financing and Financial Management Practices                                   | 56  |
| I. | Future Demand  | 57  |
| 6. | Continuous Improvements and Updates  | 59  |
| A. | Asset Management Internal Network  | 59  |
| B. | Plan Monitoring  | 59  |
| C. | Data Quality and Confidence  | 60  |
| D. | Timeframes for Review and Updates  | 61  |
| E. | Public Review and Comment  | 62  |
| 7. | Conclusions and Recommendations  | 63  |
| A. | Summary of Key Findings  | 63  |
| B. | Summary of Recommendations   | 64  |
|    | Appendix A – Definitions   | 67  |
|    | Appendix B – State of Local Infrastructure Report Cards                        | 70  |
|    | Appendix C – Asset Management Strategy   | 96  |
|    | Appendix D – Detailed Financing Strategy Tables                                | 100 |
|    | Appendix E – High Priority Capital Works                                       | 105 |

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# Executive Summary

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

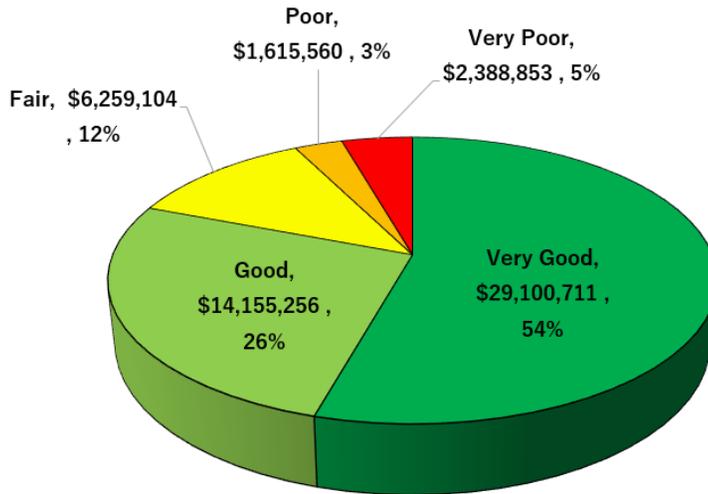
The 2022 Plan incorporates all assets that the Township is responsible for to provide a comprehensive overview and is based on the development of the Township's 2017 AMP. All figures are in constant 2022 dollars and should be adjusted annually to account for the effects of inflation.

## A. State of Local Infrastructure

- The Township's infrastructure has a total replacement value of \$83.4 million.
  - **Core Assets:** Roads represent \$29.9 million (36%), while the Township bridge represents \$290,400 (less than 1%)
  - **Non-Core Assets:** Buildings represents \$39.8 million (48%) of the total value, vehicles represent \$9.1 million (11%) and the remaining assets represent \$4.4 million (5%).
- Overall, the Township's assets (excluding roads) are considered to be in Very Good condition.
  - About \$43.3 million (81%) of the Township's assets are considered to be in Good or Very Good condition.

- Conversely, about \$4.0 million (7%) of infrastructure is considered to be in Poor to Very Poor condition. These assets have largely been categorized based on their remaining useful life. Despite this rating, these assets continue to be in working condition and are monitored more closely.

### Asset Summary of Condition by Replacement Value



*Note: Excludes roads.*

- The Township’s 2021 Road Needs Study has identified the average PCI of Township roads at 78.7, which generally translates to an overall condition of Good.

### B. Level of Service

- The Township’s current levels of service have been defined based on the condition of assets and the measures required as per O. Reg. 588/17:
  - Overall, the Township’s asset base is considered to be in Very Good condition.
  - Buildings and the bridge are in Very Good condition overall. The bridge is rated at an average BCI of 78 (out of 100) based on the OSIM Inspection.

- Land improvements and other engineering assets are in Good condition overall.
- Vehicles, equipment and computers are generally in Fair condition.
- The average PCI of Township roads is at 78.7, which generally translates to an overall condition of Good.
- Other specific level of service measures related to O. Reg. 588/17 are discussed in Section 3.

### C. Financing Strategy

- The 40-year cumulative infrastructure deficit is estimated at about \$112.2 million based on maintaining current funding levels to 2061. It is unrealistic in the current fiscal context to expect the Township to fully address the infrastructure deficit in the short to medium term.
- Three financing strategies were developed to determine what capital contributions would be required to meet asset lifecycle needs over the 40-year period to 2061, while at the same time considering a more modest approach to capital funding from taxation.<sup>1</sup>

#### Summary of Financial Strategies (in 2022 \$)

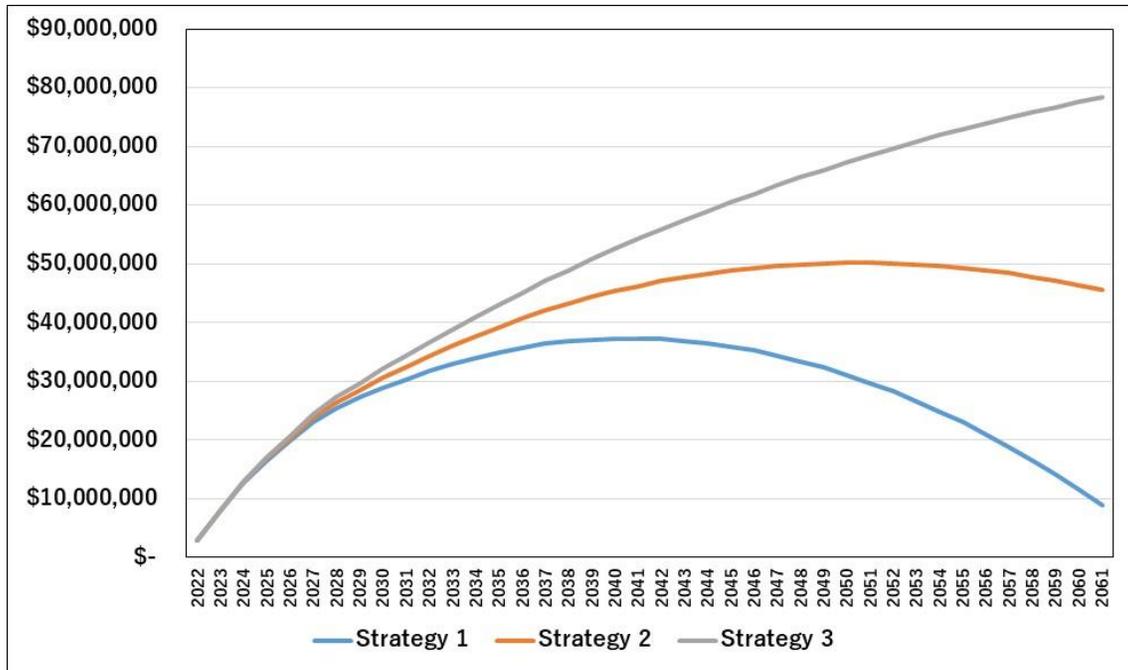
| Financing Strategy  | Strategy Parameters  |
|---|--|
| <b>Strategy 1</b><br><br><b>Close in-year Funding Gap by 2041</b> | <ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$132,500 per year. For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ The yearly revenue requirement is equivalent to 2.2% of the Township’s estimated 2022 tax levy (\$6.1 million).</li> </ul> |

<sup>1</sup> 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.

| Financing Strategy  | Strategy Parameters   |
|---|---|
| <b>Strategy 2</b><br><b>Close in-year</b><br><b>Funding Gap by</b><br><b>2051</b>   | <ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$85,500 per year. For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ The yearly revenue requirement is equivalent to 1.4% of the Township’s estimated 2022 tax levy (\$6.1 million).</li> </ul>   |
| <b>Strategy 3</b><br><b>Continue Annual</b><br><b>Capital</b><br><b>Contributions</b><br><b>based on Recent</b><br><b>Budgets</b> | <ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$43,400 per year. For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ This amount is in-line with increases for tax funded capital in recent budgets and based on the previous AMP (adjusted to 2022 dollars).</li> <li>▪ The yearly revenue requirement is equivalent to 0.7% of the Township’s estimated 2022 tax levy (\$6.1 million).</li> </ul> |

- The three financing strategies developed represent options for the Township based on varying funding levels. Strategies 1 and 2 would generally represent an increase to the level of service. Strategy 3 is based on the financing strategy adopted in the 2017 AMP and based on the recent tax funded budget increases towards capital. Although Strategy 3 shows the infrastructure deficit continuing to grow over time, the deficit is controlled by the end of the period and largely represents maintaining the current level of service.

## Infrastructure Deficit Comparison



# 1. Introduction

The Township of North Kawartha's 2022 Asset Management Plan (2022 Plan) provides the Township with a tool to assist in capital financing decisions. The Plan covers all municipal assets: buildings, vehicles, equipment, land improvements, computers, other engineering assets, bridge, and roads.

The 2022 Plan follows the format set out by the Ministry of Infrastructure through the Building Together: Guide for Municipal Asset Management Plans and it has also been developed to be consistent with the requirements of Ontario Regulation 588/17 Asset Management Planning for Municipal Infrastructure (O. Reg. 588/17) and the Township's Strategic Asset Management Policy. All figures reported in this 2022 Plan are in constant 2022 dollars and therefore should be adjusted annually to account for the effects of inflation.

An Excel based asset management financial model has been developed as part of the 2022 Plan. The model contains the Township's asset inventory and it is intended to be updated on a regular basis to inform future capital investment decisions. The model contains the information required to update the State of the Local Infrastructure Report Cards presented in Appendix B, which can be reproduced annually to help Council and the public understand the state of assets and overall funding levels.

## A. Asset Management Overview

Well-managed public infrastructure is vital to the prosperity and quality of life of communities. Given the range and scope of services provided, Ontario municipalities have a special responsibility in ensuring that infrastructure is planned, built, and maintained in a sustainable way. A detailed asset

management plan is essential to carry out this responsibility. Asset management has several benefits, including:

- Township can make informed and traceable decisions;
- Township has the opportunity to coordinate and plan accordingly by taking a risk-based approach to asset management;
- Higher customer satisfaction is possible;
- Documents a funding plan and strategy to manage infrastructure; and
- Demonstrates compliance with regulations and legislation.

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

The purpose of the 2022 Plan is to build on existing practices by identifying how best to manage municipal infrastructure over the planning period to 2061. A strategy for maintaining infrastructure so that existing service levels are maintained is an important element. In this respect, the 2022 Plan has been prepared to be consistent with the Township's Strategic Asset Management Policy. Ultimately, the 2022 Plan will provide Council with information that can guide sustainable infrastructure investment decisions.

## **B. Ontario's Asset Management Regulation (O. Reg. 588/17)**

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

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

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

**Table 1 – O. Reg. 588/17 Timeline**

| <b>Regulation Timeline</b> | <b>Summary of Requirements</b>   | <b>Progress</b>   |
|----------------------------|--|---|
| <b>July 1, 2019</b>        | <ul style="list-style-type: none"> <li>▪ Municipalities shall prepare their first strategic asset management policy.</li> <li>▪ Municipalities shall review, and if necessary, update the policy every 5 years.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Township Council approved the Strategic Asset Management Policy in 2019.</li> <li>▪ The next review is expected in 2024, although earlier reviews are encouraged whenever a change in policy directives occurs.</li> </ul> |

| <b>Regulation Timeline</b> | <b>Summary of Requirements</b>   | <b>Progress</b>   |
|----------------------------|--|---|
| <b>July 1, 2022</b>        | <ul style="list-style-type: none"> <li>▪ Every municipality shall prepare an asset management plan in respect of its core municipal infrastructure assets.</li> <li>▪ The current levels of service must be defined for all core assets.</li> </ul>            | <ul style="list-style-type: none"> <li>▪ This 2022 Plan has incorporated the information from the 2021 Road Needs Study and OSIM Inspection report. This includes condition assessments.</li> <li>▪ Current level of service measures have been identified through this plan, with the Township expecting to develop other metrics on an ongoing basis.</li> <li>▪ It is expected that service level data continue to be monitored and refined over the long-term.</li> </ul> |
| <b>July 1, 2024</b>        | <ul style="list-style-type: none"> <li>▪ Every municipality shall prepare an asset management plan in respect of all other municipal infrastructure assets.</li> <li>▪ The current levels of service must be defined for all other municipal assets</li> </ul> | <ul style="list-style-type: none"> <li>▪ This 2022 Plan has incorporated all non-core assets contained in the Township’s TCA information. Some of these assets include condition assessments based on internal staff reviews.</li> <li>▪ Current level of service measures have been identified through this plan, with the Township expecting to develop other metrics on an ongoing basis.</li> </ul>   |

| <b>Regulation Timeline</b> | <b>Summary of Requirements</b>  | <b>Progress</b>   |
|----------------------------|---|---|
| <b>July 1, 2025</b>        | <ul style="list-style-type: none"> <li>▪ Municipalities must establish proposed levels of service for a minimum of 10 years.</li> <li>▪ A lifecycle management and financial strategy that covers a minimum of 10 years.</li> </ul> | <ul style="list-style-type: none"> <li>▪ The Township is expecting to develop the analysis needed to establish proposed levels of service and a financial plan to achieve the proposed levels of service.</li> <li>▪ The proposed levels of service will be established through consultation with Council and the public in a subsequent update of this 2022 Plan.</li> </ul> |

### **C. Asset Management Plan Structure**

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

**Table 2 – Guide to the 2022 Asset Management Plan**

| <b>Section</b>                            | <b>Requirement</b>  |
|---|---|
| Section 2 - State of Local Infrastructure | Summarizes the state of the Township’s infrastructure with reference to infrastructure quantity and quality. Additional details are provided in Appendix B. |

| <b>Section</b>                                  | <b>Requirement</b>   |
|---|--|
| Section 3 - Level of Service                    | A summary of the current levels of service is presented as well as recommendations on additional metrics the Township can look to track in the future. Additional details are provided in Appendix C.  |
| Section 4 - Asset Management Strategy           | Sets out several strategies that will assist the Township in maintaining assets so that current service levels are maintained. This section also includes a risk analysis of Township assets. Additional details are provided in Appendix D. |
| Section 5 - Financing Strategy                  | Establishes how asset management can be delivered in a financially sustainable way for tax supported services. Additional details are provided in Appendix E.  |
| Section 6 – Continuous Improvements and Updates | Provides key recommendations on how to administer the 2022 Plan and keep it up to date.  |
| Section 7 - Conclusions and Recommendations     | Provides recommendations based on the analysis undertaken.   |

## 2. State of Local Infrastructure

This section provides a summary of the Township's assets with reference to asset quantity and quality. Some assets have condition assessments based on engineering inspections (roads and bridge), while the balance of assets considered are based on the useful life of the asset relative to its age as well as independent qualitative staff assessments and. Useful life assumptions for the assets considered under this 2022 Plan were acquired from the Township's tangible capital asset information. Detailed technical information on the asset inventory, remaining useful life and conditions for each asset category is provided in Appendix B.

### A. Replacement Cost of Infrastructure

The replacement cost for all Township assets considered in the 2022 Plan is estimated at \$83.4 million (represented in constant 2022 dollars). The largest share is related to buildings and accounts for about \$39.8 million (47.7%) of the total replacement cost. The next highest share is attributed to roads at \$29.9 million (35.8%) and this is followed by vehicles at \$9.1 million (10.9%).

The other asset categories in the Township's asset portfolio make up the remaining \$4.7 million (5.6%). These are made up of \$3.1 million (3.7%) for equipment, \$576,400 (0.7%) for other engineering assets, \$558,500 (0.7%) for land improvements, \$176,000 (0.2%) for computers, and \$290,400 (0.3%) for the Township bridge.

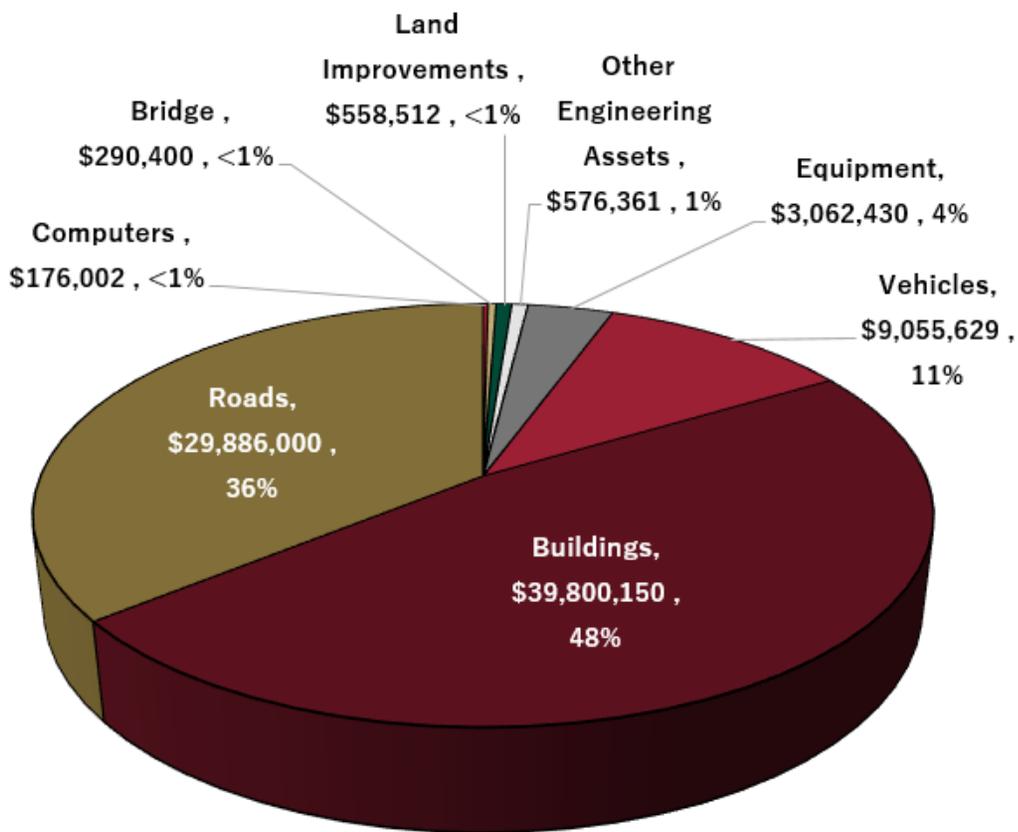
The replacement costs have been developed based on historical information maintained by staff in the asset inventory and recent benchmark costs from comparable municipalities. Where information was not available, historical acquisition costs were inflated to current 2022 dollars at a rate of 2%.

Detailed replacement cost for each asset category is provided in Appendix B.

The two basic methods to estimate replacement costs have been utilized for the purposed of this AMP:

- Benchmark costs: Some replacement costs are based on benchmark engineering costs from comparable municipalities to the Township, in particular for buildings, vehicles and equipment. Detailed unit costs are provided in Appendix B for these assets.
- Inflationary estimates: When assets cannot be estimated using benchmark costs, the Township uses historic cost, estimated useful life and inflationary effects to determine replacement value.

**Figure 1: Summary of Assets by Total Replacement Value (2022 \$)**



*Note: Roads include both paved and gravel roads.*

## B. Summary of State of Local Infrastructure

Table 3 provides a summary of the state of local infrastructure for all asset categories considered in this study, which is valued at \$83.4 million. The weighted remaining useful life (WRUL) and weighted average condition (WAC) for each asset category has been derived relative to the replacement value of each asset. Detailed information is provided in Appendix B. The table illustrates several key findings:

- **Weighted Remaining Useful Life:** the WRUL of the Township's assets is approximately 12 years. The weighted average is largely driven by the age of vehicles and equipment with only 4 years of useful life remaining and computers, which are considered overdue in terms of remaining useful life only. The majority of other assets have a weighted remaining useful life of 7 years or more. It is also noted that gravel roads are maintained on an ongoing basis and therefore a useful life has not been considered for this analysis.
- **Weighted Condition:** Overall, the Township's assets are determined to be in Very Good condition. Buildings, land improvements, other engineering assets, bridge, and roads are maintained in Good or Very Good condition, while the remaining assets are considered to be in Fair condition. It is also noted that gravel road conditions may vary significantly depending on factors such as weather conditions and traffic therefore conditions are not considered in the overall average.

**Table 3 – Summary of Local Infrastructure**

| <b>Asset Type</b>        | <b>Replacement Cost 2022</b> | <b>Weighted Remaining Useful Life</b> | <b>Weighted Condition</b> |
|--------------------------|------------------------------|---------------------------------------|---------------------------|
| Buildings                | \$39,800,150                 | 23                                    | Very Good                 |
| Vehicles                 | \$9,055,629                  | 4                                     | Fair                      |
| Equipment                | \$3,062,430                  | Overdue                               | Fair                      |
| Land Improvements        | \$558,512                    | 7                                     | Good                      |
| Computers                | \$176,002                    | Overdue                               | Fair                      |
| Other Engineering Assets | \$576,361                    | 15                                    | Good                      |
| Bridge                   | \$290,400                    | 42                                    | Very Good                 |
| Roads                    | \$29,886,000                 | Not Applicable                        | Based on 2021 RNS         |
| <b>Total</b>             | <b>\$83,405,484</b>          | <b>12</b>                             | <b>Very Good</b>          |

### **C. Condition Assessments**

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

**Table 4 – Condition Assessment Parameters**

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

Assets were categorized in the 5-tier rating system on an asset by asset basis for the purposes of reporting in this 2022 AMP. Condition assessments for the roads and bridge are based on the 2021 Road Needs Study, and Ontario Structure Inventory and Inspection Study respectively. The 2021 RNS provided conditions based on PCI, which was assessed at 78.7 out of 100. Additional details on the parameters used can be found in the 2021 RNS. The Ontario Structure Inventory and Inspection Study provided conditions through various descriptions of the state of infrastructure components for the Township bridge. Furthermore, Hemson undertook a qualitative review of the condition of some assets known to be in better condition than what their age would suggest, with input from Township staff. This means that, wherever the condition of an asset was assumed, its condition was recorded from Very Poor to Very Good. Finally, wherever information was not available on the condition of assets the age of the asset was used as a proxy. Under this method, older assets are assumed to be in poorer condition. Additional details on the methodology used for condition assessments is provided in Appendix B.

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

1. Condition rating systems based on engineered metrics and professional standards. For example, pavement condition index (PCI) for roads or bridge condition index (BCI) for the Township bridge. The Township should continually update the conditions in the asset inventory to reflect changes in conditions, asset replacement or updates to Township engineering reports.
2. Estimates based on expert staff opinion. This approach is important where there is low confidence that age and useful life represents a particular set. This method has already been used as part of the 2022 AMP and should continue to be utilized.
3. Estimates based on age and the remaining useful life of the asset. This has been used for any assets where the Township was not able to provide a condition assessment based on existing knowledge or inspection. It is the intention that the Township move towards a condition assessment methodology using approach 1 and 2 as needed. With this said, this methodology can be utilized for lower valued assets that have a shorter useful life.

### **3. Level of Service**

Asset management decisions must be made with reference to the level of service planned for by the Township. Current service levels in North Kawartha 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. The Township has therefore done a good job in assessing and maintaining levels of service given its existing tools.

The community expects that services be delivered in a cost effective and efficient way. Generally, community expectations revolve around the Township's accessibility of "soft" services (e.g. recreation facilities; libraries; fire stations) within neighbourhoods. However, safety and performance are also important for core services such as roads and the Township bridge.

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

#### **A. Current Levels of Service**

The Township has determined the current levels of service through the analysis and model developed in this 2022 Plan. The current level of service measures for each asset category are summarized in Table 5. It is noted that the information in Table 5 represents a blended approach of levels of service and performance measures which represent the best available information at this time:

- **Weighted Condition:** the condition of the Township's assets is determined to be in Very Good condition overall. Buildings, land improvements, bridge and roads are maintained in Good or Very Good condition, while the remaining assets are considered to be in Fair condition. It is important to note that assets in Fair condition may transition into the Poor or Very Poor category in the near future and may require attention in the short to medium term, if proper asset maintenance and rehabilitation is not achieved. It will be important for the Township to determine which assets in the Fair category should be prioritized to ensure that current levels of service do not decline.

O. Reg. 588/17 includes a prescribed set of level of service measures for Township services of roads and bridges. Table 5 includes the level of service measures as required in the regulation. Key findings on these levels of service are outlined:

- **Roads:** Out of a 100 rating scale, the average pavement condition index value of the paved and gravel roads is 78.70 (or Good condition). This information was obtained from the 2021 Road Needs Study. Note that the 2021 Roads Needs Study used a total weighted PCI for both paved and unpaved roads. Although, the regulation requires the PCI be documented for the purposes of the LOS analysis, the analysis in the 2021 RNS also considers other factors such as drainage, structural adequacy, surface width and AADT. The RNS and future updates should therefore continue to be utilized as a key tool for assessing the asset management needs associated to roads and a key input the Township AMP.
- **Bridge:** The weighted average condition of the bridge is considered to be Good. This information was obtained from the Ontario Structure and Inspection Study. Although, the regulation requires the BCI be documented for the purposes of the LOS analysis, the analysis in the report recorded conditions on a

qualitative and descriptive level based on the various components of the structures, which provides an important guideline for capital planning. Therefore, future updates of the Ontario Structure and Inspection Study should therefore continue to be utilized as a key tool for assessing the asset management needs associated to the bridge and should also consider including BCI's for each structure.

## **B. Costs to Maintain Current Levels of Service**

The Township undergoes reviews of the levels of service and services it provides on an annual basis through the budget process. Therefore, the Township considers the short-term implications of any changes in the level of service with consideration to the availability of funds and impacts to residents through its tax rates. The AMP considers the longer term costs of maintaining levels of service over a 40-year period. To do so the financing strategy considers three financing strategy scenarios which are discussed further in Section 5.

**Table 5  
Township of North Kawartha  
Level of Service Tracker**

| Asset Category                  | Value to Residents | Corporate Level of Service/Objective        | Description of LOS Measure   | Source of Information | Current LOS      |
|---------------------------------|--------------------|---|--|-----------------------|------------------|
| <b>Buildings</b>                | Cost Efficiency    | Providing buildings in an efficient manner. | Total annual budget maintenance expenditures                       | 2022 Budget           | \$ 90,880        |
|                                 | Reliability        | Providing reliable buildings.               | Average weighted condition assessment ("Very Poor" to "Very good") | AMP                   | <b>Very Good</b> |
|                                 |                    |   | % of assets at or above "Good" or "Very Good" condition            | AMP                   | 89%              |
|                                 |                    |   | % of assets beyond their useful life                               | AMP                   | 7%               |
| <b>Vehicles</b>                 | Cost Efficiency    | Providing vehicles in an efficient manner.  | Total annual budget maintenance expenditures                       | 2022 Budget           | \$ 127,100       |
|                                 | Reliability        | Providing reliable vehicles.                | Average weighted condition assessment ("Very Poor" to "Very good") | AMP                   | <b>Fair</b>      |
|                                 |                    |   | % of assets at or above "Good" or "Very Good" condition            | AMP                   | 51%              |
|                                 |                    |   | % of assets beyond their useful life                               | AMP                   | 26%              |
| <b>Equipment</b>                | Cost Efficiency    | Providing equipment in an efficient manner. | Total annual budget maintenance expenditures                       | 2022 Budget           | \$ 273,405       |
|                                 | Reliability        | Providing reliable equipment.               | Average weighted condition assessment ("Very Poor" to "Very good") | AMP                   | <b>Fair</b>      |
|                                 |                    |   | % of assets at or above "Good" or "Very Good" condition            | AMP                   | 68%              |
|                                 |                    |   | % of assets beyond their useful life                               | AMP                   | 59%              |
| <b>Land Improvements</b>        | Reliability        | Providing reliable land improvements.       | Average weighted condition assessment ("Very Poor" to "Very good") | AMP                   | <b>Good</b>      |
|                                 |                    |   | % of assets at or above "Good" or "Very Good" condition            | AMP                   | 56%              |
|                                 |                    |   | % of assets beyond their useful life                               | AMP                   | 22%              |
| <b>Computers</b>                | Cost Efficiency    | Providing equipment in an efficient manner. | Total annual budget maintenance expenditures                       | 2022 Budget           | \$ 113,925       |
|                                 | Reliability        | Providing reliable computer equipment.      | Average weighted condition assessment ("Very Poor" to "Very good") | AMP                   | <b>Fair</b>      |
|                                 |                    |   | % of assets at or above "Good" or "Very Good" condition            | AMP                   | 55%              |
|                                 |                    |   | % of assets beyond their useful life                               | AMP                   | 72%              |
| <b>Other Engineering Assets</b> | Reliability        | Providing reliable engineering assets.      | Average weighted condition assessment ("Very Poor" to "Very good") | AMP                   | <b>Very Good</b> |
|                                 |                    |   | % of assets at or above "Good" or "Very Good" condition            | AMP                   | 67%              |
|                                 |                    |   | % of assets beyond their useful life                               | AMP                   |                  |

**Table 5  
Township of North Kawartha  
Level of Service Tracker**

| Asset Category  | Value to Residents     | Corporate Level of Service/Objective             | Community Level of Service (as per O. Reg. 588/17)   |  | Description of LOS Measure   | Source of Information   | Current LOS  |                  |
|---|------------------------|--|--|--|--|---|--|------------------|
| <b>Roads</b>  | Legislative            | To meet reporting requirements of O. Reg. 588/17 | Description, which may include maps, of the road network in the municipality and its level of connectivity.  | Maps of the Township's road network are included in the 2021 Roads Needs Study developed with the Township by D.M. Wills Associated Limited. The Township owns both paved and gravel roads for a total of 157km. | Number of lane-kilometres of each of arterial roads, collector roads and local roads as a proportion of square kilometres of land area of the municipality (O. Reg. 588/17). |   |  |                  |
|   |                        |  |  |  | Arterial   | AMP   | 0%   |                  |
|   |                        |  |  |  | Collector  | AMP   | 6%   |                  |
|   |                        |  | Local  | AMP  | 31%  |   |  |                  |
|   |                        |  | Description or images that illustrate the different levels of road class pavement condition.   | Descriptions of road pavement classifications, definitions, and methodology are included in the 2021 Roads Needs Study developed by D.M. Wills Associates Limited.   | 1. For paved roads in the municipality, the average pavement condition index value (O. Reg. 588/17).   | 2021 Roads Needs Study  | 78.70  |                  |
| 2. For unpaved roads in the municipality, the average surface condition (O. Reg. 588/17). | 2021 Roads Needs Study | 78.70  |  |  |  |   |  |                  |
| <b>Bridge</b>   | Legislative            | To meet reporting requirements of O. Reg. 588/17 | Description of the traffic that is supported by municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists). | Description of technical information on the Township bridge is included in the OSIM inspection report. The Township's bridge only supports local traffic and is not intended for heavy duty vehicles.            | Percentage of bridges in the municipality with loading or dimensional restrictions (O. Reg. 588/17).   | OSIM Report   | 0%   |                  |
|   |                        |  |  |  | 1. Description or images of the condition of bridges and how this would affect use of the bridges.   | Images of bridge conditions are included in the Township's OSIM report. | 1. For bridges in the municipality, the average bridge condition index value (O. Reg. 588/17). | OSIM Report      |
|   |                        |  | Providing a reliable bridge.   |  |  | Average weighted condition assessment ("Very Poor" to "Very good")      | AMP  | <b>Very Good</b> |
|   |                        |  |  |  |  | % of assets at or above "Good" or "Very Good" condition                 | AMP  | 100%             |
|   |                        |  | % of assets beyond their useful life   | AMP  | 0%   |   |  |                  |

## 4. Asset Management Strategy

This section sets out an action plan that will assist the Township in maintaining assets so that current service levels are maintained. The asset management strategy relates to a set of actions that, taken together, has the lowest total cost to maintain assets in a state of good repair as defined in the Building Together: Guide for Municipal Asset Management Plans.

The asset management strategy includes current practices and potential future practices related to non-infrastructure solutions, maintenance activities, renewal/rehabilitation, disposal, and expansion activities. The final component of this section includes a risk analysis, which can be used to assist Township staff and Council measure and manage risks to assets to maintain current levels of service.

### A. Overview of Full Lifecycle Cost Model

As part of the Asset Management Plan, the Township, along with Hemson, have identified the total full lifecycle costs of assets that correspond to the requirements of the regulation. This would entail a cost estimation throughout the asset's life including planning, design, construction, acquisition, operation, maintenance, renewal and disposal. In addition, the analysis also takes into consideration the inclusion of expansion related infrastructure into the lifecycle management strategy. This approach ensures that the additional lifecycle costs associated with newly constructed/acquired assets are accounted for in the long-term forecast. It is noted that the approach is developed at the corporate level with lifecycle costs identified based on the Township budget.

A "lifecycle management approach" in asset management planning not only includes estimating future lifecycle costs, but also embeds the process of monitoring how the asset performs over its life while providing affordable

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

**Table 6 – Overview of the Full Lifecycle Cost Activities and AMP Approach**

| Category                     | Description  | AMP Approach   |
|------------------------------|--|--|
| Non-infrastructure Solutions | <ul style="list-style-type: none"> <li>▪ Actions or policies that can lower costs or extend asset life (e.g., better integrated infrastructure planning and land use planning, demand management, insurance, process optimization, managed failures, etc.).</li> </ul> | <ul style="list-style-type: none"> <li>▪ Provision of \$50,000 per annum has been included associated to future engineering studies, asset management software or changes to asset management practices</li> </ul> |

| Category               | Description   | AMP Approach   |
|------------------------|---|--|
| Maintenance Activities | <ul style="list-style-type: none"> <li>▪ Servicing assets on a regular basis in order to fully realize the original service potential. Maintenance will not extend the life of an asset or add to its value. Not performing regular maintenance may reduce an asset’s useful life.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Based on a review of 2022 budget by service area.</li> <li>▪ Annual maintenance activities of \$1.3 million per annum for tax supported assets.</li> <li>▪ Gravel maintenance of about \$208,000 per year based on 2021 Road Needs Study</li> <li>▪ Excludes regular costs of operation and only includes identifiable asset maintenance costs from the Township budget.</li> <li>▪ These figures are based on the 2022 budget and is deemed appropriate to use in the forecast moving forward as it generally represents similar costs compared to previous year’s budgets.</li> </ul> |

| Category                                 | Description  | AMP Approach   |
|--|--|--|
| Renewal/<br>Rehabilitation<br>Activities | <ul style="list-style-type: none"> <li>▪ Mostly associated to significant repairs designed to extend the useful life of an asset. These types of activities are typically done at key points in the lifecycle of an asset to ensure the asset reaches its designed useful life.</li> </ul> | <ul style="list-style-type: none"> <li>▪ For roads future renewal/rehabilitation 10-year expenditures are based on the 2021 RNS</li> <li>▪ Degradation costs of about \$379,000 per year which includes HCB, LCB and slurry seal/microsurfacing works</li> <li>▪ \$67,500 per year associated to capital improvements</li> <li>▪ These costs are assumed on an average basis over the long-term beyond the 10-year period</li> </ul> |
| Replacement<br>Activities                | <ul style="list-style-type: none"> <li>▪ Activities that are expected to occur once an asset has reached the end of its useful life and renewal/rehabilitation is no longer an option.</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Incorporating the average annual investment required to replace assets when they reach the end of their useful life (risk based replacement schedule).</li> <li>▪ This method is applied to all assets, except for roads, which is based on the renewal/rehabilitation assumptions above.</li> </ul>  |

| Category             | Description  | AMP Approach  |
|----------------------|--|---|
| Disposal Activities  | <ul style="list-style-type: none"> <li>▪ The activities associated with disposing of an asset once it has reached the end of its useful life, or is otherwise no longer needed. Typically, disposal costs are accounted under replacement activities. Some assets, such as landfills, may have perpetual maintenance costs.</li> </ul> | <ul style="list-style-type: none"> <li>▪ Analysis assumes any costs associated with “disposal” is included for in the replacement value and captured in the capital replacement requirements or renewal/rehabilitation costs.</li> </ul>  |
| Expansion Activities | <ul style="list-style-type: none"> <li>▪ Planned activities required to extend or expand municipal services to accommodate the demands of growth or associated to increases to the level of service</li> </ul>   | <ul style="list-style-type: none"> <li>▪ The Township does not expect any significant population growth over the planning period, therefore no growth-related infrastructure has been assumed.</li> <li>▪ The Township does expect that in future years additional road improvements may be required to modernize roads to a higher standard. A provision equal to about 10% of roads replacement value has been included beyond 2031.</li> </ul> |

It should be noted that the Township undertakes all the activities described above, however, the Township’s budget generally accounts for these expenditures in different categories. Specific asset management strategies based on existing practices in the Township are documented in Appendix D. It is recommended that the Township continue to track the asset management activities required to continue to maintain levels of service.

## B. Risk Analysis

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

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

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

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

**Table 7 – Likelihood of Failure**

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

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

- **Consequence of Failure:** refers to the impact on the Township if an asset were to fail. The consequence of failure has been determined separately for each asset category, as the impact to the Township differs greatly by asset type. For example, if a fire emergency vehicle was not available for service, the potential impact could be severe compared to a vehicle used for administrative purposes. For the purposes of this analysis, assets were assigned a consequence of failure based on an assessment of the relative importance of the asset. Table 8 below outlines the definition of consequence of failure used for the Township’s assets. The consequence of failure, rated on a 1-5 scale, was weighted relative to each category in Table 8 depending on how impactful the consequence may be to the Township.

**Table 8 – Consequence of Failure**

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

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

- **Risk Rating:** categorizes assets based on the level of risk to the Township. The risk rating provides a guide to prioritize assets by determining which assets require attention first and which capital works can be deferred. Higher risk assets should be prioritized for attention in the short term. This table summarizes the calculated residential and non-residential development charges by determining which of the lifecycle

actions is required to be performed on the asset (see Appendix D). Table 9 below provides a summary of the risk matrix.

**Table 9 – Risk Matrix**

| Evaluation Rating     |   | Consequence of Failure |    |    |    |    | Color Code     |
|-----------------------|---|------------------------|----|----|----|----|----------------|
|                       |   | 1                      | 2  | 3  | 4  | 5  |                |
| Likelihood of Failure | 1 | 1                      | 2  | 3  | 4  | 5  | Very Low Risk  |
|                       | 2 | 2                      | 4  | 6  | 8  | 10 | Low Risk       |
|                       | 3 | 3                      | 6  | 9  | 12 | 15 | Moderate Risk  |
|                       | 4 | 4                      | 8  | 12 | 16 | 20 | High Risk      |
|                       | 5 | 5                      | 10 | 15 | 20 | 25 | Very High Risk |

Table 9 presents the findings of the risk analysis and illustrates the Township’s assets rated from low to high risk. Most of the Township’s assets continue to have relatively low risk, and indication of good maintenance practices overall. Only vehicles and computers are considered to have moderate to high risk, largely based on the condition of the assets and their age, noting that these asset have relatively shorter useful lives.

The risk of each asset and asset category has been determined with reference to the parameters outlined in Table 9. It is important to note, that the Township will need to continue regular maintenance activities and capital works moving forward to maintain current levels of service – this ensures assets do not further deteriorate posing greater risk to the Township. Please note that roads have been excluded from the risk analysis in Table 10 as the infrastructure needs and timing of repair and replacement has been informed based on detailed engineered assessments.

- The 2021 Road Needs Study identifies the recommended works for each road segment on a case-by-case basis associated to capital improvements and resurfacing/preservation. The assessment is based on several factors includes surface type, surface width, capacity, structural adequacy, drainage and others to develop a list of priority works required.

**Table 10 – Summary Risk Assessment**

| <b>Asset Category</b>    | <b>Replacement Cost 2022</b> | <b>Risk (Weighted Average)</b> |
|--------------------------|------------------------------|--------------------------------|
| Buildings                | \$39,800,150                 | Low                            |
| Vehicles                 | \$9,055,629                  | Moderate                       |
| Equipment                | \$3,062,430                  | Moderate                       |
| Land Improvements        | \$558,512                    | Low                            |
| Computers                | \$176,002                    | High                           |
| Other Engineering Assets | \$576,361                    | Low                            |
| Bridge                   | \$290,400                    | Low                            |
| Roads                    | \$29,886,000                 | Based on 2021 RNS              |
| <b>Total</b>             | <b>\$83,405,484</b>          | <b>Low</b>                     |

It is important to recognize the risk associated with the Township’s ability to deliver the AMP while recognizing that any deviation may affect the overall ability to deliver service. Table 11 below provides a summary of the identified risks, potential impacts and mitigating actions associated with the asset management program. Moving forward, the Township may continue to update the information in Table 11 to better reflect ongoing changes to policy or practice.

**Table 11 – Risk Associated to the Plan**

| <b>Identified Risk</b>       | <b>Potential Impact</b>   | <b>Mitigating Action</b>  |
|------------------------------|---|---|
| <b>Failed Infrastructure</b> | <ul style="list-style-type: none"> <li>▪ Delivery of service</li> <li>▪ Asset and equipment damage</li> </ul> | <ul style="list-style-type: none"> <li>▪ Repair and rehabilitate as necessary</li> <li>▪ Increase investment</li> <li>▪ Non-infrastructure solutions</li> </ul> |

| <b>Identified Risk</b>  | <b>Potential Impact</b>   | <b>Mitigating Action</b>   |
|---|---|--|
| <b>Inadequate Funding</b>   | <ul style="list-style-type: none"> <li>▪ Delivery of service</li> <li>▪ Increased risk of failure</li> <li>▪ Shorten asset life</li> <li>▪ Defer funding to future generations</li> </ul> | <ul style="list-style-type: none"> <li>▪ Reductions of service</li> <li>▪ Find additional revenue sources</li> </ul>   |
| <b>Regulatory Requirements</b>  | <ul style="list-style-type: none"> <li>▪ Non-compliance</li> <li>▪ Mandatory investments</li> <li>▪ Increased costs</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Find additional revenue sources</li> <li>▪ Lobby actions</li> </ul>   |
| <b>Plan is not followed or not undertaken required lifecycle activities</b> | <ul style="list-style-type: none"> <li>▪ Shorten asset life</li> <li>▪ Inefficient investments</li> <li>▪ Prioritization process failure</li> <li>▪ Failure to deliver service</li> </ul> | <ul style="list-style-type: none"> <li>▪ Monitor and review</li> <li>▪ Create asset management network</li> <li>▪ Implement processes</li> <li>▪ Investigate alternative lifecycle management options</li> </ul> |

### **C. Climate Change Integration**

The management of municipal assets plays a fundamental role in the delivery of services, which depends on the infrastructure available to deliver the service. Corporate asset management in municipalities largely relates to the management of existing assets to keep them in a state of good repair while planning for future repair and/or replacement of their assets across all service areas. Impacts of climate change are already being experienced around the world, including Canada. It is important for municipalities to begin considering and planning for future climates to ensure the delivery of services, especially as it pertains to the maintenance of key municipal infrastructure. As per Ontario Regulation 588/17 s3(5), municipalities must include a commitment in their asset management planning to address the

vulnerabilities of climate change with respect to operations, levels of service and lifecycle management. There must also be consideration for anticipated costs, mitigation and adaptation approaches and disaster planning to meet all regulatory requirements in Ontario municipal asset management. In response to the regulatory requirements, Township of North Kawartha adopted its first Strategic Asset Management Policy and committed to integrating climate change as part of its asset management planning.

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

It has been noted by Township staff that inconsistent weather patterns in the winter where there are significant fluctuations in temperature have had a major impact on the Township's roads. More frequent repairs to roads due to more freeze/thaw cycles have been required. Major windstorms have also been an issue for the Township. The recent windstorm that hit the Township in May 2022 caused service interruptions for residents and some damage to assets, resulting in the Township declaring a state of emergency.

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

Table 12 provides a risk summary, for information purposes, to help further propel climate change integration with asset management, although, recognizing the full utilization would still need to be applied and understood

at the staff level. In asset management terms, this table shows the “big picture” effects that climate change hazards may have on the levels of service for various assets. The specific climate change impacts on levels of service are to be developed further as part of future updates to the asset management plan.

Through further understanding of the anticipated extent of climate change events, analysis undertaken through climate change adaptation projects at the Township would provide additional parameters as to the likelihood and severity of events if they are undertaken in future years. At its most simplistic form, the Table 12 provides a range from a “rare” occurrence to “almost certain”. A rare occurrence could be correlated to falling into the tenth percentile of probability, with an almost certain occurrence falling into the ninetieth percentile of probability. This said, for the Township Table 12 provides a first step in identifying what climate change risks are relevant to the local context, if any. Once the risk to assets is understood, the Township can look to explore the mitigating actions needed to address those risks.

**Table 12 – Framework for Climate Change Integration with Risk**

| <b>Hazards/<br/>Risks</b>  | <b>Likelihood</b>            | <b>Assets Affected</b>  | <b>Consequence<br/>Possible Critical<br/>Infrastructure<br/>Failure/Service Impacts</b>   |
|----------------------------|------------------------------|---|---|
| Freezing<br>Rain/Ice Storm | Rare to<br>almost<br>certain | <ul style="list-style-type: none"> <li>▪ Roads</li> <li>▪ Buildings</li> <li>▪ Bridge</li> <li>▪ Land<br/>Improvements</li> </ul> | <ul style="list-style-type: none"> <li>▪ Reduced road and bridge conditions or damage that may result in potential closures</li> <li>▪ Potential for increased flooding</li> <li>▪ Traffic delays due to poor road and bridge conditions</li> </ul> |

| Hazards/<br>Risks                      | Likelihood                   | Assets Affected   | Consequence<br>Possible Critical<br>Infrastructure<br>Failure/Service Impacts  |
|--|------------------------------|---|--|
| Extreme<br>Temperatures<br>– Cold Wave | Rare to<br>almost<br>certain | <ul style="list-style-type: none"> <li>▪ Roads</li> <li>▪ Buildings</li> <li>▪ Bridge</li> <li>▪ Land Improvements</li> </ul> | <ul style="list-style-type: none"> <li>▪ Closures of outdoor amenities due to extreme weather conditions</li> <li>▪ Increased strain on indoor heating systems leading to reduced service life and functionality of components and systems</li> </ul>  |
| Intense Rain                           | Rare to<br>almost<br>certain | <ul style="list-style-type: none"> <li>▪ Roads</li> <li>▪ Buildings</li> <li>▪ Bridge</li> <li>▪ Land Improvements</li> </ul> | <ul style="list-style-type: none"> <li>▪ Flooding of bridges and roadways leading to closures or property damage</li> <li>▪ Disruptions to service due to flooding of roads, leading to decreased levels of service</li> </ul>   |
| Flood – Urban                          | Rare to<br>almost<br>certain | <ul style="list-style-type: none"> <li>▪ Roads</li> <li>▪ Buildings</li> <li>▪ Bridge</li> <li>▪ Land Improvements</li> </ul> | <ul style="list-style-type: none"> <li>▪ Flooding of bridges and roadways leading to closures</li> <li>▪ Disruptions to service due to flooding of roads, leading to decreased levels of service</li> <li>▪ Flooding of parks and amenities leading to closures and reduced levels of service</li> </ul> |

| Hazards/<br>Risks                      | Likelihood                   | Assets Affected   | Consequence<br>Possible Critical<br>Infrastructure<br>Failure/Service Impacts  |
|--|------------------------------|---|--|
| Extreme<br>Temperatures<br>– Heat Wave | Rare to<br>almost<br>certain | <ul style="list-style-type: none"> <li>▪ Roads</li> <li>▪ Buildings</li> <li>▪ Bridge</li> <li>▪ Land<br/>Improvements</li> </ul> | <ul style="list-style-type: none"> <li>▪ Potential closure/reduce used of outdoor amenities due to high temperatures (reduced levels of service). Lost habitats leading to reduced environmental diversity.</li> <li>▪ Increased strain on indoor cooling systems leading to reduced service life and functionality of components and systems</li> </ul> |
| Windstorm/<br>Tornado                  | Rare to<br>almost<br>certain | <ul style="list-style-type: none"> <li>▪ All asset categories</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Closure of outdoor assets due to potential hazards for residents</li> <li>▪ Increased strain on facility assets leading to potential damages and reduced service life and functionality of components and systems</li> </ul>  |

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

## D. Consideration of Asset Management Software Solutions

The Township currently houses its asset inventories through a TCA software solution. The existing software is solely used for the purposes of keeping the inventory information up to date and for PSAB tangible capital asset reporting. Through the 2022 AMP, Hemson has developed an updated Excel based asset management financial planning model for the Township.

With this in mind, the Township has explored opportunities to modernize the inventory software to incorporate asset management related functionalities such as lifecycle activity tracking and lifecycle costing. Based on a high level review of other municipalities, it is concluded that the general approach to asset management software is generally mixed, but can be categorized in three major categories:

- **Specialized software:** some municipalities utilize specialized software to maintain asset inventory information and develop lifecycle costing analyses. Specialized software provides key advantages in that the information on assets can be made available through one centralized place, noting that the information needs to be continually updated to maintain its relevance. Furthermore, specialized lifecycle tracking and costing software is more limited and available for only some asset classes, particularly for roads and other engineering assets. Both large and small municipalities across the Province are moving towards this method of inventory and asset management. It is noted that the Township is moving towards adopting specialized asset management software to manage its inventory of assets.
- **Excel based solutions:** continue to be utilized across many municipalities. Municipalities may use Excel to both house their asset inventories and develop lifecycle analysis utilizing a standard approach or a mix of ad hoc analyses. Excel provides the advantage that more customized development and tracking of lifecycle analyses can be

developed, however, resources are needed to continually keep the analyses up to date and initial development of custom analyses may be constrained by available resources.

- **Mixed methodology:** many municipalities utilize a mixed approach based on the methods above. This is particularly common between various service areas. For example, public works departments may utilize roads lifecycle management software while parks and recreation may utilize Excel, recognizing that there are limited lifecycle software solutions for non-core assets. The mixed approach is appropriate in order to utilize the best available tool given the types of assets or service areas.

## 5. Financing Strategy

The Township has continually contributed to capital for tax funded services. In order to continue to maintain levels of service, the Township will need to monitor funding levels over the next few years. This section of the 2022 Plan is intended to help the Township build on the existing asset management practices already in place. The financing strategies presented provide the Township with feasible options to increase capital funding in a sustainable manner to maintain service levels. Note that all figures presented in this section are expressed in constant 2022 dollars.

### A. Operating Budget Expenditures

In recent years, the Township has set aside funds to maintain its capital assets in a state of good repair. This has meant that sufficient funds have typically been available to deal with immediate and critical asset repair and rehabilitation needs. Overall, the Township has aimed to increase its operational and capital budget expenditures to maintain assets and fund capital asset repair and replacement over the past few years, although, the COVID-19 pandemic has somewhat strained resources in the last two years.

It is anticipated that the Township's operating expenditures will be adjusted annually, at minimum, to account for the effects of inflation. Although, if additional asset management strategies are adopted by the Township, annual costs could exceed regular inflationary adjustments. Using the budget as the basis, the analysis used in the financing strategy assumes about \$1.5 million is related to asset maintenance funded through the tax base in 2022. This is made up of approximately \$1.3 million associated to general maintenance of assets, leaving just under \$200,000 associated to gravel road maintenance. Moving forward no substantial increases to maintenance costs are assumed over the short-term, however over the long-term the Township expects that additional road reconstruction may be

required to bring roads to a more modern standard which may necessitate additional maintenance expenditures. The financing strategy assumes a minor provisional cumulative increase in maintenance expenditures of just under \$2,400 per year beyond 2032. The Township’s 2021 RNS also assumes gravel road maintenance expenditures in the range of about \$208,000 are required, this would amount to an increase of about \$57,000 from the 2022 budget amount of \$151,000. This increase is accounted for in the financing strategy over the longer term period.

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

## **B. Capital Replacement Schedule**

The 2022 Plan includes an estimate of the timing for replacement of all assets. Using the risk assessment discussed in Section 4, a schedule for the replacement of assets has been developed on an asset by asset basis. Assets with a higher risk rating are prioritized earlier in the schedule to reflect a higher priority, while assets with lower risk ratings are moved further out into the future forecast to reflect a more “smoothed” expenditure outlook. The timing is based on a percentage of the useful life of the asset. Table 13 below provides a summary of the risk thresholds used to calculate timing of replacement needs.

**Table 13 – Risk Thresholds for Asset Life Extension**

| Percentage of Useful Life |     |     |     |     | Color Code     |
|---------------------------|-----|-----|-----|-----|----------------|
| 100%                      | 80% | 60% | 40% | 20% | Very Low Risk  |
| 80%                       | 65% | 50% | 30% | 16% | Low Risk       |
| 60%                       | 50% | 35% | 25% | 10% | Moderate Risk  |
| 40%                       | 30% | 25% | 15% | 2%  | High Risk      |
| 20%                       | 16% | 10% | 2%  | 0%  | Very High Risk |

*Note: Methodology used for all asset categories except roads as recommended works and associated costs are based on the 2021 RNS.*

Figure 2 sets out the schedule of repair and replacement of assets, to maintain current levels of service for the assets considered in the 2022 Plan. Over the 40-year period, to 2061, the repair and replacement program totals about \$91.5 million. The average yearly expenditure related to these assets amount to approximately \$2.3 million per year. It is noted, that although the replacement schedule identifies timing of replacement works based on the risk of assets, the replacement schedule should be utilized as a complementary tool to the capital budget process to identify capital that has been assessed to need replacement over the short-term. These projects should be assessed and balanced against the Township’s available revenues and budget priorities.

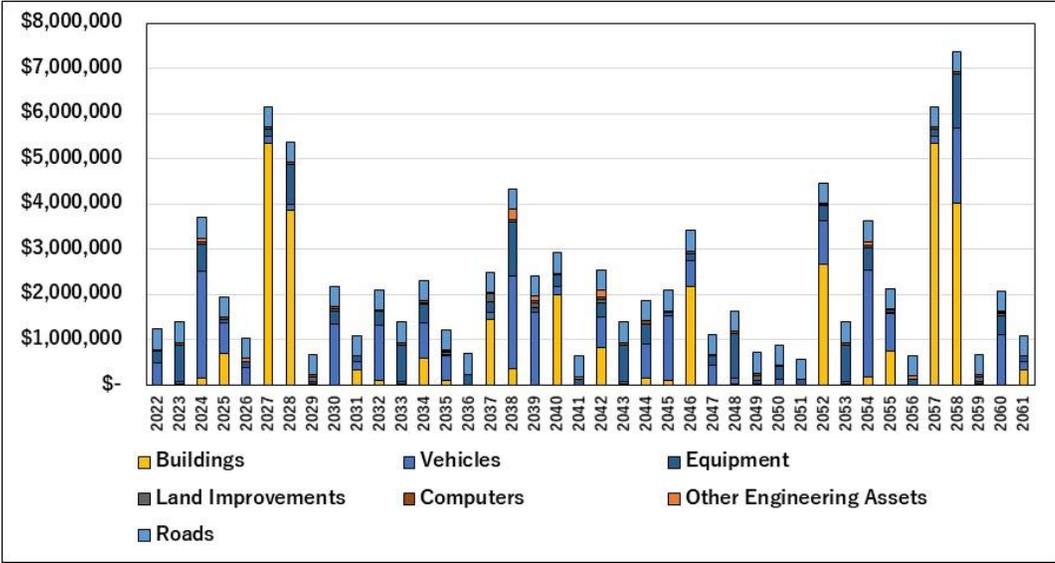
Some assets have been identified over the next few years that may need repair or replacement, in particular some major replacement projects include:

- **Buildings:** The 5-year period (2023-2027) indicates potential repair/replacements totaling about \$6.2 million. Of note are assets identified as Poor or Very Poor, which include components at the North Kawartha Community Centre (\$256,000), components of the Old Municipal Building (\$201,900) and components at the Woodview Library (\$42,900).
- **Vehicles:** The 5-year period (2023-2027) indicates potential

replacement of about \$3.6 million across roughly 20 different vehicle assets. Of these assets about \$1.4 million are considered to be in Poor or Very Poor condition. This includes 5 pickup trucks (ranging from \$55,000 to \$65,000 each), a tandem (\$325,000), a tanker (\$380,000) and a rescue vehicle (\$380,000).

- **Roads:** The Township’s 2021 Road Needs Study has identified key repair/replacement works over the next 10-years. This includes degradation costs of about \$379,000 per year for HCB, LCB and slurry seal/microsurfacing. A further \$67,500 per year is also identified as required capital improvements. It is noted that about \$208,000 per year is identified for gravel road resurfacing, however these costs are accounted in the operating budget.
- **Other Assets:** Over the next 5-years (2023-2027) the remaining asset categories include replacement works that amount to about \$2.2 million. This includes replacements associated to computers, equipment and other engineering assets. It is noted that land improvements and the Township bridge include no major expected works in the immediate 5-year period.

**Figure 2: Risk Based Replacement Schedule (2022-2061)**



## C. Summary of the Cumulative Full Lifecycle Costs

A key component of the financing strategy is to identify the level of expenditure required on an annual basis to pay for asset management. Costs to maintain and eventually repair or replace municipal assets need to be understood and contributions to reserves and reserve funds need to be quantified. In this section, provisions for repair and replacement are calculated for each asset based on its remaining useful life and the anticipated cost of repair/replacement in constant 2022 dollars. The aggregate of all individual provisions form an annual contribution to reserves for the purpose of asset repair and replacement.

Over the next forty years, the analysis indicates a spending need of about \$190.9 million. Figure 3 summarizes the cumulative 40-year investment needs across the tax supported service areas for the various lifecycle activities identified in Section 4. Of the total life cycle cost, most costs can be attributed to saving for the renewal and replacement of existing infrastructure making up about \$123.9 million (65%). About \$62.1 million (32%) of the total is related to operating and maintenance costs associated to the existing asset base, gravel roads and potential future road infrastructure associated to expansions. \$3.0 million (2%) is related to future asset management provisions associated to future road infrastructure expansion. The final \$2.0 million (1%) is related to non-infrastructure solutions. Note that no provisions for a level of service adjustments to account for requirements of O. Reg. 588/17 to define and implement desired levels of service has been included in the analysis – this will be further addressed in the next plan to coincide with the regulatory deadline.

**Figure 3: Summary of Lifecycle Cost Model 2022-2061**

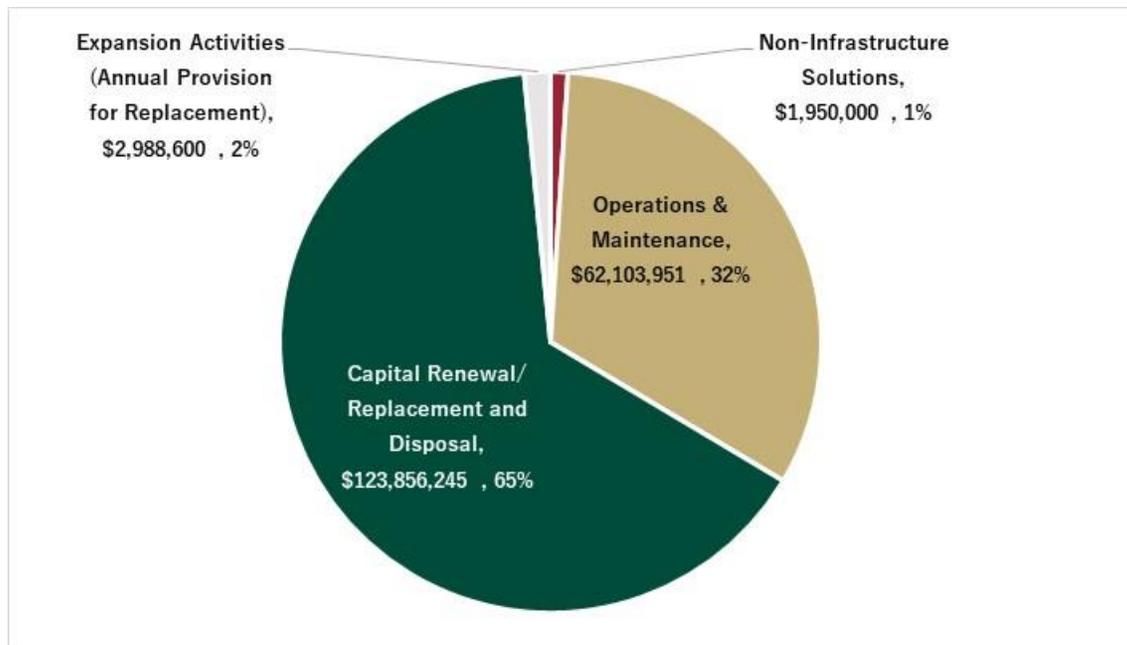
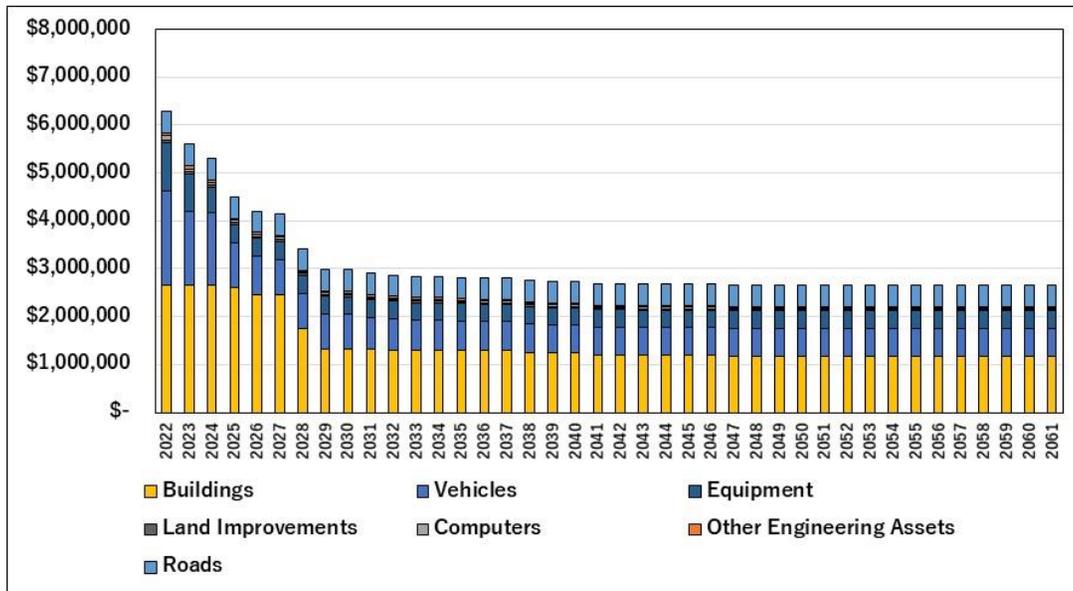


Figure 4 below provides an overview of the annual contributions related to the capital renewal and replacement requirements on an annualized basis over the planning period. Figure 4 shows the funds that would have to be contributed annually to reserves to maintain current levels of service for tax supported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

- Average annual contributions over the 40-year period would have to be in the order of \$3.1 million per year, with road works, buildings and vehicles as the most significant portion.
- The level of investment in Township assets would need to increase from current funding levels. It should be noted that of the 2022 capital funding sources for this set of assets, tax supported revenues are the most secure form of recurring revenue for the Township as other funding sources could be subject to review by the Province and cannot be relied up as a secure funding source for financial planning over the long-term.

**Figure 4: Risk Based Provision Schedule (2022-2061)**



## D. Summary of Revenues

The municipal revenue sources available to address the identified full lifecycle cost requirements outlined above are limited. Generally, the type of capital project aligns to its funding source. In this regard, growth related projects receive most of their funding through development charges in communities that impose DCs and replacement projects are predominantly funded through tax-based contributions for tax supported assets. In North Kawartha, as DCs are currently not imposed, any new assets would be replaced using taxation.

When assets require rehabilitation or are due for replacement, the source of funds are essentially limited to reserves or contributions from the operating budget regardless of how the initial first round capital asset was funded. Table 14 provides a summary of the revenues assumed in this analysis for tax supported assets.

**Table 14 – Financing Strategy Key Assumptions**

| Category   | Assumptions  |
|--|--|
| Operations and Maintenance   | <ul style="list-style-type: none"> <li>▪ It is assumed that operations and maintenance costs associated to existing assets will remain at similar levels to today (no level of service increase) and will be funded from the tax base.</li> <li>▪ Future operations and maintenance costs associated to expansion related assets will be funded from the tax base.</li> </ul>  |
| Capital from Taxation (including transfers to reserves and gravel maintenance) | <ul style="list-style-type: none"> <li>▪ Existing 2022 tax supported capital funding of \$459,400 is assumed to be the starting point and base case for increasing annual capital contributions. This includes the contributions to reserves (from operating of \$308,400) included in the budget for capital purposes and maintenance for gravel roads (\$151,000). This amount is based on the 2022 budget.</li> </ul> |
| Debt (funded from taxes)   | <ul style="list-style-type: none"> <li>▪ No debt assumptions are included in this analysis.</li> </ul>   |
| Canada Community Building Fund (formerly Gas Tax)                              | <ul style="list-style-type: none"> <li>▪ Funding for 2022 is approximately \$78,600. Post 2022 gas tax funding is assumed based on AMO allocations to 2023 and remain constant afterwards.</li> </ul>  |
| Other Grants   | <ul style="list-style-type: none"> <li>▪ One-time government grants of approximately \$50,000 are assumed for 2022-2026 only – this is associated to ongoing OCIF grants</li> </ul>  |
| Existing Reserves  | <ul style="list-style-type: none"> <li>▪ Existing capital reserves amounting to approximately \$3.0 million have been used against the total costs.</li> </ul>   |

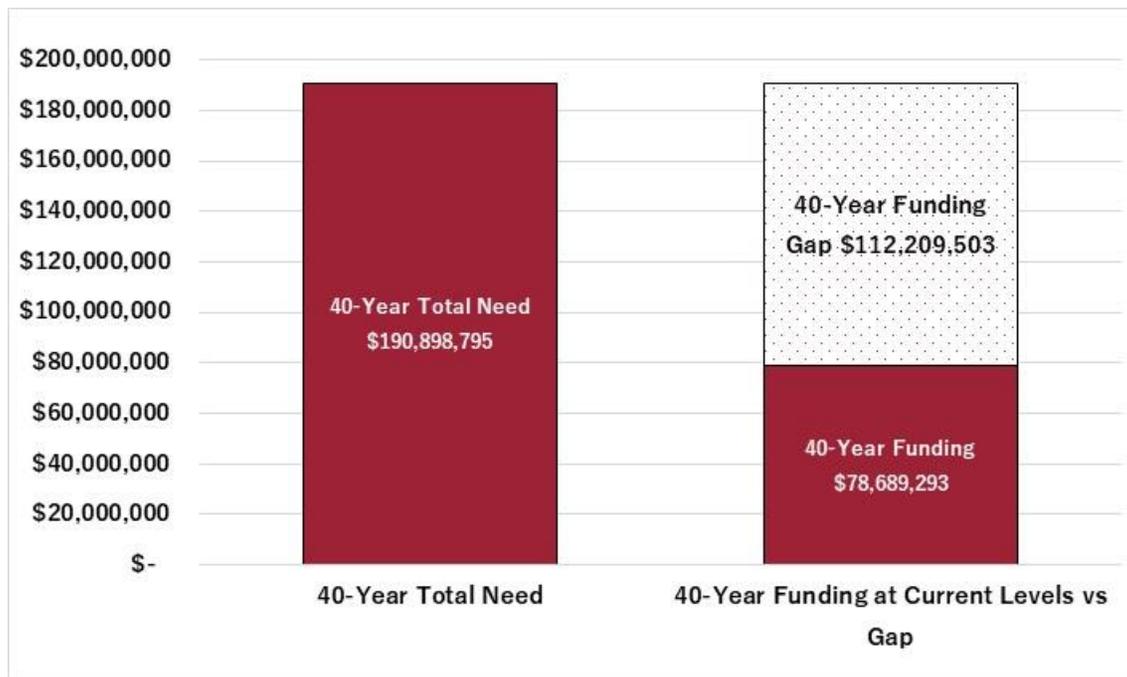
| Category             | Assumptions   |
|----------------------|---|
| Expansion Activities | <ul style="list-style-type: none"> <li>▪ No growth related capital expenditures are expected over the planning period.</li> <li>▪ The Township does expect that in future years additional road improvements may be required to modernize roads to a higher standard. The asset management related expenses associated to future replacement and ongoing maintenance of net new infrastructure is included for in the calculation of the funding need and are expected to be funded through taxes.</li> </ul> |
| Inflation            | <ul style="list-style-type: none"> <li>▪ Financing strategy is expressed in constant 2022 dollars.</li> </ul>   |

## E. Infrastructure Deficit and Financing Strategies

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

The 40-year infrastructure deficit shown in Figure 5 represents the difference between the required lifecycle costs and the current contributions to capital for assets in this 2022 Plan. The graph indicates that existing funding levels are insufficient to cover projected costs over the planning period, as a result, a notional gap of \$112.2 million exists over the 40-year period. It is unrealistic to expect the Township to address the total infrastructure deficit in the short-term. Therefore, a long-term funding strategy that identifies options for addressing current and future asset expenditures is required.

**Figure 5: 40-Year Need versus Current Funding (2022-2061)**



If the Township were to implement a funding strategy to eliminate the infrastructure deficit by 2061, the Township would be required to increase capital contributions on an annual basis by an average of about \$143,900 for 40 years (plus annual inflation). For 2023, the increase would be in addition to the \$459,400 tax supported capital funding, \$78,600 in Gas Tax funds and \$50,000 in one-time grants and existing tax supported reserve funds on hand. The yearly revenue requirement is equivalent to 2.4% of the Township’s estimated 2022 tax levy revenues of about \$6.1 million. A detailed table of this strategy can be found in Appendix D – Table 1.

Eliminating the infrastructure deficit by 2061 is an aggressive objective and is an initiative the Township may not want to explore at this time; a few reasons include:

- The required capital contributions (to eliminate the deficit) will necessitate an increase to property taxes beyond a reasonable measure over the short-term;

- The Township may need to decrease or limit funding of other key Township services or initiatives in lieu for capital repair and replacement activity;
- With proper maintenance practices, assets can remain in use past their engineered design life and are capable of performing to meet the Township’s current level of service under these circumstances. Therefore, in such instances, the asset does not necessarily need to be replaced by virtue of exceeding their design life. This said, assets may sometimes fail to meet their design life due to other circumstances such as weather related events or other emergencies; and
- Prudent asset management strategies, which are currently employed by the Township can often extend the requirement of major repair or replacement of capital assets and may prolong the life of the asset.

Further to the above noted comments, three financing strategies were developed to illustrate a rational capital contribution level to meet the full lifecycle cost needs for tax supported assets as outlined in Figure 5. The financing strategies illustrate the “smoothed options” to the lifecycle requirements identified in Figure 5. Assumptions for each of the three funding strategies is shown in Table 15.

**Table 15 – Summary of Financing Strategies**

| Financing Strategy  | Strategy Parameters  |
|---|--|
| <b>Strategy 1</b><br><b>Close in-year</b><br><b>Funding Gap by</b><br><b>2041</b> | <ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$132,500 per year. For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ The yearly revenue requirement is equivalent to 2.2% of the Township’s estimated 2022 tax levy (\$6.1 million).</li> </ul> |

| Financing Strategy  | Strategy Parameters   |
|---|---|
| <b>Strategy 2</b><br><b>Close in-year Funding Gap by 2051</b>                             | <ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$85,500 per year. For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ The yearly revenue requirement is equivalent to 1.4% of the Township’s estimated 2022 tax levy (\$6.1 million).</li> </ul>   |
| <b>Strategy 3</b><br><b>Continue Annual Capital Contributions based on Recent Budgets</b> | <ul style="list-style-type: none"> <li>▪ Increase annual capital contributions by approximately \$43,400 per year. For 2023, the increase would be in addition to the estimated 2022 budgeted funding identified.</li> <li>▪ This amount is in-line with increases for tax funded capital in recent budgets and based on the previous AMP (adjusted to 2022 dollars).</li> <li>▪ The yearly revenue requirement is equivalent to 0.7% of the Township’s estimated 2022 tax levy (\$6.1 million).</li> </ul> |

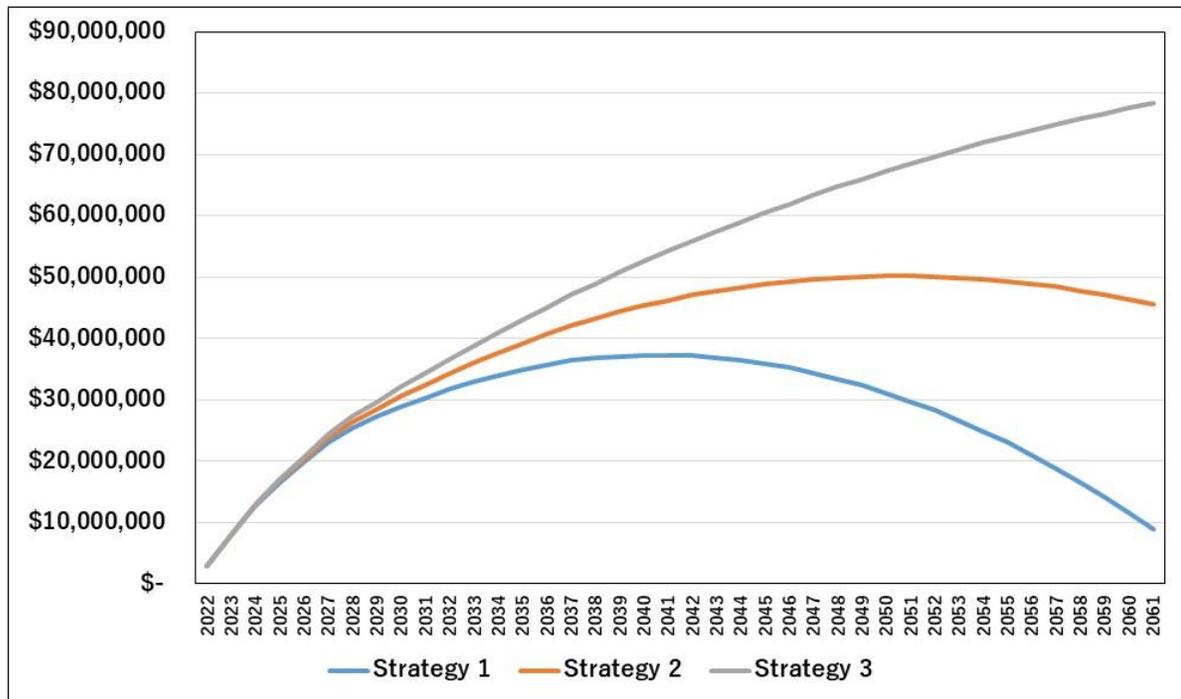
*Note: Key assumptions noted in Table 14 are maintained for all three financing strategies.*

Given the capital expenditure requirement to meet the asset lifecycle needs, the cumulative infrastructure deficit will increase in all scenarios before the Township begins to reduce this amount by increasing capital contributions by more than the annual lifecycle requirement. The infrastructure deficit will increase by the annual funding gap and decrease once the annual contributions are greater than the annual provision.

It is important to note that even though the in-year funding gap has been largely addressed within the planning horizon in all strategies, the infrastructure deficit poses risk to the Township as it is indicative of overdue

assets that have fully depreciated and may be in Very Poor condition. These assets would need to be addressed in a longer time frame and are at risk for asset failure. Figure 6 provides a snapshot summary of the infrastructure deficit for all three strategies outlined in Table 15.

**Figure 6: Infrastructure Deficit Comparison**



**F. Costs to Maintain Levels of Service and Relationship with Financing Strategies**

As outlined in Part A total estimated budgeted asset maintenance expenditures in 2022 were about \$1.3 million (excluding gravel road maintenance). In addition, the Township will spend an estimated \$588,000 (including grants, gas tax, gravel maintenance and transfers to reserves) in 2022 for the full lifecycle costs of tax supported assets. The \$588,000 in capital spending is comprised of:

- \$459,400 in tax levy capital funding. This includes the contributions to capital reserves from operating (\$308,400) included in the budget and maintenance for gravel roads (\$151,000);
- \$78,600 in gas tax funding; and
- \$50,000 in one-time grants.

Both the capital maintenance requirements (from operating) and the capital spending provision identified are attributed to maintaining the service level associated with the \$83.4 million of assets.

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

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

- The option to “do nothing” and allow the infrastructure back-log to accumulate would mean that existing funding levels would not be sufficient to manage the infrastructure in place over the long-term. Therefore, the assets in service would deteriorate with a series of assets moving into poor and very poor condition which would effectively provide a reduction in the level of service over the short and long-term periods.
- Strategy 1 would ultimately result in a service level increase over the long-term as assets are replaced as required based on condition and useful life. Therefore, the deficit would largely be eliminated over the

planning period. This strategy would represent a more optimal level of asset repair and replacement than existing trends and should be targeted with the determination of proposed levels once the Township undertakes an update to the AMP.

- The adoption of either the 2<sup>nd</sup> or 3<sup>rd</sup> strategy would ensure, that over the long-term, the funding gap-stabilizes and the infrastructure deficit is controlled. Under this approach, the additional funding would allow for increased targeted investments in asset areas currently in Fair condition to ensure these assets don't transition into the poor category in the next 5 -10 years therefore maintaining the existing level of service.
- It is noted that Strategy 3, largely reflects the financing strategy adopted through the Township's 2017 AMP as it is developed based on the assumption that contributions to tax funded capital reserves would continue to increase in line with recent budgets. This financing strategy illustrates a similar result as that of the 2017 AMP in that the cumulative infrastructure deficit continues to grow over the short-to-medium term but is controlled towards the end of the planning period. This said, Strategy 2 provides the Township further opportunity to continue to move towards closing the cumulative infrastructure gap over the long-term. The Township can consider moving toward Strategy 3 in future years.
- Also of importance, the assets in Good/Very Good condition require continued investment to ensure service levels are maintained. As these assets age, they may also transition in the Fair or lower category. Continued contributions to reserves will ensure funds are available whenever assets require works to be completed.

## **G. Available Funding Tools**

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

### **Federal and Provincial Grants**

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

The Township of North Kawartha has indicated that it expects to continue receiving Gas Tax funds (renamed now to the Canada Community Building Fund) – these funds have been incorporated into the financing strategies at current levels. The Township has indicated that other external grants, such as OCIF, may potentially be at risk in future years; therefore, no other future grant funding is assumed for the purposes of the financing strategy beyond 2026. If the Township continues to receive other funding sources over the long-term, it is expected that these funds would be directed to high-priority projects in an effort to reduce the overall infrastructure deficit.

### **Development Charges**

Development charges may be imposed to pay for increased capital costs required because of increased needs for services arising from development. The Township does not currently impose DCs, therefore any growth-related expansion activities (eligible for DC funding) would currently need to be funded from taxation. The Township does not expect significant growth to occur over the short to medium term, however if growth in the Township does occur in future years, development charges can be a viable option to fund growth-related infrastructure associated to development.

## **Property Taxes**

According to the 2022 budget, property taxes represent about \$6.1 million in revenues. The use of property taxes to fund municipal tax supported services is the most secure source of funding for the Township. The most common and secure avenue to generate additional funding to support increased capital asset management functions would be to increase property tax revenues.

## **User Fees**

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

## **Public Private Partnerships**

Public Private Partnerships (P3s) are a common tool for delivering infrastructure services throughout communities across Canada to build roads, hospitals, light rail transit, water and wastewater treatment facilities and other infrastructure. P3s can offer more effective project and lifecycle cost control and risk management than traditional procurement methods. Although the Township may have limited opportunities with P3s at this time, this tool remains an option to carry out capital activities if needed.

## **Local Improvement Charges**

Municipalities, through local improvement charges, have the ability to recover the costs of capital improvements made on public or privately owned

land from property owners who will benefit from improvement. The Township could use the local improvement process to undertake a capital project and recover all or part of the cost of the project.

### **Developer Contributions**

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

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

## **H. Financing and Financial Management Practices**

### **Debt (as a financing tool)**

Debt financing is a viable tool available to fund capital projects. Planned debt is a responsible way to spread the costs of a project over the life of an asset. This ensures the tax payers who benefit from the asset share the

cost, therefore, the burden of capital is distributed equally between current and future tax payers. It is important to note that debt funding is subject to interest costs.

The amount of debt a municipality can carry is set by Provincial regulations to ensure municipalities continue to operate in a fiscally sound environment. The Ministry of Municipal Affairs mandates that a municipality's annual debt repayment must not exceed 25% of annual own-source revenues. The Township does not currently have any debt obligations.

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

## **Reserves and Reserve Funds**

Reserves are to be used to cope with high capital investment periods by saving during low capital investment periods. This practice will smooth annual expenditures and ensure the Township can complete the required annual capital works. In addition to contributions during low investment periods, many municipalities use annual surpluses, should one arise, to increase reserves. There is no prescribed amount of reserves for a municipality to have at any given time, but they should be sufficient to cover emergency work (if required). It is noted that the Township's current primary financial management tool for asset management are its capital reserves.

### **I. Future Demand**

The 2022 Plan reflects the assets that the Township currently owns and operates. According to the Statistics Canada census, over the last 5 years the Township's population has increased by about 400 people from about 2,500 to 2,900 people in 2021 (16% or about 3.2% per annum). The last 5-years have represented a modest increase for the Township.

Although some modest population growth has occurred, the Township does not expect to experience any significant growth in future years that would generate the need to emplace additional infrastructure. This said, the Township does expect that in future years, additional road improvements may be required to modernize roads to a higher standard as the Township evolves its asset management practices and with potential technology changes which may create the need to undertake additional costs beyond the existing asset base. The financing strategy accounts for this provisional cost, which has been assumed to be relatively minor at this time and likely to occur over the long-term, with the expectation that better information will become available in future years as the Township's asset management practices evolve. Therefore, the Township can continue to prioritize the repair and replacement of Very Poor and Poor conditioned infrastructure from the existing asset base.

## **6. Continuous Improvements and Updates**

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

### **A. Asset Management Internal Network**

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

### **B. Plan Monitoring**

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

- a) The Township's progress in implementing its asset management plan and regular updates to the asset management financial Excel model;
- b) Any factors impeding the Township's ability to implement its asset management plan; and
- c) A strategy to address the factors described above in clause b).

### **C. Data Quality and Confidence**

The Township should regularly review the confidence of existing data as well as its effectiveness integrating asset management activities into regular business processes. The Confidence Level Rating approach identified in Table 17 below will be used to identify what specific asset categories/areas the Township can improve upon. The Confidence Level Rating is based on principles of the ISO 55000 framework and International Infrastructure Management Manual (IIMM). Current data used in the preparation of this asset management plan would be generally reliable and based on a **Level 4** recognizing that all asset categories are well documented particularly for the core assets of roads and the Township bridge as well as buildings. The Township should undertake regular updates of the information available on assets particularly for conditions, replacement values and any other technical information important to the asset management process and assess the quality of the information based on Table 16. The data quality score is included in Appendix B complementing the State of the Local Infrastructure Reports.

**Table 16 – Data Quality Confidence Grading System**

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

## **D. Timeframes for Review and Updates**

This Asset Management Plan should be reviewed and updated on a regular basis. Recognizing that a full plan and related policies should only be updated at key intervals, it is important that other asset management components, such as capital budgeting, risk assessments and updates to

the asset register should be integrated into staff’s regular routine. Table 17 below outlines the key timelines.

**Table 17 – Timeframes for Reviews and Updates**

| <b>Asset Management Framework</b>        | <b>Timeframe</b>          |
|--|---------------------------|
| Asset Management Policy                  | 5 Years                   |
| Asset Management Plan                    | 3-5 Years                 |
| Review of 10-year Capital Budget         | Annually                  |
| Asset Register and Data                  | Semi-Annually or Annually |
| Risk assessment (capital prioritization) | Semi-Annually or Annually |
| Level of Service Framework               | Semi-Annually or Annually |
| Reporting to Council                     | Annually                  |

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

**E. Public Review and Comment**

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

## 7. Conclusions and Recommendations

The objective of this 2022 Plan is to provide the Township of North Kawartha a complementary tool to make decisions on how best to manage capital assets in a sustainable way to 2061. In this section, recommendations based on the analysis undertaken are made.

### A. Summary of Key Findings

- The Township's asset base is valued at \$83.4 million, in relation to the census population of about 2,900 persons (about \$29,000 per capita).
- Overall, a high proportion of \$43.3 million (81%) of the Township's assets are considered to be in Good to Very Good condition. At the same time, approximately \$4.0 million (7%) of infrastructure is considered to be in Poor to Very Poor condition. The remaining share of \$6.3 million (12%) is in Fair condition. Note these shares exclude roads.
- The average PCI for all Township roads is 78.7 (out of 100) valued at about \$29.9 million.
- The Township of North Kawartha has made some effort in recent years to address the infrastructure gap and improve the condition of assets:
  - Upper level government grant money received has typically been allocated to capital asset repair and replacement activities;
  - The Township has capital replacement reserves, and has been contributing to reserves on an annual basis, funded through the tax levy;
  - Through its annual capital budgeting process, the Township addresses critical issues and assets in need of repair or replacement.

- The responsibility to maintain existing infrastructure is challenging, however, in addition to current capital funding, the Township should increase annual capital contributions to address current and future infrastructure requirements:
  - Property taxes are the most secure form of revenue and the Township should consider increasing tax base revenues, above current practices, to fund capital works;
  - Ensure user fees are being utilized to the full extent as allowed under Provincial legislation. This will help alleviate funding pressures from the tax base and allow for greater flexibility to fund capital asset repair and replacement activities;
  - Explore alternative arrangements to provide services – public private partnerships or shared services if possible.
- The Township does not have any existing debt obligations. Therefore, the Township can use this financing tool for future capital needs as they may arise in tandem with consideration of future fiscal obligations.
- The Township should continue to seek funding from the Federal and Provincial government (when available) to undertake capital related works. In recent years, the Township has had success in securing grant funding for various projects, however all grant funding is subject to upper level government review and is unpredictable.

## **B. Summary of Recommendations**

Based on the analysis undertaken for this 2022 Plan the following conclusions can be reached:

## 1. Continue to Improve Capital Development Planning Process

- The Township should develop a multi-year capital budget and forecasts for all services based on a 10-year forecast horizon. The capital budget can be based on the asset replacement schedule in the Township's Asset Management Model as a starting point, and can be refined over time.
- 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;
  - condition;
  - risk assessment;
  - timing and phasing;
  - funding sources;
  - potential financing and debt servicing costs;
  - long-term costs, including non-infrastructure solutions, maintenance activities, renewal/rehabilitation activities, replacement activities, disposal activities and expansion activities;
  - capacity to deliver; and
  - alternative service delivery and procurement options.
- A range of quantifiable proposed level of service targets that incorporate the quantity and quality of capital assets should be explored and established for all services over the next few years. Targets should be measured, reported on, and adjusted annually. This requirement will need to be in place by July 1<sup>st</sup>, 2025 as per O. Reg. 588/17.
- Repair and replacement capital works should be prioritized based on a risk assessment. For example, assets identified as Very Poor and Poor and having a significant consequence of failure should be prioritized first.
- Infrastructure assets which have been provided a Fair condition rating should be targeted for maintenance to ensure they continue to perform at current levels of service.

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

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

- Sound asset management decisions are only possible if information in the asset registry is accurate. The Township should regularly update the registry to account for asset purchases, upgrades, and replacements, as well as asset condition ratings and information on useful life.
- The Township should continue to refine the condition assessments for all assets considered under this 2022 Plan; and
- The Township should update this Asset Management Plan at a minimum every 5 years.

## **3. Optimize the Use of Existing Assets**

- The Township should implement a range of engineering and non-engineering approaches to extend the useful life of current assets, taking the lifecycle actions presented in Appendix D.
- The Township should explore opportunities to dispose under-utilized infrastructure/facilities which may not warrant repair/replacement. For example, underutilized facilities, or surplus land/parks, could be disposed and sold; and
- Coordinate assets into specific hubs to create operating and capital repair/maintenance efficiencies where possible.

# Appendix A

## Definitions

# Appendix A – Definitions

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

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

- 8. Replacement Schedule** - The timing for replacement of an asset based on remaining useful life, condition or risk.
- 9. Useful Life** - The expected service life of an asset expressed in years.
- 10. Weighted Condition** - The average condition of an asset category weighted against the replacement costs of assets.
- 11. Weighted Remaining Useful Life** - The average remaining useful life of an asset category weighted against the replacement cost of assets

**Appendix B**  
**State of Local Infrastructure**  
**Report Cards**

# Appendix B – Technical Appendix: State of Local Infrastructure

The appendix provides a summary of the Township’s assets with reference to quality and quantity. Some assets have condition assessments based on the conditions developed through the Township’s engineering reports and staff level qualitative assessments. 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 the 2022 Plan were acquired from the Township’s tangible capital asset inventory. Hemson has prepared State of the Local Infrastructure report cards for each asset category which outline: summary of inventory, remaining useful life, asset condition, and data reliability. It is intended that these report cards be updated annually by staff and provided to Council through the annual budget process to help facilitate reporting on assets on an ongoing basis. The components of each of the report cards and major assumptions are outlined here.

## 1. Summary of Inventory

The summary of inventory provides an overview of the Township’s assets including asset components, the quantity of those components, the replacement cost in 2022 dollars, method used to determine the replacement cost and the engineered useful life of the assets. The inventory summary is developed based on the Township’s capital asset information and available engineering reports. Furthermore, an asset management financial model based in Excel was developed as part of the 2022 AMP, this model contains all detailed asset information.

The assets included in this 2022 Plan are consistent with the asset categories included in Schedule 51 of the Township’s Financial Information Return. Inclusion of all assets in this Plan therefore meet the asset management plan requirements in the Township’s Canada Community-Building Fund agreement (formerly Gas Tax).

## 2. Remaining Useful Life

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

## 3. Asset Condition

A summary of the condition of assets is presented in a pie graph based on the replacement cost of assets in constant 2022 dollars. As discussed in Section 2, conditions have been determined based on a 5-tier rating system from Very Poor to Very Good. Condition assessments are based on several sources including, engineering reports, staff level qualitative assessments and aged based approach. Through the 2022 AMP process staff undertook a detailed review of the asset conditions, and based on their knowledge, provided a more up to date condition based on the 5-teir rating scale wherever possible. Details on the methodology the Township uses to assess the condition of assets is summarized in Table B-1 below.

**Table B-1 – Methodology Used for Condition Assessments**

| <b>Asset Category</b> | <b>Methodology</b>   |
|-----------------------|--|
| Buildings             | <ul style="list-style-type: none"><li>Recent benchmark costs from comparable municipalities and age based approach with some staff level qualitative conditions.</li></ul> |
| Vehicles              | <ul style="list-style-type: none"><li>Recent benchmark costs from comparable municipalities and age based approach with some staff level qualitative conditions.</li></ul> |

| Asset Category           | Methodology  |
|--------------------------|--|
| Equipment                | <ul style="list-style-type: none"> <li>▪ Recent benchmark costs from comparable municipalities and age based approach with some staff level qualitative conditions.</li> </ul> |
| Land Improvements        | <ul style="list-style-type: none"> <li>▪ Age based approach with some staff level qualitative conditions.</li> </ul>   |
| Computers                | <ul style="list-style-type: none"> <li>▪ Age based approach with some staff level qualitative conditions.</li> </ul>   |
| Other Engineering Assets | <ul style="list-style-type: none"> <li>▪ Age based approach with some staff level qualitative conditions.</li> </ul>   |
| Bridge                   | <ul style="list-style-type: none"> <li>▪ Based on condition assessment from the OSIM Report.</li> </ul>  |
| Roads                    | <ul style="list-style-type: none"> <li>▪ Based on PCI condition assessments from the 2021 Road Needs Study.</li> </ul>   |

#### 4. Replacement Cost

Replacement values are used to estimate the cost of replacing an asset when it reaches the end of its engineered design life. The total replacement cost of all assets is estimated at \$83.4 million, and the replacement values are used as the basis for this plan. Specific methods used to determine replacement costs for each asset category are outlined below.

##### Roads

Replacement costs for the Township’s roads are based on amount provided in the 2021 Roads Needs Study, which amounts to \$29.9 million.

##### Buildings

Table B-2 below provides a summary of the replacement valuation assumptions used for the purposes of the asset management plan. The unit

cost reflect the reconstruction costs of similar type facilities in other comparable municipalities.

**Table B-2 – Summary of Building and Facility Replacement Value Assumptions**

| <b>Building Name</b>            | <b>GFA (sq. ft.)</b> | <b>Cost per sq. ft.</b> | <b>Replacement Cost</b> |
|---------------------------------|----------------------|-------------------------|-------------------------|
| North Kawartha Community Centre | 66,004               | \$300                   | \$19,801,290            |
| North Kawartha Fire Station     | 10,260               | \$500                   | \$5,130,000             |
| North Kawartha Public Library   | 5,350                | \$250                   | \$1,337,500             |
| North Kawartha Medical Centre   | 3,337                | \$300                   | \$1,001,044             |
| Glen Alda Community Centre      | 1,560                | \$300                   | \$468,000               |
| Glen Alda Fire Station          | 2,880                | \$500                   | \$1,440,000             |
| Municipal Office                | 4,424                | \$300                   | \$1,327,190             |
| Old Municipal Building          | 2,723                | \$300                   | \$816,981               |
| Wilson Park Community Centre    | 3,046                | \$300                   | \$913,800               |
| Woodview Library                | 1,400                | \$250                   | \$350,000               |
| Woodview Fire Station           | 6,300                | \$500                   | \$3,150,000             |
| Roads Department (Sand Dome)    | 12,267               | \$150                   | \$1,840,050             |
| Roads Garage                    | 10,075               | \$200                   | \$2,015,004             |

## **Bridge**

Replacement costs for the Township's bridge is based on an average cost per square metre of area. For bridges, a value of \$8,000 per square metre of area was used.

## **Remaining Asset Categories**

For all other remaining asset categories, Hemson has particularly relied upon the initial acquisition costs and adjusted these values to current dollars. That said, some specific adjustments were made to some vehicles, equipment and land improvements where more accurate replacement cost valuations from other comparable municipalities could be utilized.

## B.1 Buildings

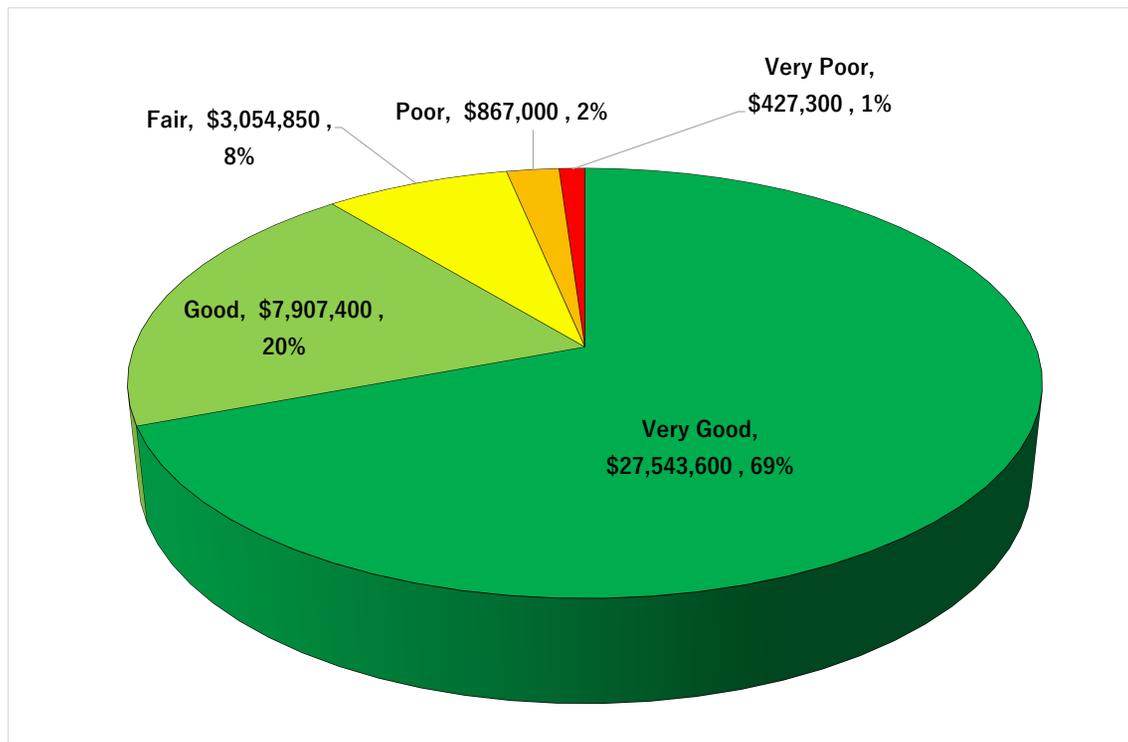
### Summary of Inventory

| Building                               | Components | Replacement Cost 2022 | Replacement Cost Method | Useful Life (Years) |
|--|------------|-----------------------|-------------------------|---------------------|
| <b>North Kawartha Community Centre</b> | Pooled     | \$19,801,300          | Recent Costing          | 10-50               |
| <b>North Kawartha Fire Station</b>     | Pooled     | \$5,130,000           | Recent Costing          | 20-30               |
| <b>North Kawartha Library</b>          | Pooled     | \$1,337,500           | Recent Costing          | 25-30               |
| <b>Glen Alda Community Centre</b>      | Pooled     | \$468,000             | Recent Costing          | 30                  |
| <b>Glen Alda Fire Station</b>          | Pooled     | \$1,440,000           | Recent Costing          | 30                  |
| <b>New Municipal Building</b>          | Pooled     | \$1,327,200           | Recent Costing          | 25-30               |
| <b>Medical Centre</b>                  | Pooled     | \$1,001,000           | Recent Costing          | 30                  |
| <b>Old Municipal Building</b>          | Pooled     | \$817,100             | Recent Costing          | 10-30               |
| <b>Roads Garage</b>                    | Pooled     | \$2,014,900           | Recent Costing          | 30                  |
| <b>Roads Department Sand Dome</b>      | Pooled     | \$1,840,050           | Recent Costing          | 30                  |
| <b>Wilson Park Community Centre</b>    | Pooled     | \$913,700             | Recent Costing          | 20-30               |
| <b>Woodview Fire Station</b>           | Pooled     | \$3,150,000           | Recent Costing          | 20-30               |
| <b>Woodview Library</b>                | Pooled     | \$350,100             | Recent Costing          | 30                  |
| <b>Anstruther Transfer Station</b>     | Pooled     | \$84,600              | Inflation               | 30                  |

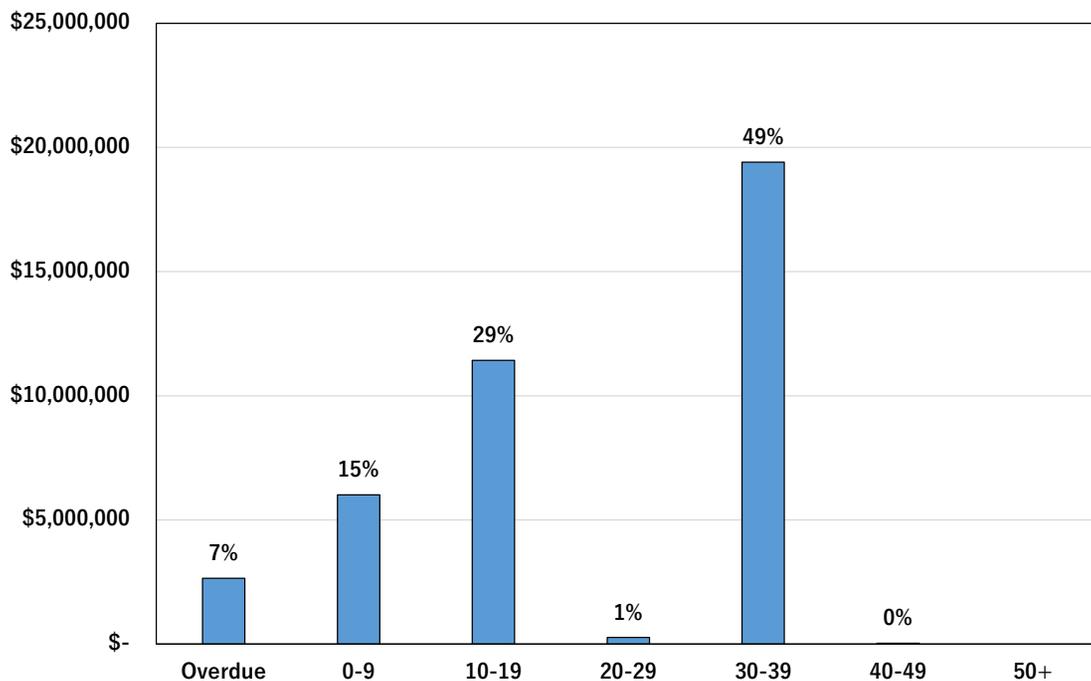
| Building                  | Components | Replacement Cost 2022 | Replacement Cost Method | Useful Life (Years) |
|---------------------------|------------|-----------------------|-------------------------|---------------------|
| Haultain Transfer Station | Pooled     | \$49,900              | Inflation               | 10-30               |
| Other                     | Pooled     | \$74,800              | Inflation               | 10-30               |
| <b>Total</b>              |            | <b>\$39,800,150</b>   |                         |                     |

The Township maintains several buildings for various services, which include general government, library, recreation, fire, and public works with a total replacement value of \$39.8 million. The building assets have an assumed useful life of 10-50 years. The inventory information on buildings is based on the Township’s TCA data. The replacement values are based on benchmark building costs from comparable municipalities or inflation of the acquisition costs provided with the TCA data.

### Buildings Summary of Condition by Replacement Value



## Buildings Summary of Remaining Useful Life by Replacement Value



Overall, \$2.6 million (7%) of building assets are considered to be overdue by virtue of their design life with most of the buildings, or about \$37.2 million in the range from 10 to 50 years of remaining useful life.

Overall, the Township maintains about \$35.5 million (89%) of building assets in Good to Very Good condition. About \$1.3 million (3%) of building assets are considered to be in Poor or Very Poor condition. The remainder of the assets \$3.1 million (8%) are currently in Fair condition. Therefore, overall the Township's buildings are in Good condition this said any buildings in the Fair condition category should be closely monitored for deficiencies.

### Data Confidence and Reliability:

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

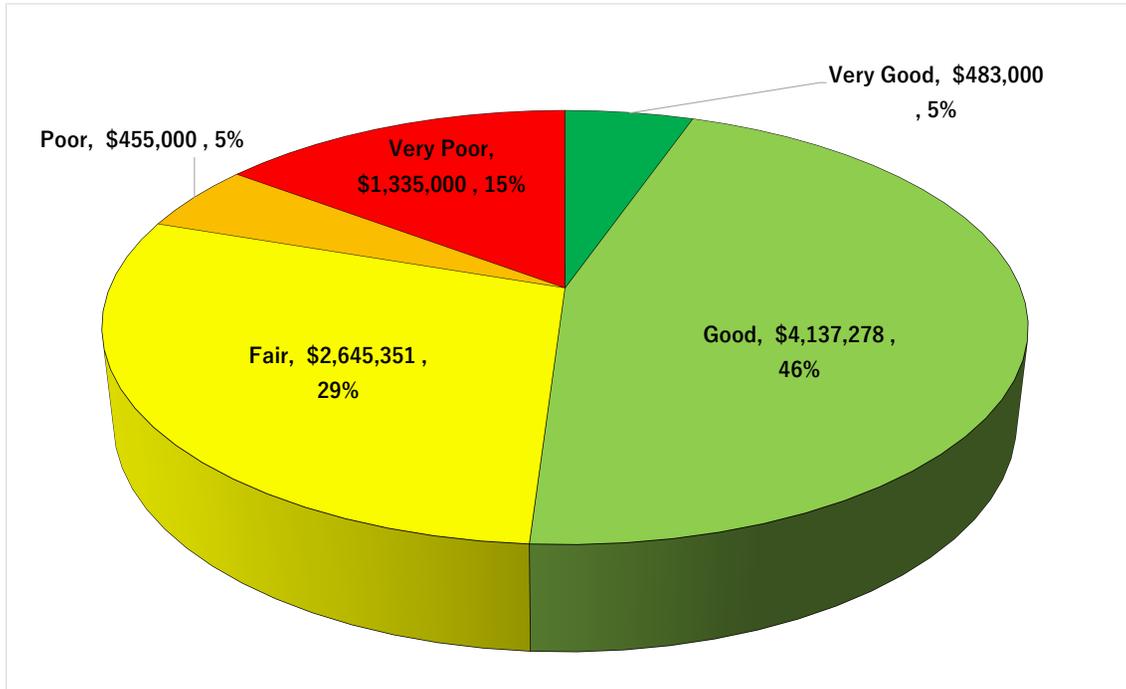
## B.2 Vehicles

### Summary of Inventory

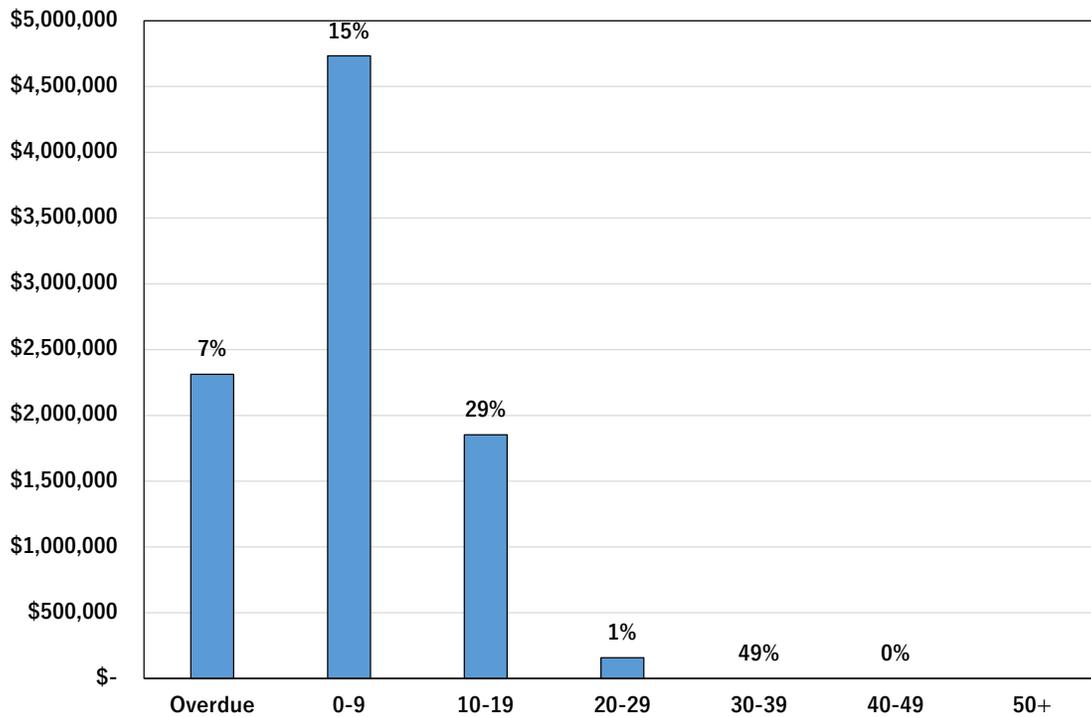
| Location                        | Components | Replacement Cost 2022 | Replacement Cost Method  | Useful Life (Years) |
|---------------------------------|------------|-----------------------|--------------------------|---------------------|
| North Kawartha Community Centre | 4          | \$220,000             | Recent Costing/Inflation | 10                  |
| North Kawartha Fire Station     | 12         | \$1,951,000           | Recent Costing/Inflation | 10-20               |
| Glen Alda Fire Station          | 2          | \$445,000             | Recent Costing/Inflation | 15                  |
| New Municipal Building          | 3          | \$165,000             | Recent Costing/Inflation | 5-15                |
| Roads Garage                    | 18         | \$3,647,549           | Recent Costing/Inflation | 5-30                |
| Woodview Fire Station           | 10         | \$2,527,233           | Recent Costing/Inflation | 10-20               |
| Other                           | 2          | \$99,847              | Recent Costing/Inflation | 10-15               |
| <b>Total</b>                    | 51         | <b>\$9,055,629</b>    |                          |                     |

The Township maintains a fleet of vehicles for various services, which include recreation, fire, and public works with a total replacement value of \$9.1 million. The vehicles assets have an assumed useful life of 5-30 years. The inventory information on vehicles is based on the Township's TCA data. The replacement values are based on benchmark vehicle costs from comparable municipalities or inflation to current 2022 dollars.

### Vehicles Summary of Condition by Replacement Value



### Vehicles Summary of Remaining Useful Life by Replacement Value



Overall, \$2.3 million (26%) of vehicles are considered to be overdue by virtue of their design life with most of the vehicles, or about \$6.7 million in the range from 10 to 20 years of remaining useful life.

Overall, the Township maintains about \$4.6 million (51%) of vehicles in Good to Very Good condition. About \$1.7 million (20%) of vehicles are considered to be in Poor or Very Poor condition. The remainder of the assets \$2.6 million (29%) are currently in Fair condition. Therefore, overall the Township's vehicles are in Fair condition this said any vehicles in the Fair condition category should be closely monitored for deficiencies.

**Data Confidence and Reliability:**

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

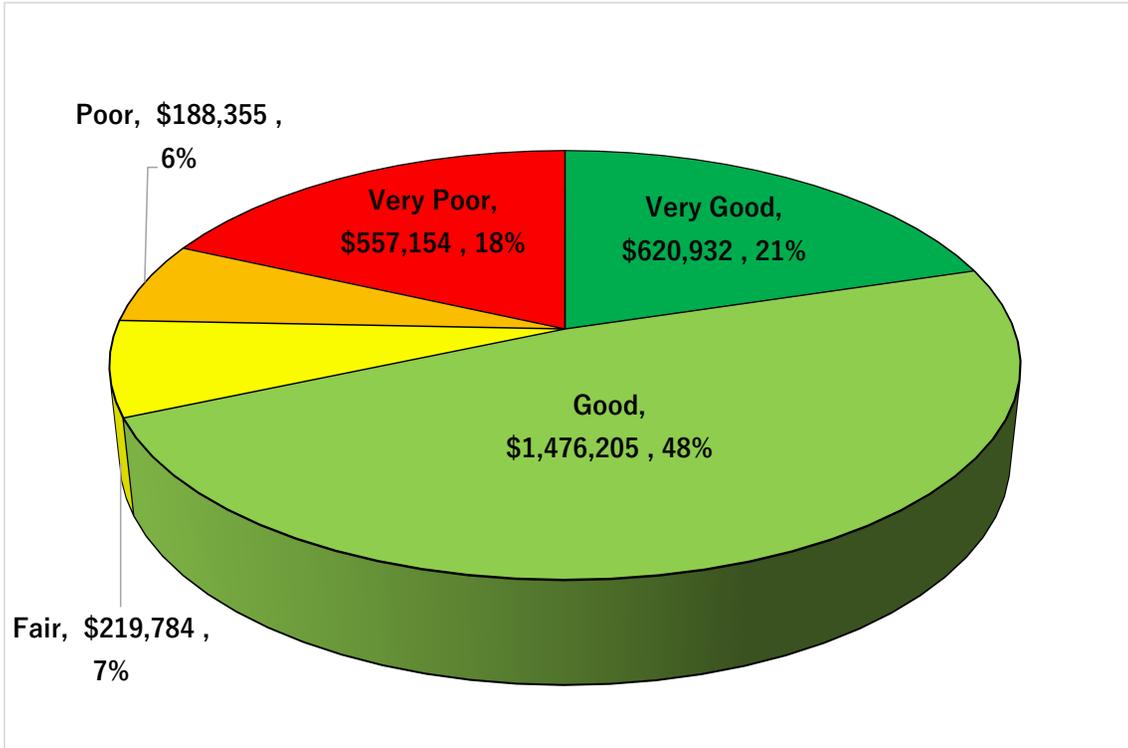
## B.3 – Equipment

### Summary of Inventory

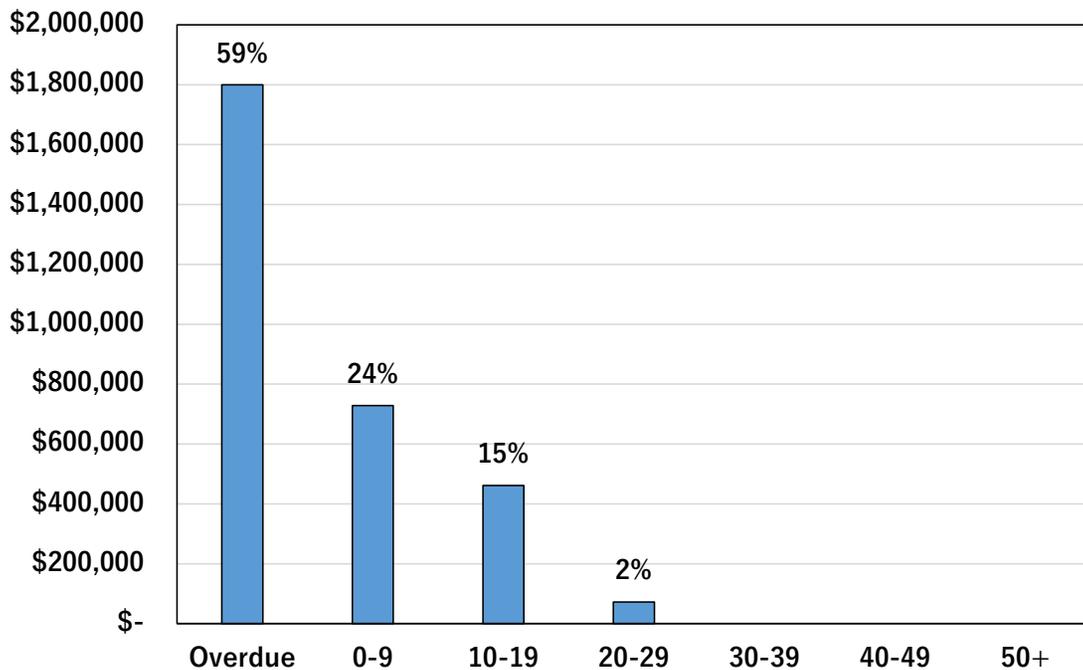
| Location                        | Quantity  | Replacement Cost 2022 | Replacement Cost Method  | Useful Life (Years) |
|---------------------------------|-----------|-----------------------|--------------------------|---------------------|
| Anstruther Transfer Station     | 3         | \$39,882              | Recent Costing/Inflation | 10-25               |
| North Kawartha Community Centre | 12        | \$437,192             | Recent Costing/Inflation | 5-20                |
| North Kawartha Fire Station     | 19        | \$707,033             | Recent Costing/Inflation | 5-20                |
| North Kawartha Library          | 12        | \$167,124             | Recent Costing/Inflation | 5-40                |
| Glen Alda Community Centre      | 1         | \$4,370               | Recent Costing/Inflation | 20                  |
| Haultain Transfer Station       | 2         | \$29,639              | Recent Costing/Inflation | 10-25               |
| Medical Centre                  | 1         | \$50,000              | Recent Costing/Inflation | 10                  |
| New Municipal Building          | 4         | \$49,243              | Recent Costing/Inflation | 5-20                |
| Roads Garage                    | 11        | \$818,568             | Recent Costing/Inflation | 5-25                |
| Wilson Park Community Centre    | 2         | \$54,477              | Recent Costing/Inflation | 15-20               |
| Woodview Fire Station           | 15        | \$672,152             | Recent Costing/Inflation | 5-15                |
| Other                           | 2         | \$32,750              | Recent Costing/Inflation | 10                  |
| <b>Total</b>                    | <b>84</b> | <b>\$3,062,430</b>    |                          |                     |

The Township maintains its inventory of equipment as pooled units for various services, which includes equipment for administration, the fire department, healthcare, recreation, roads, waste management, and other services with a total replacement value of \$3.1 million based on recent costing or inflation of acquisition costs. The equipment assets have an assumed useful life ranging between 5 and 40 years depending on the type of equipment. The Township's equipment inventory is based on information from the TCA database.

**Equipment Summary of Condition by Replacement Value**



## Equipment Summary of Remaining Useful Life by Replacement Value



Overall, \$1.8 million (59%) of equipment assets are considered to be overdue by virtue of their design life. It should be noted that \$1.2 million (39%) of the equipment assets will require replacement over the next 20 years.

Overall, the Township maintains about \$2.1 million (68%) of equipment assets in Good to Very Good condition. About 24% (\$745,500) of equipment assets are considered to be in Poor to Very Poor condition, which would indicate potential signs of deterioration. The remaining assets \$219,800 (7%) are currently in Fair condition.

### Data Confidence and Reliability:

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

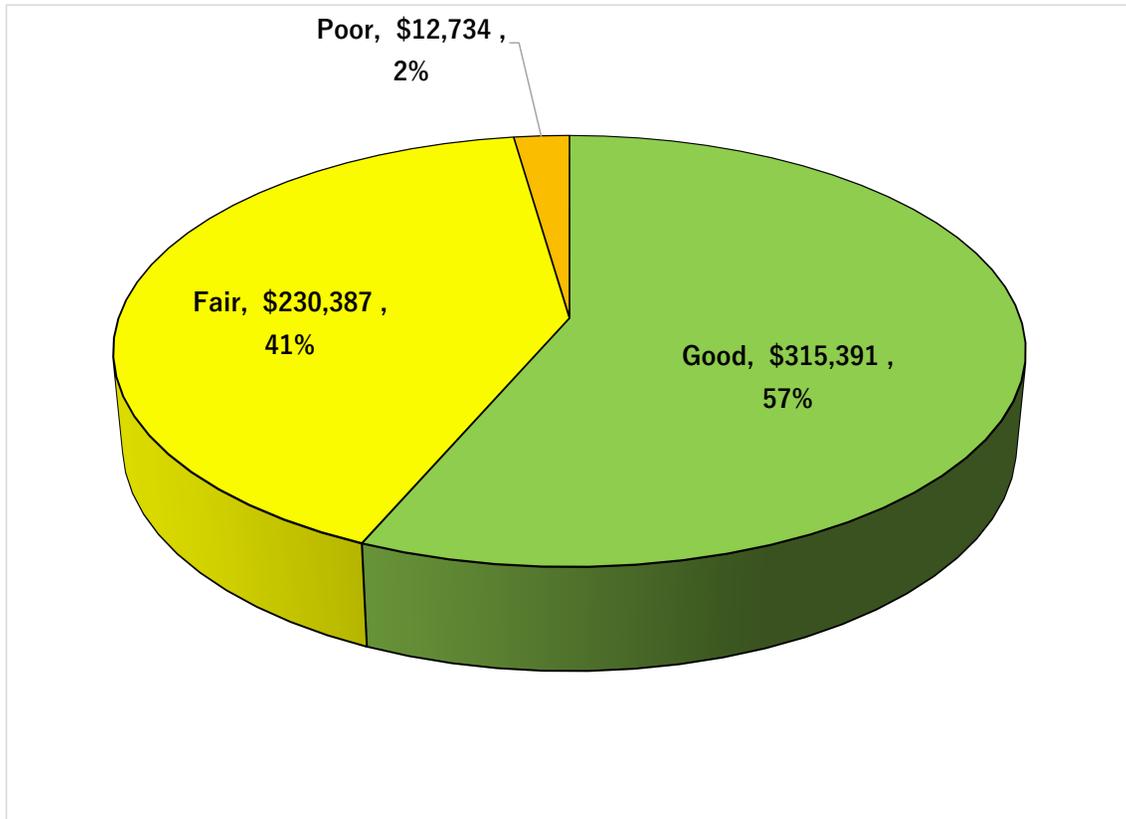
## B.4 – Land Improvements

### Summary of Inventory

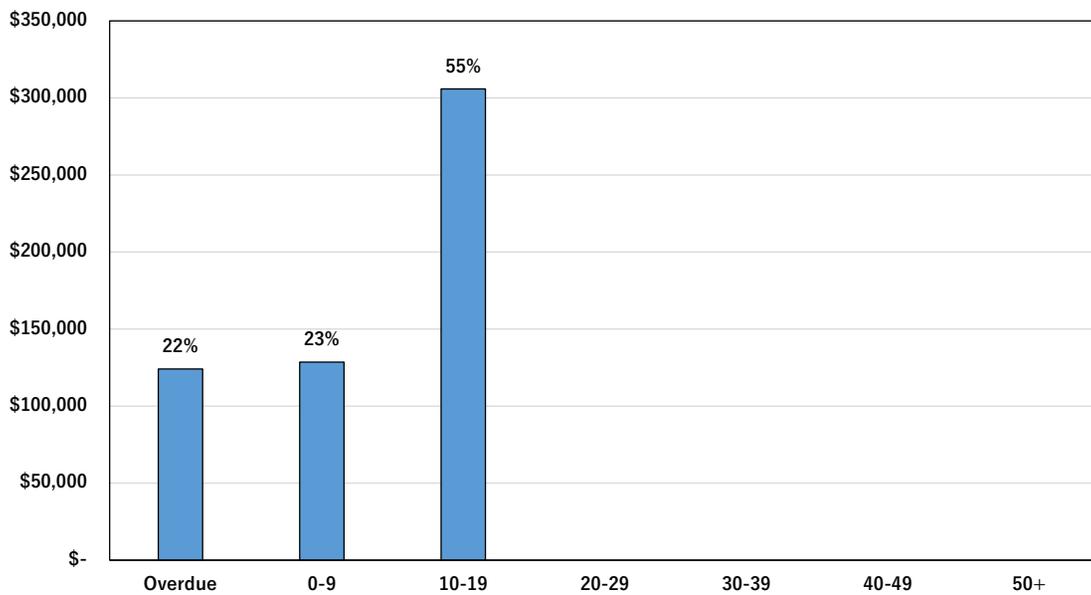
| Location                               | Quantity | Replacement Cost 2022 | Replacement Cost Method | Useful Life (Years) |
|--|----------|-----------------------|-------------------------|---------------------|
| <b>Anstruther Transfer Station</b>     | Pooled   | \$72,541              | Inflation               | 10-25               |
| <b>North Kawartha Community Centre</b> | Pooled   | \$149,421             | Inflation               | 25                  |
| <b>Haultain Transfer Station</b>       | Pooled   | \$30,920              | Inflation               | 25                  |
| <b>New Municipal Building</b>          | Pooled   | \$63,202              | Inflation               | 15-30               |
| <b>Wilson Park Community Centre</b>    | Pooled   | \$154,084             | Inflation               | 10-30               |
| <b>Other</b>                           | Pooled   | \$88,344              | Inflation               | 10-25               |
| <b>Total</b>                           |          | <b>\$558,512</b>      |                         |                     |

The Township owns various types of land improvements including fences, park lighting, tennis court and ball diamond bleachers, and others with a total replacement value of \$558,500. The land improvement assets have an assumed useful life of 10-30 years depending on the type of land improvement. The asset inventory is based on the Townships TCA information.

### Land Improvements summary of Condition by Replacement Value



### Land Improvements Summary of Remaining Useful Life by Replacement Value



Overall, approximately \$124,000 (22%) of land improvements are considered to be overdue by virtue of their design life. The balance of assets in this category have between 0-20 years of remaining useful life.

As the condition analysis for this category is based on the relative age of each asset, the conditions closely link to the remaining useful life graph. Overall, the Township maintains \$315,400 (56%) of land improvements in Good to Very Good condition. Only about \$12,700 (2%) of land improvements are considered to be in Poor or Very Poor condition. The remainder of the land improvements \$230,400 (41%) are maintained in Fair condition.

**Data Confidence and Reliability:**

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

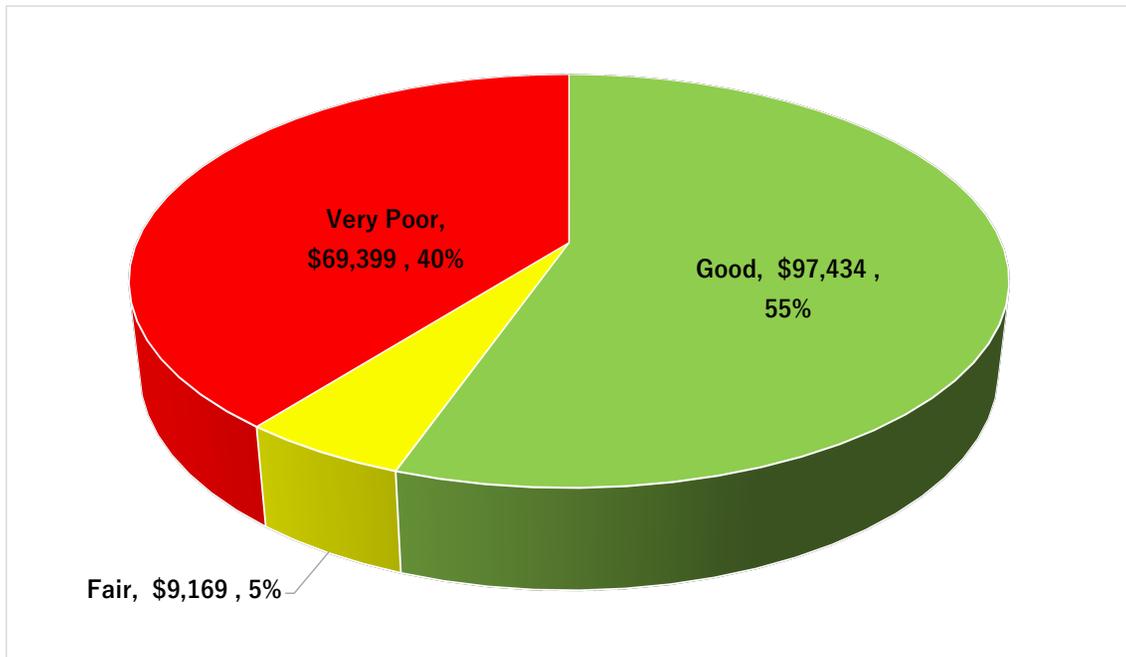
## B.5 – Computers

### Summary of Inventory

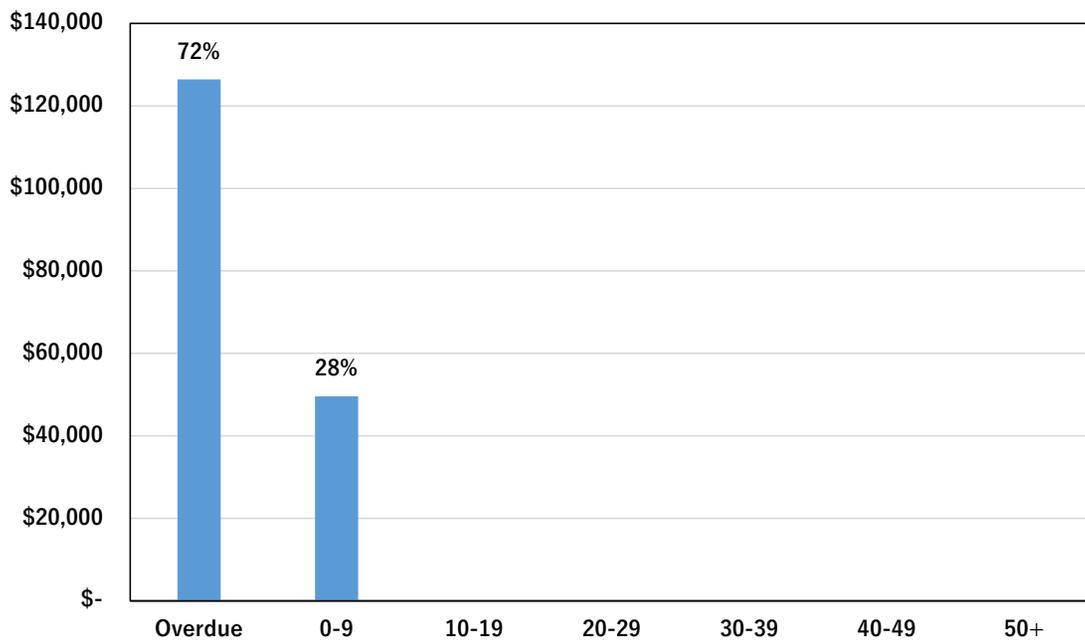
| Location                    | Quantity  | Replacement Cost 2022 | Replacement Cost Method | Useful Life (Years) |
|-----------------------------|-----------|-----------------------|-------------------------|---------------------|
| North Kawartha Fire Station | 2         | \$28,171              | Inflation               | 5                   |
| North Kawartha Library      | 5         | \$34,956              | Inflation               | 5                   |
| New Municipal Building      | 3         | \$76,138              | Inflation               | 5                   |
| Other                       | 1         | \$36,737              | Inflation               | 5                   |
| <b>Total</b>                | <b>11</b> | <b>\$176,002</b>      |                         |                     |

The Township maintains its inventory of computers as pooled units for various services, which includes the fire department, libraries, administration, and other service areas. The computer assets have an assumed useful life of 5 years and the asset inventory is based on the Townships TCA information.

### Computers Summary of Condition by Replacement Value



### Computers Summary of Remaining Useful Life by Replacement Value



The majority of computer assets \$126,400 (72%) are considered to be overdue by virtue of their design life. The balance of assets in this category have between 0-10 years of remaining useful life. As the condition analysis

for this category is based on the relative age of each asset, the conditions closely link to the remaining useful life graph.

Overall, the Township maintains \$97,400 (55%) of computer assets in Good to Very Good condition. Only about \$9,200 (5%) of computers are considered to be in Fair condition. The remainder of the computer assets \$69,400 (39%) are maintained in Poor or Very Poor condition.

**Data Confidence and Reliability:**

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

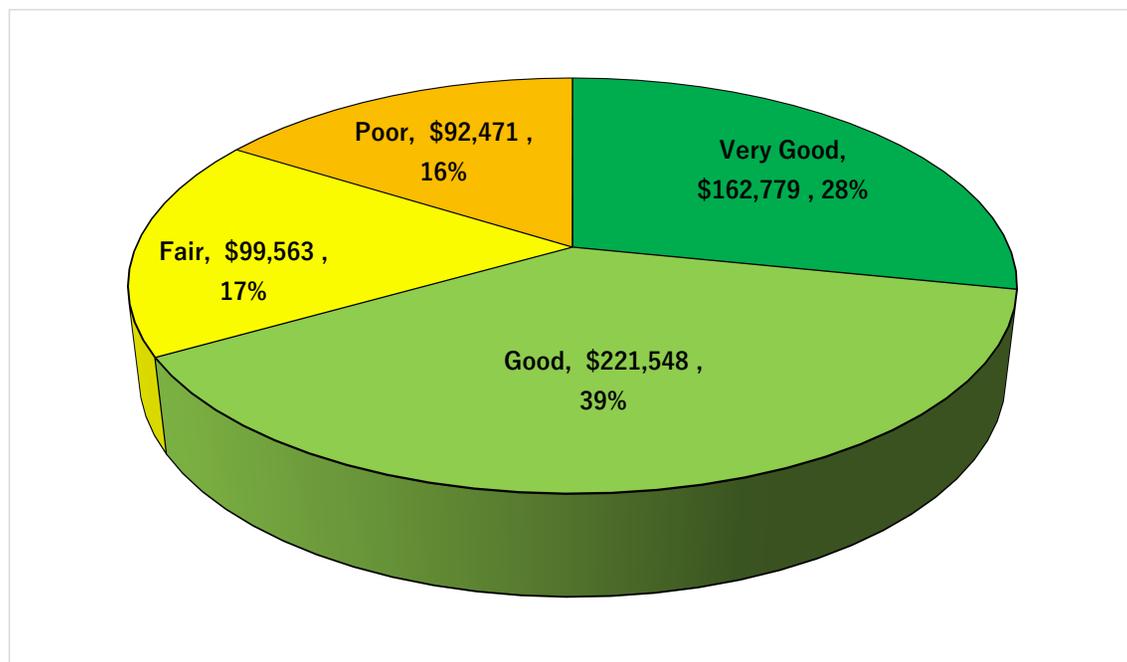
## B.6 – Other Engineering Assets

### Summary of Inventory

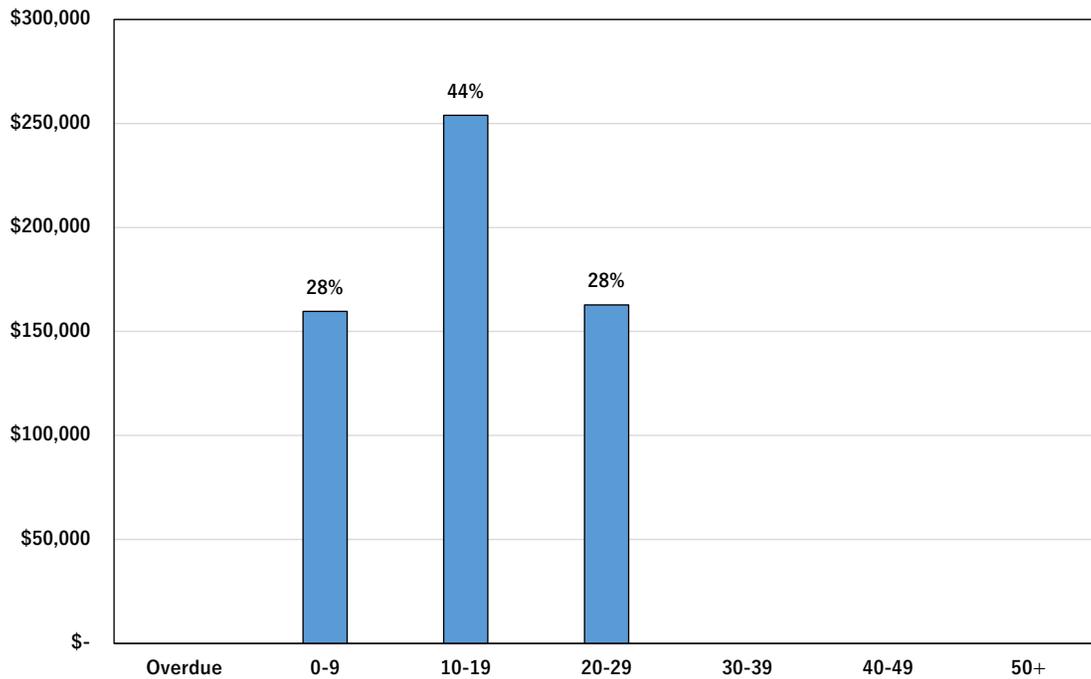
| Location                        | Quantity | Replacement Cost 2022 | Replacement Cost Method | Useful Life (Years) |
|---------------------------------|----------|-----------------------|-------------------------|---------------------|
| <b>Other Engineering Assets</b> | Pooled   | \$576,361             | Inflation               | 15-20               |
| <b>Total</b>                    |          | <b>\$576,361</b>      |                         |                     |

The Township owns various types of engineering assets, which include sidewalks, streetlights, and other minor engineering assets with a total replacement value of \$576,400. The other engineering assets have an assumed useful life of 15-20 years depending on the type of engineering asset. The asset inventory is based on the Townships TCA information.

### Other Engineering Assets summary of Condition by Replacement Value



## Other Engineering Assets Summary of Remaining Useful Life by Replacement Value



There are no other engineering assets considered to be overdue by virtue of their design life. The balance of assets in this category have between 0-30 years of remaining useful life.

Overall, the Municipality maintains \$384,300 (67%) of other engineering assets in Good or Very Good condition. About \$92,500 (16%) of vehicles assets are considered to be in Poor or Very Poor condition, which would indicate potential signs of deterioration, which need to be monitored closely. The remaining assets \$99,600 (17%) are currently considered in Fair condition.

### Data Confidence and Reliability:

- Level 4 (Reliable)

Dataset is complete and estimated to be accurate +/- 10%.

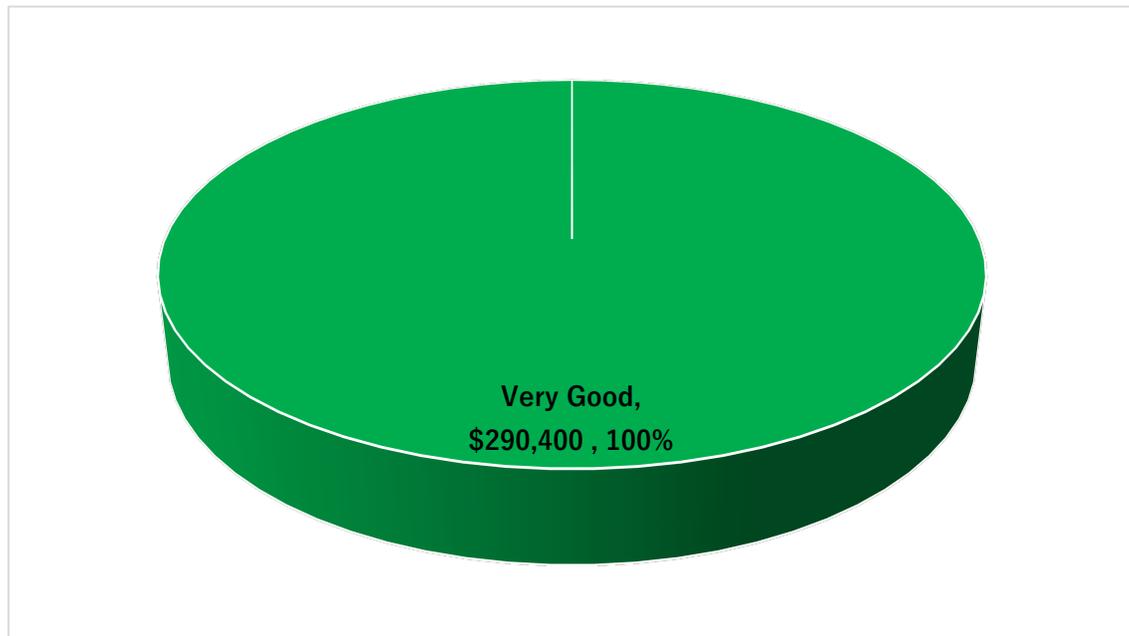
## B.7 – Bridge

### Summary of Inventory

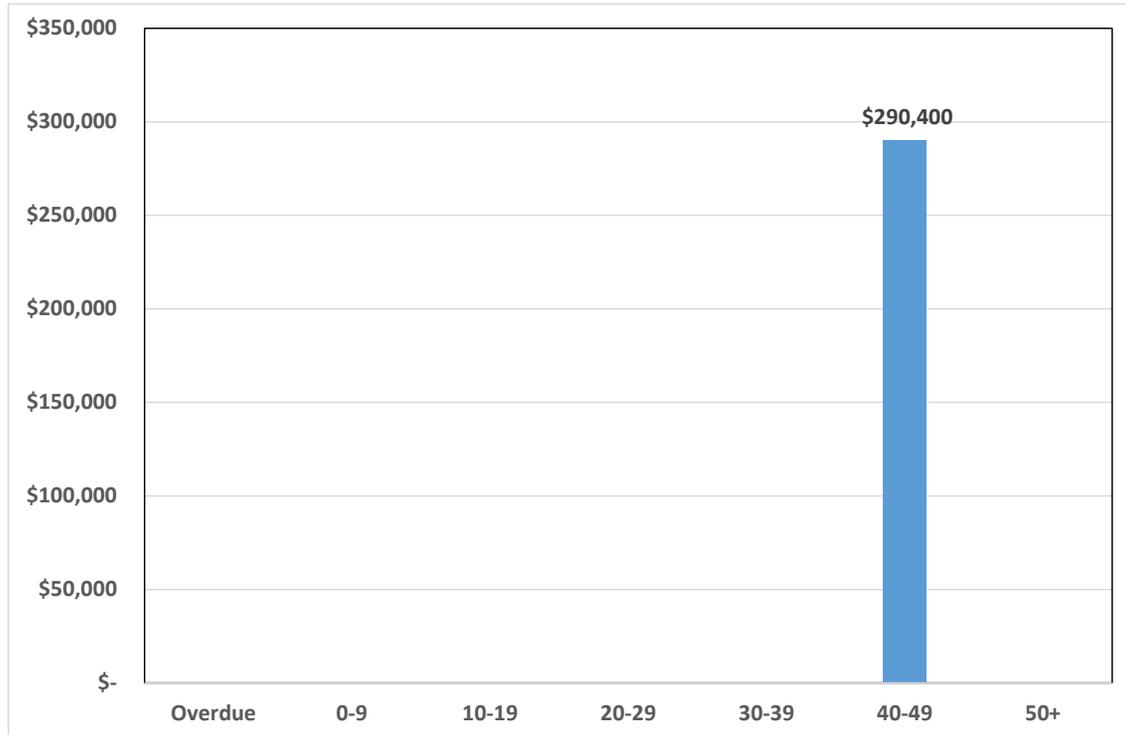
| Location        | Quantity | Replacement Cost 2022 | Replacement Cost Method | Useful Life (Years) |
|-----------------|----------|-----------------------|-------------------------|---------------------|
| Eel Lake Bridge | 1        | \$290,400             | Recent Costing          | 50                  |
| <b>Total</b>    | <b>1</b> | <b>\$290,400</b>      |                         |                     |

The Township maintains one bridge with a replacement value of \$290,400 and an assumed useful life of 50 years. The asset replacement value is based on benchmark costs from comparable municipalities.

### Equipment summary of Condition by Replacement Value



## Equipment Summary of Remaining Useful Life by Replacement Value



The Township’s bridge is not considered to be overdue by virtue of their design life as the Township has completed major rehabilitation work in 2014, which extended the useful life of the asset. Overall, the bridge is maintained in Very Good condition.

### Data Confidence and Reliability:

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

## B.8 – Roads

### Summary of Inventory

| Type  | Quantity (km) |
|---|---------------|
| Gravel Roads  | 116           |
| Surface Treated Roads<br>Low Class Bitumious (LCB)        | 27            |
| Hot Mix Asphalt Paved Roads<br>High Class Bitumious (HCB) | 14            |
| <b>Total</b>  | <b>157</b>    |

The Township maintains 157 km of roads with a replacement value of \$29.9 million. The asset replacement values are based on the 2021 RNS and adjusted to 2022 dollars. The 2021 RNS is the sole source of information in this report on roads in the Township.

The Township's 2021 RNS also details the information associated to the road network. Several factors are used to assess the condition of roads including surface type, width, capacity structural adequacy and drainage. This said, the condition of roads was summarized as a (pavement condition index (PCI), consistent with the level service measure requirements of O.Reg. 588/17. The average PCI of Township roads has been rated at 78.7 which general translates to rating of Good condition.

#### Data Confidence and Reliability:

- Level 4 (Reliable)

Dataset is complete and estimated to be accurate +/- 10%.

# Appendix C

## Asset Management Strategy

# Appendix C – Asset Management Strategy

**Table C-1 – Lifecycle Activities: Roads**

| Areas                        | Lifecycle Activities   |
|------------------------------|--|
| Non-Infrastructure Solutions | <ul style="list-style-type: none"> <li>▪ Regularly scheduling of repair work orders.</li> <li>▪ Annually provide the necessary departments with related information when new asset information is acquired.</li> <li>▪ Continue to conduct updates to the Road Needs Study in conjunction with updates to the AMP (minimum every 5 years).</li> </ul>  |
| Maintenance Activities       | <ul style="list-style-type: none"> <li>▪ Regular maintenance including, road sweeping, plowing, sanding, salting, dust control, roadside vegetation management, and roadside ditch cleanout and clearing.</li> <li>▪ Routine maintenance of existing gravel roads consists of reclaiming shoulder granulars for road, adding granulars as required, compacting, grading, etc.</li> <li>▪ Continued maintenance of roads in line with O. Reg. 239/02 Minimum Maintenance Standards for Municipal Highways.</li> <li>▪ Continue to monitor road restrictions based on Township policy, in particular for load restrictions in effect during the spring months</li> </ul> |
| Renewal / Rehabilitation     | <p>Implement recommendations of the 2021 RNS including:</p> <ul style="list-style-type: none"> <li>▪ For paved roads continue preventative repair programs as needed which include rout/seal, slurry seal, surface course, safety/stop gap maintenance</li> </ul>  |
| Replacement                  | <ul style="list-style-type: none"> <li>▪ Full reconstruction to address major structural deficiencies or issues with the road sub-grade and sub-base as needed</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>   |

| Areas     | Lifecycle Activities  |
|-----------|---|
| Expansion | <ul style="list-style-type: none"> <li>▪ Identify needs through regular capital planning. Ensure assumed roads are tracked through the asset management plan.</li> <li>▪ Service improvements made where possible (new technologies, environmental impacts, etc.).</li> </ul> |

**Table C-2 – Lifecycle Activities: Bridge**

| Areas                        | Lifecycle Actions   |
|------------------------------|---|
| Non-Infrastructure Solutions | <ul style="list-style-type: none"> <li>▪ Annually provide the necessary departments with related information when new asset information is acquired.</li> <li>▪ Continue to conduct updates to Ontario Structure Inventory and Inspection Study every 2 years as required by Provincial regulation.</li> <li>▪ Monitor and revise load limits to structures as needed.</li> </ul> |
| Maintenance Activities       | <ul style="list-style-type: none"> <li>▪ Recommendations from the OSIM Report to clean bridge deck twice per year (spring and fall)</li> <li>▪ Regular inspections of embankments</li> </ul>  |
| Renewal/Rehabilitation       | <ul style="list-style-type: none"> <li>▪ Undertaking rehabilitation works recommended through the OSIM reports as needed</li> </ul>   |
| Replacement                  | <ul style="list-style-type: none"> <li>▪ Replacement of bridges or culverts based on the OSIM reports as needed</li> </ul>  |
| Disposal                     | <ul style="list-style-type: none"> <li>▪ No disposals are proposed for the Township bridge</li> </ul>   |
| Expansion                    | <ul style="list-style-type: none"> <li>▪ Identify needs through regular capital planning.</li> <li>▪ Service improvements made where possible (new technologies, environmental impacts, etc.).</li> </ul>   |

**Table C-3 – Lifecycle Activities: Other Asset Categories**

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

# Appendix D

## Detailed Financing Strategy Tables

**Table 1**  
**Township of North Kawartha**  
**2022 Asset Management Plan**  
**Close Cumulative Infrastructure Deficit by 2061**

| Legend       | 1. Lifecycle Costs  |                              |                          |                       |   |   | 2. Forecast of Revenues |                       |  |                                     |  | 3. Funding Gap Calculation |                         |                |                    |
|--------------|---------------------|------------------------------|--------------------------|-----------------------|---|---|-------------------------|-----------------------|--|-------------------------------------|--|----------------------------|-------------------------|----------------|--------------------|
|              | Year                | Non-Infrastructure Solutions | Operations & Maintenance | Gravel Maintenance    | Capital Renewal/ Replacement and Disposal | Expansion Activities (Annual Provision for Replacement) | Total Lifecycle Costs   | O&M from Taxation     | Capital from Taxation (Including Transfers to Reserves and Gravel Maintenance) | Yearly Increase in Tax Funding (\$) | Canada Community Building Fund CCBF (formerly Gas Tax) | Other Grants               | Less: Existing Reserves | Total Funding  | Annual Funding Gap |
| 2022         |                     | \$ 1,317,020                 | \$ 208,000               | \$ 6,300,123          | \$ -                                      | \$ 7,825,143  | \$ 1,317,020            | \$ 459,429            |  | \$ 78,622                           | \$ 50,000  | \$ 3,000,000               | \$ 4,905,071            | \$ 2,920,072   | \$ 2,920,072       |
| 2023         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 5,615,828          | \$ -                                      | \$ 7,190,848  | \$ 1,317,020            | \$ 603,287            | \$ 143,858   | \$ 82,040                           | \$ 50,000  |                            | \$ 2,052,347            | \$ 5,138,500   | \$ 8,058,572       |
| 2024         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 5,323,290          | \$ -                                      | \$ 6,898,310  | \$ 1,317,020            | \$ 747,146            | \$ 143,858   | \$ 82,040                           | \$ 50,000  |                            | \$ 2,196,206            | \$ 4,702,105   | \$ 12,760,677      |
| 2025         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 4,511,545          | \$ -                                      | \$ 6,086,565  | \$ 1,317,020            | \$ 891,004            | \$ 143,858   | \$ 82,040                           | \$ 50,000  |                            | \$ 2,340,064            | \$ 3,746,501   | \$ 16,507,178      |
| 2026         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 4,217,554          | \$ -                                      | \$ 5,792,574  | \$ 1,317,020            | \$ 1,034,862          | \$ 143,858   | \$ 82,040                           | \$ 50,000  |                            | \$ 2,483,922            | \$ 3,308,652   | \$ 19,815,830      |
| 2027         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 4,149,336          | \$ -                                      | \$ 5,724,356  | \$ 1,317,020            | \$ 1,178,721          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 2,577,781            | \$ 3,146,575   | \$ 22,962,405      |
| 2028         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 3,430,203          | \$ -                                      | \$ 5,005,223  | \$ 1,317,020            | \$ 1,322,579          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 2,721,639            | \$ 2,283,584   | \$ 25,245,989      |
| 2029         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 2,991,698          | \$ -                                      | \$ 4,566,718  | \$ 1,317,020            | \$ 1,466,437          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 2,865,497            | \$ 1,701,220   | \$ 26,947,209      |
| 2030         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 2,987,819          | \$ -                                      | \$ 4,562,839  | \$ 1,317,020            | \$ 1,610,296          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 3,009,356            | \$ 1,553,483   | \$ 28,500,692      |
| 2031         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 2,913,425          | \$ -                                      | \$ 4,488,445  | \$ 1,317,020            | \$ 1,754,154          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 3,153,214            | \$ 1,335,231   | \$ 29,835,923      |
| 2032         | \$ 50,000           | \$ 1,319,392                 | \$ 208,000               | \$ 2,884,840          | \$ 99,620                                 | \$ 4,561,852  | \$ 1,319,392            | \$ 1,898,012          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 3,299,445            | \$ 1,262,407   | \$ 31,098,331      |
| 2033         | \$ 50,000           | \$ 1,321,765                 | \$ 208,000               | \$ 2,855,078          | \$ 99,620                                 | \$ 4,534,463  | \$ 1,321,765            | \$ 2,041,871          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 3,445,675            | \$ 1,088,787   | \$ 32,187,118      |
| 2034         | \$ 50,000           | \$ 1,324,137                 | \$ 208,000               | \$ 2,855,078          | \$ 99,620                                 | \$ 4,536,835  | \$ 1,324,137            | \$ 2,185,729          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 3,591,906            | \$ 944,929     | \$ 33,132,047      |
| 2035         | \$ 50,000           | \$ 1,326,509                 | \$ 208,000               | \$ 2,835,000          | \$ 99,620                                 | \$ 4,519,129  | \$ 1,326,509            | \$ 2,329,587          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 3,738,137            | \$ 780,992     | \$ 33,913,039      |
| 2036         | \$ 50,000           | \$ 1,328,882                 | \$ 208,000               | \$ 2,819,554          | \$ 99,620                                 | \$ 4,506,056  | \$ 1,328,882            | \$ 2,473,446          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 3,884,368            | \$ 621,688     | \$ 34,534,727      |
| 2037         | \$ 50,000           | \$ 1,331,254                 | \$ 208,000               | \$ 2,819,554          | \$ 99,620                                 | \$ 4,508,428  | \$ 1,331,254            | \$ 2,617,304          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 4,030,598            | \$ 477,830     | \$ 35,012,557      |
| 2038         | \$ 50,000           | \$ 1,333,627                 | \$ 208,000               | \$ 2,773,551          | \$ 99,620                                 | \$ 4,464,797  | \$ 1,333,627            | \$ 2,761,162          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 4,176,829            | \$ 287,968     | \$ 35,300,525      |
| 2039         | \$ 50,000           | \$ 1,335,999                 | \$ 208,000               | \$ 2,739,489          | \$ 99,620                                 | \$ 4,433,108  | \$ 1,335,999            | \$ 2,905,021          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 4,323,060            | \$ 110,048     | \$ 35,410,574      |
| 2040         | \$ 50,000           | \$ 1,338,371                 | \$ 208,000               | \$ 2,739,489          | \$ 99,620                                 | \$ 4,435,480  | \$ 1,338,371            | \$ 3,048,879          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 4,469,290            | \$ (33,810)    | \$ 35,376,764      |
| 2041         | \$ 50,000           | \$ 1,340,744                 | \$ 208,000               | \$ 2,701,202          | \$ 99,620                                 | \$ 4,399,566  | \$ 1,340,744            | \$ 3,192,737          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 4,615,521            | \$ (215,955)   | \$ 35,160,809      |
| 2042         | \$ 50,000           | \$ 1,343,116                 | \$ 208,000               | \$ 2,701,202          | \$ 99,620                                 | \$ 4,401,938  | \$ 1,343,116            | \$ 3,336,596          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 4,761,752            | \$ (359,813)   | \$ 34,800,995      |
| 2043         | \$ 50,000           | \$ 1,345,488                 | \$ 208,000               | \$ 2,678,857          | \$ 99,620                                 | \$ 4,381,966  | \$ 1,345,488            | \$ 3,480,454          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 4,907,982            | \$ (526,017)   | \$ 34,274,978      |
| 2044         | \$ 50,000           | \$ 1,347,861                 | \$ 208,000               | \$ 2,678,857          | \$ 99,620                                 | \$ 4,384,338  | \$ 1,347,861            | \$ 3,624,312          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 5,054,213            | \$ (669,875)   | \$ 33,605,103      |
| 2045         | \$ 50,000           | \$ 1,350,233                 | \$ 208,000               | \$ 2,678,857          | \$ 99,620                                 | \$ 4,386,710  | \$ 1,350,233            | \$ 3,768,171          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 5,200,444            | \$ (813,734)   | \$ 32,791,370      |
| 2046         | \$ 50,000           | \$ 1,352,606                 | \$ 208,000               | \$ 2,678,857          | \$ 99,620                                 | \$ 4,389,083  | \$ 1,352,606            | \$ 3,912,029          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 5,346,675            | \$ (957,592)   | \$ 31,833,778      |
| 2047         | \$ 50,000           | \$ 1,354,978                 | \$ 208,000               | \$ 2,663,628          | \$ 99,620                                 | \$ 4,376,226  | \$ 1,354,978            | \$ 4,055,887          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 5,492,905            | \$ (1,116,680) | \$ 30,717,098      |
| 2048         | \$ 50,000           | \$ 1,357,350                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,378,647  | \$ 1,357,350            | \$ 4,199,746          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 5,639,136            | \$ (1,260,489) | \$ 29,456,610      |
| 2049         | \$ 50,000           | \$ 1,359,723                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,381,020  | \$ 1,359,723            | \$ 4,343,604          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 5,785,367            | \$ (1,404,347) | \$ 28,052,263      |
| 2050         | \$ 50,000           | \$ 1,362,095                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,383,392  | \$ 1,362,095            | \$ 4,487,462          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 5,931,597            | \$ (1,548,205) | \$ 26,504,057      |
| 2051         | \$ 50,000           | \$ 1,364,467                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,385,765  | \$ 1,364,467            | \$ 4,631,321          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 6,077,828            | \$ (1,692,064) | \$ 24,811,994      |
| 2052         | \$ 50,000           | \$ 1,366,840                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,388,137  | \$ 1,366,840            | \$ 4,775,179          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 6,224,059            | \$ (1,835,922) | \$ 22,976,072      |
| 2053         | \$ 50,000           | \$ 1,369,212                 | \$ 208,000               | \$ 2,666,442          | \$ 99,620                                 | \$ 4,393,274  | \$ 1,369,212            | \$ 4,919,037          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 6,370,290            | \$ (1,977,015) | \$ 20,999,056      |
| 2054         | \$ 50,000           | \$ 1,371,584                 | \$ 208,000               | \$ 2,666,442          | \$ 99,620                                 | \$ 4,395,646  | \$ 1,371,584            | \$ 5,062,896          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 6,516,520            | \$ (2,120,874) | \$ 18,878,183      |
| 2055         | \$ 50,000           | \$ 1,373,957                 | \$ 208,000               | \$ 2,666,134          | \$ 99,620                                 | \$ 4,397,711  | \$ 1,373,957            | \$ 5,206,754          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 6,662,751            | \$ (2,265,040) | \$ 16,613,142      |
| 2056         | \$ 50,000           | \$ 1,376,329                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,399,770  | \$ 1,376,329            | \$ 5,350,612          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 6,808,982            | \$ (2,409,211) | \$ 14,203,931      |
| 2057         | \$ 50,000           | \$ 1,378,702                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,402,143  | \$ 1,378,702            | \$ 5,494,471          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 6,955,212            | \$ (2,553,070) | \$ 11,650,862      |
| 2058         | \$ 50,000           | \$ 1,381,074                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,404,515  | \$ 1,381,074            | \$ 5,638,329          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 7,101,443            | \$ (2,696,928) | \$ 8,953,934       |
| 2059         | \$ 50,000           | \$ 1,383,446                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,406,888  | \$ 1,383,446            | \$ 5,782,187          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 7,247,674            | \$ (2,840,786) | \$ 6,113,147       |
| 2060         | \$ 50,000           | \$ 1,385,819                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,409,260  | \$ 1,385,819            | \$ 5,926,046          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 7,393,904            | \$ (2,984,645) | \$ 3,128,503       |
| 2061         | \$ 50,000           | \$ 1,388,191                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,411,632  | \$ 1,388,191            | \$ 6,069,904          | \$ 143,858   | \$ 82,040                           |  |                            | \$ 7,540,135            | \$ (3,128,503) | \$ 0               |
| <b>Total</b> | <b>\$ 1,950,000</b> | <b>\$ 53,783,951</b>         | <b>\$ 8,320,000</b>      | <b>\$ 123,856,245</b> | <b>\$ 2,988,600</b>                       | <b>\$ 190,898,795</b>                                   |                         | <b>\$ 130,586,663</b> |  | <b>\$ 3,278,182</b>                 | <b>\$ 250,000</b>                                      | <b>\$ 3,000,000</b>        | <b>\$ 190,898,795</b>   |                |                    |

|                       |              |
|-----------------------|--------------|
| Annual Increase       | \$ 143,858   |
| 2022 Total Tax Levy   | \$ 6,117,239 |
| Inc. as % of Tax Levy | 2.35%        |



**Table 2**  
**Township of North Kawartha**  
**2022 Asset Management Plan**  
**Financing Strategy 1: Close In-Year Funding Gap by 2041**

| Legend       | 1. Lifecycle Costs           |                          |                     |  |   |                       | 2. Forecast of Revenues |  |                                     |  |                       | 3. Funding Gap Calculation |               |                    |                                   |
|--------------|------------------------------|--------------------------|---------------------|--|---|-----------------------|-------------------------|--|-------------------------------------|--|-----------------------|----------------------------|---------------|--------------------|-----------------------------------|
|              | Non-Infrastructure Solutions | Operations & Maintenance | Gravel Maintenance  | Capital Renewal/Replacement and Disposal | Expansion Activities (Annual Provision for Replacement) | Total Lifecycle Costs | O&M from Taxation       | Capital from Taxation (Including Transfers to Reserves and Gravel Maintenance) | Yearly Increase in Tax Funding (\$) | Canada Community Building Fund CCBF (formerly Gas Tax) | Other Grants          | Less: Existing Reserves    | Total Funding | Annual Funding Gap | Cumulative Infrastructure Deficit |
| 2022         | \$ -                         | \$ 1,317,020             | \$ 208,000          | \$ 6,300,123                             | \$ -  | \$ 7,825,143          | \$ 1,317,020            | \$ 459,429   | \$ -                                | \$ 78,622  | \$ 50,000             | \$ 3,000,000               | \$ 4,905,071  | \$ 2,920,072       | \$ 2,920,072                      |
| 2023         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 5,615,828                             | \$ -  | \$ 7,190,848          | \$ 1,317,020            | \$ 591,921   | \$ 132,492                          | \$ 82,040  | \$ 50,000             | \$ -                       | \$ 2,040,981  | \$ 5,149,866       | \$ 8,069,939                      |
| 2024         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 5,323,290                             | \$ -  | \$ 6,898,310          | \$ 1,317,020            | \$ 724,414   | \$ 132,492                          | \$ 82,040  | \$ 50,000             | \$ -                       | \$ 2,173,474  | \$ 4,724,837       | \$ 12,794,775                     |
| 2025         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 4,511,545                             | \$ -  | \$ 6,086,565          | \$ 1,317,020            | \$ 856,906   | \$ 132,492                          | \$ 82,040  | \$ 50,000             | \$ -                       | \$ 2,305,966  | \$ 3,780,599       | \$ 16,575,374                     |
| 2026         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 4,217,554                             | \$ -  | \$ 5,792,574          | \$ 1,317,020            | \$ 989,398   | \$ 132,492                          | \$ 82,040  | \$ 50,000             | \$ -                       | \$ 2,438,458  | \$ 3,354,116       | \$ 19,929,490                     |
| 2027         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 4,149,336                             | \$ -  | \$ 5,724,356          | \$ 1,317,020            | \$ 1,121,890   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 2,520,950  | \$ 3,203,406       | \$ 23,132,896                     |
| 2028         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 3,430,203                             | \$ -  | \$ 5,005,223          | \$ 1,317,020            | \$ 1,254,383   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 2,653,443  | \$ 2,351,780       | \$ 25,484,676                     |
| 2029         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 2,991,698                             | \$ -  | \$ 4,566,718          | \$ 1,317,020            | \$ 1,386,875   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 2,785,935  | \$ 1,780,783       | \$ 27,265,458                     |
| 2030         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 2,987,819                             | \$ -  | \$ 4,562,839          | \$ 1,317,020            | \$ 1,519,367   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 2,918,427  | \$ 1,644,412       | \$ 28,909,870                     |
| 2031         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 2,913,425                             | \$ -  | \$ 4,488,445          | \$ 1,317,020            | \$ 1,651,860   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 3,050,920  | \$ 1,437,526       | \$ 30,347,396                     |
| 2032         | \$ 50,000                    | \$ 1,319,392             | \$ 208,000          | \$ 2,884,840                             | \$ 99,620   | \$ 4,561,852          | \$ 1,319,392            | \$ 1,784,352   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 3,185,784  | \$ 1,376,068       | \$ 31,723,464                     |
| 2033         | \$ 50,000                    | \$ 1,321,765             | \$ 208,000          | \$ 2,855,078                             | \$ 99,620   | \$ 4,534,463          | \$ 1,321,765            | \$ 1,916,844   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 3,320,649  | \$ 1,213,814       | \$ 32,937,278                     |
| 2034         | \$ 50,000                    | \$ 1,324,137             | \$ 208,000          | \$ 2,855,078                             | \$ 99,620   | \$ 4,536,835          | \$ 1,324,137            | \$ 2,049,336   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 3,455,513  | \$ 1,081,322       | \$ 34,018,599                     |
| 2035         | \$ 50,000                    | \$ 1,326,509             | \$ 208,000          | \$ 2,835,000                             | \$ 99,620   | \$ 4,519,129          | \$ 1,326,509            | \$ 2,181,829   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 3,590,378  | \$ 928,751         | \$ 34,947,351                     |
| 2036         | \$ 50,000                    | \$ 1,328,882             | \$ 208,000          | \$ 2,819,554                             | \$ 99,620   | \$ 4,506,056          | \$ 1,328,882            | \$ 2,314,321   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 3,725,243  | \$ 780,813         | \$ 35,728,163                     |
| 2037         | \$ 50,000                    | \$ 1,331,254             | \$ 208,000          | \$ 2,819,554                             | \$ 99,620   | \$ 4,508,428          | \$ 1,331,254            | \$ 2,446,813   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 3,860,107  | \$ 648,321         | \$ 36,376,484                     |
| 2038         | \$ 50,000                    | \$ 1,333,627             | \$ 208,000          | \$ 2,773,551                             | \$ 99,620   | \$ 4,464,797          | \$ 1,333,627            | \$ 2,579,305   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 3,994,972  | \$ 469,825         | \$ 36,846,309                     |
| 2039         | \$ 50,000                    | \$ 1,335,999             | \$ 208,000          | \$ 2,739,489                             | \$ 99,620   | \$ 4,433,108          | \$ 1,335,999            | \$ 2,711,798   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 4,129,837  | \$ 303,271         | \$ 37,149,581                     |
| 2040         | \$ 50,000                    | \$ 1,338,371             | \$ 208,000          | \$ 2,739,489                             | \$ 99,620   | \$ 4,435,480          | \$ 1,338,371            | \$ 2,844,290   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 4,264,701  | \$ 170,779         | \$ 37,320,360                     |
| 2041         | \$ 50,000                    | \$ 1,340,744             | \$ 208,000          | \$ 2,701,202                             | \$ 99,620   | \$ 4,399,566          | \$ 1,340,744            | \$ 2,976,782   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 4,399,566  | \$ -               | \$ 37,320,360                     |
| 2042         | \$ 50,000                    | \$ 1,343,116             | \$ 208,000          | \$ 2,701,202                             | \$ 99,620   | \$ 4,401,938          | \$ 1,343,116            | \$ 3,109,275   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 4,534,431  | \$ (132,492)       | \$ 37,187,867                     |
| 2043         | \$ 50,000                    | \$ 1,345,488             | \$ 208,000          | \$ 2,678,857                             | \$ 99,620   | \$ 4,381,966          | \$ 1,345,488            | \$ 3,241,767   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 4,669,295  | \$ (287,330)       | \$ 36,900,538                     |
| 2044         | \$ 50,000                    | \$ 1,347,861             | \$ 208,000          | \$ 2,678,857                             | \$ 99,620   | \$ 4,384,338          | \$ 1,347,861            | \$ 3,374,259   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 4,804,160  | \$ (419,822)       | \$ 36,480,716                     |
| 2045         | \$ 50,000                    | \$ 1,350,233             | \$ 208,000          | \$ 2,678,857                             | \$ 99,620   | \$ 4,386,710          | \$ 1,350,233            | \$ 3,506,751   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 4,939,025  | \$ (552,314)       | \$ 35,928,401                     |
| 2046         | \$ 50,000                    | \$ 1,352,606             | \$ 208,000          | \$ 2,678,857                             | \$ 99,620   | \$ 4,389,083          | \$ 1,352,606            | \$ 3,639,244   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 5,073,889  | \$ (684,807)       | \$ 35,243,595                     |
| 2047         | \$ 50,000                    | \$ 1,354,978             | \$ 208,000          | \$ 2,663,628                             | \$ 99,620   | \$ 4,376,226          | \$ 1,354,978            | \$ 3,771,736   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 5,208,754  | \$ (832,528)       | \$ 34,411,067                     |
| 2048         | \$ 50,000                    | \$ 1,357,350             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,378,647          | \$ 1,357,350            | \$ 3,904,228   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 5,343,618  | \$ (964,971)       | \$ 33,446,096                     |
| 2049         | \$ 50,000                    | \$ 1,359,723             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,381,020          | \$ 1,359,723            | \$ 4,036,721   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 5,478,483  | \$ (1,097,463)     | \$ 32,348,632                     |
| 2050         | \$ 50,000                    | \$ 1,362,095             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,383,392          | \$ 1,362,095            | \$ 4,169,213   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 5,613,348  | \$ (1,229,956)     | \$ 31,118,677                     |
| 2051         | \$ 50,000                    | \$ 1,364,467             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,385,765          | \$ 1,364,467            | \$ 4,301,705   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 5,748,212  | \$ (1,362,448)     | \$ 29,756,229                     |
| 2052         | \$ 50,000                    | \$ 1,366,840             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,388,137          | \$ 1,366,840            | \$ 4,434,197   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 5,883,077  | \$ (1,494,940)     | \$ 28,261,289                     |
| 2053         | \$ 50,000                    | \$ 1,369,212             | \$ 208,000          | \$ 2,666,442                             | \$ 99,620   | \$ 4,393,274          | \$ 1,369,212            | \$ 4,566,690   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 6,017,942  | \$ (1,624,668)     | \$ 26,636,621                     |
| 2054         | \$ 50,000                    | \$ 1,371,584             | \$ 208,000          | \$ 2,666,442                             | \$ 99,620   | \$ 4,395,646          | \$ 1,371,584            | \$ 4,699,182   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 6,152,806  | \$ (1,757,160)     | \$ 24,879,461                     |
| 2055         | \$ 50,000                    | \$ 1,373,957             | \$ 208,000          | \$ 2,666,134                             | \$ 99,620   | \$ 4,397,711          | \$ 1,373,957            | \$ 4,831,674   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 6,287,671  | \$ (1,889,960)     | \$ 22,989,501                     |
| 2056         | \$ 50,000                    | \$ 1,376,329             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,399,770          | \$ 1,376,329            | \$ 4,964,166   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 6,422,536  | \$ (2,022,765)     | \$ 20,966,735                     |
| 2057         | \$ 50,000                    | \$ 1,378,702             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,402,143          | \$ 1,378,702            | \$ 5,096,659   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 6,557,400  | \$ (2,155,258)     | \$ 18,811,478                     |
| 2058         | \$ 50,000                    | \$ 1,381,074             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,404,515          | \$ 1,381,074            | \$ 5,229,151   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 6,692,265  | \$ (2,287,750)     | \$ 16,523,728                     |
| 2059         | \$ 50,000                    | \$ 1,383,446             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,406,888          | \$ 1,383,446            | \$ 5,361,643   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 6,827,130  | \$ (2,420,242)     | \$ 14,103,486                     |
| 2060         | \$ 50,000                    | \$ 1,385,819             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,409,260          | \$ 1,385,819            | \$ 5,494,136   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 6,961,994  | \$ (2,552,734)     | \$ 11,550,752                     |
| 2061         | \$ 50,000                    | \$ 1,388,191             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,411,632          | \$ 1,388,191            | \$ 5,626,628   | \$ 132,492                          | \$ 82,040  | \$ -                  | \$ -                       | \$ 7,096,859  | \$ (2,685,227)     | \$ 8,865,525                      |
| <b>Total</b> | <b>\$ 1,950,000</b>          | <b>\$ 53,783,951</b>     | <b>\$ 8,320,000</b> | <b>\$ 123,856,245</b>                    | <b>\$ 2,988,600</b>                                     | <b>\$ 190,898,795</b> | <b>\$ 121,721,138</b>   | <b>\$ 3,278,182</b>  | <b>\$ 250,000</b>                   | <b>\$ 3,000,000</b>                                    | <b>\$ 182,033,270</b> |                            |               |                    |                                   |

|                       |              |
|-----------------------|--------------|
| Annual Increase       | \$ 132,492   |
| 2022 Total Tax Levy   | \$ 6,117,239 |
| Inc. as % of Tax Levy | 2.17%        |



**Table 3**  
**Township of North Kawartha**  
**2022 Asset Management Plan**  
**Financing Strategy 2: Close In-Year Funding Gap by 2051**

| Legend       | 1. Lifecycle Costs           |                          |                     |  |   |                       | 2. Forecast of Revenues |  |                                     |  |                   | 3. Funding Gap Calculation |                       |                    |                                   |
|--------------|------------------------------|--------------------------|---------------------|--|---|-----------------------|-------------------------|--|-------------------------------------|--|-------------------|----------------------------|-----------------------|--------------------|-----------------------------------|
|              | Non-Infrastructure Solutions | Operations & Maintenance | Gravel Maintenance  | Capital Renewal/Replacement and Disposal | Expansion Activities (Annual Provision for Replacement) | Total Lifecycle Costs | O&M from Taxation       | Capital from Taxation (Including Transfers to Reserves and Gravel Maintenance) | Yearly Increase in Tax Funding (\$) | Canada Community Building Fund CCBF (formerly Gas Tax) | Other Grants      | Less: Existing Reserves    | Total Funding         | Annual Funding Gap | Cumulative Infrastructure Deficit |
| 2022         | \$ -                         | \$ 1,317,020             | \$ 208,000          | \$ 6,300,123                             | \$ -  | \$ 7,825,143          | \$ 1,317,020            | \$ 459,429   | \$ -                                | \$ 78,622  | \$ 50,000         | \$ 3,000,000               | \$ 4,905,071          | \$ 2,920,072       | \$ 2,920,072                      |
| 2023         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 5,615,828                             | \$ -  | \$ 7,190,848          | \$ 1,317,020            | \$ 544,940   | \$ 85,511                           | \$ 82,040  | \$ 50,000         | \$ -                       | \$ 1,994,000          | \$ 5,196,847       | \$ 8,116,920                      |
| 2024         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 5,323,290                             | \$ -  | \$ 6,898,310          | \$ 1,317,020            | \$ 630,452   | \$ 85,511                           | \$ 82,040  | \$ 50,000         | \$ -                       | \$ 2,079,512          | \$ 4,818,799       | \$ 12,935,718                     |
| 2025         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 4,511,545                             | \$ -  | \$ 6,086,565          | \$ 1,317,020            | \$ 715,963   | \$ 85,511                           | \$ 82,040  | \$ 50,000         | \$ -                       | \$ 2,165,023          | \$ 3,921,542       | \$ 16,857,260                     |
| 2026         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 4,217,554                             | \$ -  | \$ 5,792,574          | \$ 1,317,020            | \$ 801,474   | \$ 85,511                           | \$ 82,040  | \$ 50,000         | \$ -                       | \$ 2,250,534          | \$ 3,542,040       | \$ 20,399,300                     |
| 2027         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 4,149,336                             | \$ -  | \$ 5,724,356          | \$ 1,317,020            | \$ 886,986   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,286,046          | \$ 3,438,310       | \$ 23,837,610                     |
| 2028         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 3,430,203                             | \$ -  | \$ 5,005,223          | \$ 1,317,020            | \$ 972,497   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,371,557          | \$ 2,633,666       | \$ 26,471,276                     |
| 2029         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 2,991,698                             | \$ -  | \$ 4,566,718          | \$ 1,317,020            | \$ 1,058,008   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,457,068          | \$ 2,109,649       | \$ 28,580,925                     |
| 2030         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 2,987,819                             | \$ -  | \$ 4,562,839          | \$ 1,317,020            | \$ 1,143,520   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,542,580          | \$ 2,020,260       | \$ 30,601,185                     |
| 2031         | \$ 50,000                    | \$ 1,317,020             | \$ 208,000          | \$ 2,913,425                             | \$ -  | \$ 4,488,445          | \$ 1,317,020            | \$ 1,229,031   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,628,091          | \$ 1,860,354       | \$ 32,461,539                     |
| 2032         | \$ 50,000                    | \$ 1,319,392             | \$ 208,000          | \$ 2,884,840                             | \$ 99,620   | \$ 4,561,852          | \$ 1,319,392            | \$ 1,314,542   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,715,975          | \$ 1,845,877       | \$ 34,307,417                     |
| 2033         | \$ 50,000                    | \$ 1,321,765             | \$ 208,000          | \$ 2,855,078                             | \$ 99,620   | \$ 4,534,463          | \$ 1,321,765            | \$ 1,400,053   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,803,858          | \$ 1,730,605       | \$ 36,038,021                     |
| 2034         | \$ 50,000                    | \$ 1,324,137             | \$ 208,000          | \$ 2,855,078                             | \$ 99,620   | \$ 4,536,835          | \$ 1,324,137            | \$ 1,485,565   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,891,742          | \$ 1,645,093       | \$ 37,683,114                     |
| 2035         | \$ 50,000                    | \$ 1,326,509             | \$ 208,000          | \$ 2,835,000                             | \$ 99,620   | \$ 4,519,129          | \$ 1,326,509            | \$ 1,571,076   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 2,979,626          | \$ 1,539,504       | \$ 39,222,618                     |
| 2036         | \$ 50,000                    | \$ 1,328,882             | \$ 208,000          | \$ 2,819,554                             | \$ 99,620   | \$ 4,506,056          | \$ 1,328,882            | \$ 1,656,587   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,067,509          | \$ 1,438,546       | \$ 40,661,164                     |
| 2037         | \$ 50,000                    | \$ 1,331,254             | \$ 208,000          | \$ 2,819,554                             | \$ 99,620   | \$ 4,508,428          | \$ 1,331,254            | \$ 1,742,099   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,155,393          | \$ 1,353,035       | \$ 42,014,199                     |
| 2038         | \$ 50,000                    | \$ 1,333,627             | \$ 208,000          | \$ 2,773,551                             | \$ 99,620   | \$ 4,464,797          | \$ 1,333,627            | \$ 1,827,610   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,243,277          | \$ 1,221,521       | \$ 43,235,720                     |
| 2039         | \$ 50,000                    | \$ 1,335,999             | \$ 208,000          | \$ 2,739,489                             | \$ 99,620   | \$ 4,433,108          | \$ 1,335,999            | \$ 1,913,121   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,331,160          | \$ 1,101,948       | \$ 44,337,668                     |
| 2040         | \$ 50,000                    | \$ 1,338,371             | \$ 208,000          | \$ 2,739,489                             | \$ 99,620   | \$ 4,435,480          | \$ 1,338,371            | \$ 1,998,633   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,419,044          | \$ 1,016,436       | \$ 45,354,104                     |
| 2041         | \$ 50,000                    | \$ 1,340,744             | \$ 208,000          | \$ 2,701,202                             | \$ 99,620   | \$ 4,399,566          | \$ 1,340,744            | \$ 2,084,144   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,506,928          | \$ 892,638         | \$ 46,246,743                     |
| 2042         | \$ 50,000                    | \$ 1,343,116             | \$ 208,000          | \$ 2,701,202                             | \$ 99,620   | \$ 4,401,938          | \$ 1,343,116            | \$ 2,169,655   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,594,811          | \$ 807,127         | \$ 47,053,870                     |
| 2043         | \$ 50,000                    | \$ 1,345,488             | \$ 208,000          | \$ 2,678,857                             | \$ 99,620   | \$ 4,381,966          | \$ 1,345,488            | \$ 2,255,167   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,682,695          | \$ 699,271         | \$ 47,753,140                     |
| 2044         | \$ 50,000                    | \$ 1,347,861             | \$ 208,000          | \$ 2,678,857                             | \$ 99,620   | \$ 4,384,338          | \$ 1,347,861            | \$ 2,340,678   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,770,579          | \$ 613,759         | \$ 48,366,899                     |
| 2045         | \$ 50,000                    | \$ 1,350,233             | \$ 208,000          | \$ 2,678,857                             | \$ 99,620   | \$ 4,386,710          | \$ 1,350,233            | \$ 2,426,189   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,858,462          | \$ 528,248         | \$ 48,895,147                     |
| 2046         | \$ 50,000                    | \$ 1,352,606             | \$ 208,000          | \$ 2,678,857                             | \$ 99,620   | \$ 4,389,083          | \$ 1,352,606            | \$ 2,511,701   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 3,946,346          | \$ 442,737         | \$ 49,337,884                     |
| 2047         | \$ 50,000                    | \$ 1,354,978             | \$ 208,000          | \$ 2,663,628                             | \$ 99,620   | \$ 4,376,226          | \$ 1,354,978            | \$ 2,597,212   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,034,230          | \$ 341,996         | \$ 49,679,880                     |
| 2048         | \$ 50,000                    | \$ 1,357,350             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,378,647          | \$ 1,357,350            | \$ 2,682,723   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,122,113          | \$ 256,534         | \$ 49,936,414                     |
| 2049         | \$ 50,000                    | \$ 1,359,723             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,381,020          | \$ 1,359,723            | \$ 2,768,235   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,209,997          | \$ 171,023         | \$ 50,107,436                     |
| 2050         | \$ 50,000                    | \$ 1,362,095             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,383,392          | \$ 1,362,095            | \$ 2,853,746   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,297,881          | \$ 85,511          | \$ 50,192,948                     |
| 2051         | \$ 50,000                    | \$ 1,364,467             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,385,765          | \$ 1,364,467            | \$ 2,939,257   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,385,765          | \$ -               | \$ 50,192,948                     |
| 2052         | \$ 50,000                    | \$ 1,366,840             | \$ 208,000          | \$ 2,663,677                             | \$ 99,620   | \$ 4,388,137          | \$ 1,366,840            | \$ 3,024,768   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,473,648          | \$ (85,511)        | \$ 50,107,436                     |
| 2053         | \$ 50,000                    | \$ 1,369,212             | \$ 208,000          | \$ 2,666,442                             | \$ 99,620   | \$ 4,393,274          | \$ 1,369,212            | \$ 3,110,280   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,561,532          | \$ (168,258)       | \$ 49,939,179                     |
| 2054         | \$ 50,000                    | \$ 1,371,584             | \$ 208,000          | \$ 2,666,442                             | \$ 99,620   | \$ 4,395,646          | \$ 1,371,584            | \$ 3,195,791   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,649,416          | \$ (253,769)       | \$ 49,685,409                     |
| 2055         | \$ 50,000                    | \$ 1,373,957             | \$ 208,000          | \$ 2,666,134                             | \$ 99,620   | \$ 4,397,711          | \$ 1,373,957            | \$ 3,281,302   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,737,299          | \$ (339,589)       | \$ 49,345,821                     |
| 2056         | \$ 50,000                    | \$ 1,376,329             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,399,770          | \$ 1,376,329            | \$ 3,366,814   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,825,183          | \$ (425,413)       | \$ 48,920,408                     |
| 2057         | \$ 50,000                    | \$ 1,378,702             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,402,143          | \$ 1,378,702            | \$ 3,452,325   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 4,913,067          | \$ (510,924)       | \$ 48,409,484                     |
| 2058         | \$ 50,000                    | \$ 1,381,074             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,404,515          | \$ 1,381,074            | \$ 3,537,836   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 5,000,950          | \$ (596,435)       | \$ 47,813,049                     |
| 2059         | \$ 50,000                    | \$ 1,383,446             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,406,888          | \$ 1,383,446            | \$ 3,623,348   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 5,088,834          | \$ (681,946)       | \$ 47,131,103                     |
| 2060         | \$ 50,000                    | \$ 1,385,819             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,409,260          | \$ 1,385,819            | \$ 3,708,859   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 5,176,718          | \$ (767,458)       | \$ 46,363,645                     |
| 2061         | \$ 50,000                    | \$ 1,388,191             | \$ 208,000          | \$ 2,665,821                             | \$ 99,620   | \$ 4,411,632          | \$ 1,388,191            | \$ 3,794,370   | \$ 85,511                           | \$ 82,040  | \$ -              | \$ -                       | \$ 5,264,601          | \$ (852,969)       | \$ 45,510,676                     |
| <b>Total</b> | <b>\$ 1,950,000</b>          | <b>\$ 53,783,951</b>     | <b>\$ 8,320,000</b> | <b>\$ 123,856,245</b>                    | <b>\$ 2,988,600</b>                                     | <b>\$ 190,898,795</b> | <b>\$ -</b>             | <b>\$ 85,075,987</b>   | <b>\$ -</b>                         | <b>\$ 3,278,182</b>                                    | <b>\$ 250,000</b> | <b>\$ 3,000,000</b>        | <b>\$ 145,388,119</b> | <b>\$ -</b>        | <b>\$ -</b>                       |

|                       |              |
|-----------------------|--------------|
| Annual Increase       | \$ 85,511    |
| 2022 Total Tax Levy   | \$ 6,117,239 |
| Inc. as % of Tax Levy | 1.40%        |



**Table 4**  
**Township of North Kawartha**  
**2022 Asset Management Plan**  
**Financing Strategy 3: Continue Annual Capital Contribution Increases based on Recent Budgets**

| Legend       | 1. Lifecycle Costs  |                              |                          |                       |   |   | 2. Forecast of Revenues |                      |  |                                     |  | 3. Funding Gap Calculation |                         |               |                    |
|--------------|---------------------|------------------------------|--------------------------|-----------------------|---|---|-------------------------|----------------------|--|-------------------------------------|--|----------------------------|-------------------------|---------------|--------------------|
|              | Year                | Non-Infrastructure Solutions | Operations & Maintenance | Gravel Maintenance    | Capital Renewal/ Replacement and Disposal | Expansion Activities (Annual Provision for Replacement) | Total Lifecycle Costs   | O&M from Taxation    | Capital from Taxation (Including Transfers to Reserves and Gravel Maintenance) | Yearly Increase in Tax Funding (\$) | Canada Community Building Fund CCBF (formerly Gas Tax) | Other Grants               | Less: Existing Reserves | Total Funding | Annual Funding Gap |
| 2022         | \$ -                | \$ 1,317,020                 | \$ 208,000               | \$ 6,300,123          | \$ -                                      | \$ 7,825,143  | \$ 1,317,020            | \$ 459,429           | \$ -   | \$ 78,622                           | \$ 50,000  | \$ 3,000,000               | \$ 4,905,071            | \$ 2,920,072  | \$ 2,920,072       |
| 2023         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 5,615,828          | \$ -                                      | \$ 7,190,848  | \$ 1,317,020            | \$ 502,829           | \$ 43,400  | \$ 82,040                           | \$ 50,000  | \$ -                       | \$ 1,951,889            | \$ 5,238,959  | \$ 8,159,031       |
| 2024         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 5,323,290          | \$ -                                      | \$ 6,898,310  | \$ 1,317,020            | \$ 546,229           | \$ 43,400  | \$ 82,040                           | \$ 50,000  | \$ -                       | \$ 1,995,289            | \$ 4,903,021  | \$ 13,062,052      |
| 2025         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 4,511,545          | \$ -                                      | \$ 6,086,565  | \$ 1,317,020            | \$ 589,629           | \$ 43,400  | \$ 82,040                           | \$ 50,000  | \$ -                       | \$ 2,038,689            | \$ 4,047,876  | \$ 17,109,928      |
| 2026         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 4,217,554          | \$ -                                      | \$ 5,792,574  | \$ 1,317,020            | \$ 633,029           | \$ 43,400  | \$ 82,040                           | \$ 50,000  | \$ -                       | \$ 2,082,089            | \$ 3,710,485  | \$ 20,820,413      |
| 2027         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 4,149,336          | \$ -                                      | \$ 5,724,356  | \$ 1,317,020            | \$ 676,429           | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,075,489            | \$ 3,648,867  | \$ 24,469,280      |
| 2028         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 3,430,203          | \$ -                                      | \$ 5,005,223  | \$ 1,317,020            | \$ 719,829           | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,118,889            | \$ 2,886,334  | \$ 27,355,614      |
| 2029         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 2,991,698          | \$ -                                      | \$ 4,566,718  | \$ 1,317,020            | \$ 763,229           | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,162,289            | \$ 2,404,429  | \$ 29,760,042      |
| 2030         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 2,987,819          | \$ -                                      | \$ 4,562,839  | \$ 1,317,020            | \$ 806,629           | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,205,689            | \$ 2,357,150  | \$ 32,117,192      |
| 2031         | \$ 50,000           | \$ 1,317,020                 | \$ 208,000               | \$ 2,913,425          | \$ -                                      | \$ 4,488,445  | \$ 1,317,020            | \$ 850,029           | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,249,089            | \$ 2,239,356  | \$ 34,356,548      |
| 2032         | \$ 50,000           | \$ 1,319,392                 | \$ 208,000               | \$ 2,884,840          | \$ 99,620                                 | \$ 4,561,852  | \$ 1,319,392            | \$ 893,429           | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,294,861            | \$ 2,266,991  | \$ 36,623,539      |
| 2033         | \$ 50,000           | \$ 1,321,765                 | \$ 208,000               | \$ 2,855,078          | \$ 99,620                                 | \$ 4,534,463  | \$ 1,321,765            | \$ 936,829           | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,340,634            | \$ 2,193,829  | \$ 38,817,368      |
| 2034         | \$ 50,000           | \$ 1,324,137                 | \$ 208,000               | \$ 2,855,078          | \$ 99,620                                 | \$ 4,536,835  | \$ 1,324,137            | \$ 980,229           | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,386,406            | \$ 2,150,429  | \$ 40,967,797      |
| 2035         | \$ 50,000           | \$ 1,326,509                 | \$ 208,000               | \$ 2,835,000          | \$ 99,620                                 | \$ 4,519,129  | \$ 1,326,509            | \$ 1,023,629         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,432,178            | \$ 2,086,951  | \$ 43,054,748      |
| 2036         | \$ 50,000           | \$ 1,328,882                 | \$ 208,000               | \$ 2,819,554          | \$ 99,620                                 | \$ 4,506,056  | \$ 1,328,882            | \$ 1,067,029         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,477,951            | \$ 2,028,105  | \$ 45,082,853      |
| 2037         | \$ 50,000           | \$ 1,331,254                 | \$ 208,000               | \$ 2,819,554          | \$ 99,620                                 | \$ 4,508,428  | \$ 1,331,254            | \$ 1,110,429         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,523,723            | \$ 1,984,705  | \$ 47,067,557      |
| 2038         | \$ 50,000           | \$ 1,333,627                 | \$ 208,000               | \$ 2,773,551          | \$ 99,620                                 | \$ 4,464,797  | \$ 1,333,627            | \$ 1,153,829         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,569,496            | \$ 1,895,302  | \$ 48,962,859      |
| 2039         | \$ 50,000           | \$ 1,335,999                 | \$ 208,000               | \$ 2,739,489          | \$ 99,620                                 | \$ 4,433,108  | \$ 1,335,999            | \$ 1,197,229         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,615,268            | \$ 1,817,840  | \$ 50,780,699      |
| 2040         | \$ 50,000           | \$ 1,338,371                 | \$ 208,000               | \$ 2,739,489          | \$ 99,620                                 | \$ 4,435,480  | \$ 1,338,371            | \$ 1,240,629         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,661,040            | \$ 1,774,440  | \$ 52,555,139      |
| 2041         | \$ 50,000           | \$ 1,340,744                 | \$ 208,000               | \$ 2,701,202          | \$ 99,620                                 | \$ 4,399,566  | \$ 1,340,744            | \$ 1,284,029         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,706,813            | \$ 1,692,753  | \$ 54,247,893      |
| 2042         | \$ 50,000           | \$ 1,343,116                 | \$ 208,000               | \$ 2,701,202          | \$ 99,620                                 | \$ 4,401,938  | \$ 1,343,116            | \$ 1,327,429         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,752,585            | \$ 1,649,353  | \$ 55,897,246      |
| 2043         | \$ 50,000           | \$ 1,345,488                 | \$ 208,000               | \$ 2,678,857          | \$ 99,620                                 | \$ 4,381,966  | \$ 1,345,488            | \$ 1,370,829         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,798,357            | \$ 1,583,608  | \$ 57,480,854      |
| 2044         | \$ 50,000           | \$ 1,347,861                 | \$ 208,000               | \$ 2,678,857          | \$ 99,620                                 | \$ 4,384,338  | \$ 1,347,861            | \$ 1,414,229         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,844,130            | \$ 1,540,208  | \$ 59,021,062      |
| 2045         | \$ 50,000           | \$ 1,350,233                 | \$ 208,000               | \$ 2,678,857          | \$ 99,620                                 | \$ 4,386,710  | \$ 1,350,233            | \$ 1,457,629         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,889,902            | \$ 1,496,808  | \$ 60,517,871      |
| 2046         | \$ 50,000           | \$ 1,352,606                 | \$ 208,000               | \$ 2,678,857          | \$ 99,620                                 | \$ 4,389,083  | \$ 1,352,606            | \$ 1,501,029         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,935,675            | \$ 1,453,408  | \$ 61,971,279      |
| 2047         | \$ 50,000           | \$ 1,354,978                 | \$ 208,000               | \$ 2,663,628          | \$ 99,620                                 | \$ 4,376,226  | \$ 1,354,978            | \$ 1,544,429         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 2,981,447            | \$ 1,394,779  | \$ 63,366,058      |
| 2048         | \$ 50,000           | \$ 1,357,350                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,378,647  | \$ 1,357,350            | \$ 1,587,829         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,027,219            | \$ 1,351,428  | \$ 64,717,486      |
| 2049         | \$ 50,000           | \$ 1,359,723                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,381,020  | \$ 1,359,723            | \$ 1,631,229         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,072,992            | \$ 1,308,028  | \$ 66,025,514      |
| 2050         | \$ 50,000           | \$ 1,362,095                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,383,392  | \$ 1,362,095            | \$ 1,674,629         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,118,764            | \$ 1,264,628  | \$ 67,290,142      |
| 2051         | \$ 50,000           | \$ 1,364,467                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,385,765  | \$ 1,364,467            | \$ 1,718,029         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,164,536            | \$ 1,221,228  | \$ 68,511,370      |
| 2052         | \$ 50,000           | \$ 1,366,840                 | \$ 208,000               | \$ 2,663,677          | \$ 99,620                                 | \$ 4,388,137  | \$ 1,366,840            | \$ 1,761,429         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,210,309            | \$ 1,177,828  | \$ 69,689,198      |
| 2053         | \$ 50,000           | \$ 1,369,212                 | \$ 208,000               | \$ 2,666,442          | \$ 99,620                                 | \$ 4,393,274  | \$ 1,369,212            | \$ 1,804,829         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,256,081            | \$ 1,137,193  | \$ 70,826,391      |
| 2054         | \$ 50,000           | \$ 1,371,584                 | \$ 208,000               | \$ 2,666,442          | \$ 99,620                                 | \$ 4,395,646  | \$ 1,371,584            | \$ 1,848,229         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,301,853            | \$ 1,093,793  | \$ 71,920,185      |
| 2055         | \$ 50,000           | \$ 1,373,957                 | \$ 208,000               | \$ 2,666,134          | \$ 99,620                                 | \$ 4,397,711  | \$ 1,373,957            | \$ 1,891,629         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,347,626            | \$ 1,050,085  | \$ 72,970,269      |
| 2056         | \$ 50,000           | \$ 1,376,329                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,399,770  | \$ 1,376,329            | \$ 1,935,029         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,393,398            | \$ 1,006,372  | \$ 73,976,641      |
| 2057         | \$ 50,000           | \$ 1,378,702                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,402,143  | \$ 1,378,702            | \$ 1,978,429         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,439,171            | \$ 962,972    | \$ 74,939,614      |
| 2058         | \$ 50,000           | \$ 1,381,074                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,404,515  | \$ 1,381,074            | \$ 2,021,829         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,484,943            | \$ 919,572    | \$ 75,859,186      |
| 2059         | \$ 50,000           | \$ 1,383,446                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,406,888  | \$ 1,383,446            | \$ 2,065,229         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,530,715            | \$ 876,172    | \$ 76,735,358      |
| 2060         | \$ 50,000           | \$ 1,385,819                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,409,260  | \$ 1,385,819            | \$ 2,108,629         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,576,488            | \$ 832,772    | \$ 77,568,130      |
| 2061         | \$ 50,000           | \$ 1,388,191                 | \$ 208,000               | \$ 2,665,821          | \$ 99,620                                 | \$ 4,411,632  | \$ 1,388,191            | \$ 2,152,029         | \$ 43,400  | \$ 82,040                           | \$ -   | \$ -                       | \$ 3,622,260            | \$ 789,372    | \$ 78,357,503      |
| <b>Total</b> | <b>\$ 1,950,000</b> | <b>\$ 53,783,951</b>         | <b>\$ 8,320,000</b>      | <b>\$ 123,856,245</b> | <b>\$ 2,988,600</b>                       | <b>\$ 190,898,795</b>                                   |                         | <b>\$ 52,229,160</b> |  | <b>\$ 3,278,182</b>                 | <b>\$ 250,000</b>                                      | <b>\$ 3,000,000</b>        | <b>\$ 112,541,293</b>   |               |                    |

|                       |              |
|-----------------------|--------------|
| Annual Increase       | \$ 43,400    |
| 2022 Total Tax Levy   | \$ 6,117,239 |
| Inc. as % of Tax Levy | 0.71%        |



# Appendix E

## High Priority Capital Works

## Appendix E – High Priority Capital Works

Although some of the Township’s infrastructure is not due to be replaced for some time by virtue of the assets engineered design life, some Township assets have been considered for priority repair or rehabilitation. Based on the 2021 RNS and the 2022 AMP, Table 1 below outlines a list of eight key road related projects which have been identified as high strategic priority. It is intended that these projects are to be completed in the short term (within 5 years).

**Appendix E – Table 1 – High Priority Capital Projects – Roads<sup>(1)</sup>**

| <b>Road Name</b>  | <b>Need</b> | <b>Cost<sup>(2)</sup></b> |
|---|-------------|---------------------------|
| Anstruther Lake Road (Fire Route 61 to Fire Route 62)   | Now         | \$5,100                   |
| Hull’s Road (City Road 6 North End to Northey’s Bay Rd) | Now         | \$10,200                  |
| Oakridge Drive (Northey’s Bay Rd to End)                | Now         | \$84,660                  |
| Reid’s Road (Mt Julian Viamde Rd to Northey’s Bay Rd)   | 1-5 years   | \$163,200                 |
| Mt Julian Viamede Rd (Reid’s Rd to Fire Route 8)        | 1-5 years   | \$19,380                  |
| Mt Julian Viamede Rd (Fire Route 5 to Fire Route 6)     | 1-5 years   | \$36,720                  |
| Mt Julian Viamede Rd (Fire Route 6 to Fire Route 7)     | 1-5 years   | \$28,560                  |
| Mt Julian Viamede Rd (Fire Route 7 to Reid’s Road)      | 1-5 years   | \$32,640                  |

(1) Road projects have been identified in the 2021 Roads Needs Study as priority. Cost of road repair and replacements are subject to future tender costs once they are identified.

(2) Costs from the 2021 Roads Needs Study have been inflated to 2022 dollars.

The eight road projects identified above have been prioritized based on the Roads Capital Improvement Plan found in the 2021 Roads Needs Study. It should be noted, the priority road works identified are subject to the annual capital budgeting process and may be reprioritized as needed. Completing

the high priority works will help the Township reduce the existing infrastructure backlog and address critical infrastructure requirements.

In addition to the eight priority road projects identified above, the 2022 Asset Management Plan identifies assets that are considered to be in Very Poor condition. Table 2 outlines several non-engineered assets, which include some building components, vehicles, equipment, and computer equipment considered to be in Very Poor condition. The total 2022 replacement cost of these assets amounts to \$1.5 million. The Township intends to prioritize the additional assets identified to be in Very Poor condition along with the eight high priority road projects.

The capital repair and replacement works identified may necessitate the Township to seek funding from a variety of sources, in addition to property tax revenues, to fund all or part of these works. The Township has always used internal control measures to prioritize capital related repair and replacement activities to align with available funds/resources to meet current levels of service. The Township will continue to utilize such measures to ensure capital works are carried out in a fiscally responsible manner.

**Appendix E – Table 2 – Non-Core Assets in Very Poor Condition**

| <b>Asset Category</b> | <b>Description</b>         | <b>Extended Description</b> | <b>Replacement Cost (2022)</b> |
|-----------------------|----------------------------|-----------------------------|--------------------------------|
| <b>Buildings</b>      | INTR-MLT-NONE-2014-0C0005  | DRESSING ROOMS JR C         | \$29,000                       |
|                       | SPEC-MLT-NONE-1952-0C0001  | Apsley Arena                | \$203,400                      |
|                       | SRVS-MLT-NONE-2014-0C0005  | SEPTIC UPGRADE              | \$14,800                       |
|                       | INTR-MLT-NONE-2013-0M0001  | Renovations for Food Bank   | \$112,700                      |
|                       | SHEL-MLT-NONE-1955-0W0003  | GARAGE PREVIOUSLY FIRE      | \$24,500                       |
|                       | INTR-MLT-NONE-1976-0M0006  | Woodview Library            | \$7,300                        |
|                       | SHEL-MLT-NONE-1976-0M0006  | Woodview Library            | \$14,500                       |
|                       | SRVS-MLT-NONE-1976-0M0006  | Woodview Library            | \$17,500                       |
|                       | SUBS-MLT-NONE-1976-0M0006  | Woodview Library            | \$3,600                        |
|                       |                            | <b>Buildings Total</b>      | <b>\$427,300</b>               |
| <b>Vehicles</b>       | TRCK-RED-METL-2014-AA0020  | 2014 DODGE RAM CREW         | \$65,000                       |
|                       | TRCK-RED-METL-2002-0A0018  | 2002 Dodge Ram 1500 4x4     | \$65,000                       |
|                       | TNDM-YLW-METL-2014-0A0009  | TANDEM                      | \$325,000                      |
|                       | TRCK-RED-METL-2012-0A00019 | 2012 Chev Silverado         | \$55,000                       |
|                       | TNKR-RED-METL-2004-0000T1  | Tanker                      | \$380,000                      |
|                       | TRCK-MLT-METL-2001-000ET3  | Equipment Truck             | \$65,000                       |
|                       | TRCK-RED-METL-2001-0000R1  | Rescue Vehicle              | \$380,000                      |
|                       |                            | <b>Vehicles Total</b>       | <b>\$880,000</b>               |

| Asset Category   | Description                | Extended Description             | Replacement Cost (2022) |
|------------------|----------------------------|----------------------------------|-------------------------|
| <b>Equipment</b> | FTEQ-MLT-METL-2011-000000  | Fitness Equipment                | \$120,212               |
|                  | MOWR-MTL-METL-2014-0A0001  | ZERO TURN MOWER                  | \$12,500                |
|                  | TANK-GRY-METL-2012-0A0003  | Truck Cradle Mount Sprayer       | \$6,171                 |
|                  | RESC-MLT-NONE-2012-0F0001  | Snowbulance/Stretcher, ATV Kit   | \$6,917                 |
|                  | RESQ-MLT-NONE-2012-0F0001  | Snowbulance/Stretcher, ATV Kit   | \$6,917                 |
|                  | SCBA-BLK-METL-2012-0F0001  | SCBA Firehawk/Rescue             | \$250,000               |
|                  | TRLR-GRY-METL-2013-0P0001  | Radar Speed Trailer              | \$13,230                |
|                  | LELC-NON-WRLS-2015-000012  | BOOKS                            | \$13,304                |
|                  | LELC-NON-WRLS-2014-000013  | BOOKS                            | \$13,578                |
|                  | LELC-NON-WRLS-2016-0A0014  | LIBRARY BOOKS                    | \$13,348                |
|                  | LELC-NON-WRLS-2020-A0018   | LIBRARY BOOKS                    | \$14,356                |
|                  | LTHR-MLT-PAPR-2008-000000  | Other Library Material           | \$14,534                |
|                  | FLDR-BLU-METL-2017-000002  | FOLDER - PITNEY BOWES RELAY 3000 | \$13,218                |
|                  | CMPR-GRY-METL-2002-000000  | Compressor System                | \$49,300                |
|                  | LADR-ORN--METL-2012-0C0001 | Scissor Lift                     | \$9,569                 |
|                  | <b>Equipment Total</b>     | <b>\$557,154</b>                 |                         |

| <b>Asset Category</b>           | <b>Description</b>  | <b>Extended Description</b>   | <b>Replacement Cost (2022)</b>   |
|---------------------------------|---|---|--|
| <b>Land Improvements</b>        | No Land Improvements assets are in Very Poor condition.   | No Land Improvements assets are in Very Poor condition.   | \$-  |
| <b>Computers</b>                | SOF-NON-WRLS-2016-0A0005<br>HARD-GRY-METL-2008-000000<br>LELC-NON-WRLS-2018-0A0016<br>MNTR-GRY-METL-2008-000000<br>SRVR-GRY-METL-2016-0A0005<br>SRVR-GRY-METL-2017-0A0006 | Accountability/Inventory Software<br>Desktop Computer<br>2018 LIBRARY BOOKS<br>17 IN LCD Monitor<br>LIBRARY COMPUTER SERVER<br>SERVER<br><b>Computers Total</b> | \$6,875<br>\$1,346<br>\$12,876<br>\$308<br>\$11,257<br>\$36,737<br><b>\$69,399</b> |
| <b>Other Engineering Assets</b> | No Other Engineering Assets are in Very Poor condition.   | No Other Engineering Assets are in Very Poor condition.   | \$-  |
| <b>Total:</b>                   |   | <b>Total Non-Core Assets</b>  | <b>\$1,933,853</b>   |