KPMG

Corporation of the
Township of Nipissing

# Municipal Asset Management Plan

Final Report
December 21st, 2016

# Table of Contents

# Glossary of Terms

| | |
|---|---|
| *Asset management planning* | Asset management planning is the process of making the best possible decisions regarding the acquisition, operating, maintaining, renewing, replacing and disposing of infrastructure assets. The objective of an asset management plan is to maximize benefits, manage risk and provide satisfactory levels of service to the public in a sustainable manner. |
| *Historical cost* | Historical cost represents the actual cost incurred by the municipality at the date of acquisition. Given the timeframes between the date of acquisition and the current date, historical cost may not be reflective of the replacement cost of the asset due to the effects of inflation. |
| *Replacement cost* | Replacement cost reflects the cost that would be incurred in the event that the municipality was required to replace the asset at the present time in new condition. |
| *Life cycle cost* | Life cycle costs reflect the cost of all asset management activities that are recommended for the maintenance of the asset over its useful life, including major periodic maintenance activities (e.g. crack sealing for paved roads), including the ultimate replacement of the infrastructure but not its initial acquisition. For the purposes of the asset management plan, life cycle costs have been expressed in current dollars and have not been adjusted for anticipated inflationary increases over the life of the assets except where noted. |
| *Condition assessments* | Condition assessment are a means of expressing the current state of the municipality's infrastructure based on three possible ratings – good, fair and poor. The determination of the ratings will vary based on the type of infrastructure involved. |
| *Immediate infrastructure requirements* | For the purposes of the asset management, immediate infrastructure requirements are capital investments that are recommended to be made within the next ten years, based on the condition assessment of the infrastructure and the recommended life cycle activities. The immediate infrastructure requirement identified for the municipality is intended to address those assets that are currently rated as poor or expected to be rated as poor during the next ten years (due to deterioration caused by usage, weather, etc.). |
| *Sustaining life cycle requirement* | The sustainable life cycle requirement of an asset is the total of its life cycle costs divided by its estimated useful life. The sustainable life cycle requirement represents the amount of funding that would need to be committed to the municipality's infrastructure on an annual basis in order to fully fund the recommended life cycle activities, ignoring any investment income on unexpended funds. |

# Glossary of Terms

| | |
|---|---|
| *Anticipated asset life cycle* | The anticipated asset life cycle is the estimated productive useful life of an asset or infrastructure component. At the end of the anticipate asset life cycle, the municipality will be required to replace the asset in question, either through acquisition or reconstruction. |
| *Integration opportunities* | Integration opportunities represent potential groupings of different assets into a single project. For example, roads capital projects are often integrated with water, wastewater and storm sewer replacements given that these systems are underneath (and accessed through) municipal roads. |
| *Replacement and rehabilitation criteria* | Rehabilitation and replacement criteria are the factors considered by the municipality when consider when to undertake certain asset management activities. |
| *Rehabilitation and replacement strategies* | Rehabilitation and replacement strategies represent activities that are intended to maintain the condition and performance of the municipality's infrastructure. Rehabilitation and replacement strategies are synonymous with asset management activities. |
| *Life cycle consequences* | Life cycle consequences represent the expected outcomes in the event that the municipality does not undertake the recommended asset management activities during the recommended timeframes. Life cycle consequences can included but are not limited to deterioration of the physical condition of the asset, a reduction in the outputs and service potential of the assets, increased operating costs, higher costs for subsequent asset management activities than would otherwise have been incurred had the municipality undertaken the recommended asset management activities and/or a reduction in the estimated useful life of the asset. |
| *Integrated asset priorities* | Where different assets can be integrated into capital projects, the integrated asset priorities determine the basis for selecting and prioritizing capital projects. For example, a municipality with a water and wastewater system that is in poor condition may prioritize road construction projects based on the condition of the underlying water and wastewater system. |

KPMG

Corporation of the
Township of Nipissing

# Introduction to the Asset Management Plan

# Introduction to the Asset Management Plan

## A. Asset management planning defined

Asset management planning is the process of making the best possible decisions regarding the acquisition, operating, maintaining, renewing, replacing and disposing of infrastructure assets. The objective of an asset management plan is to maximize benefits, manage risk and provide satisfactory levels of service to the public in a sustainable manner. In order to be effective, an asset management plan needs to be based on a thorough understanding of the characteristics and condition of infrastructure assets, as well as the service levels expected from them. Recognizing that funding for infrastructure acquisition and maintenance is often limited, a key element of an asset management plan is the setting of strategic priorities to optimize decision-making as to when and how to proceed with investments. The ultimate success or failure of an asset management plan is dependent on the associated financing strategy, which will identify and secure the funds necessary for asset management activities and allow the Municipality to move from planning to execution.

## B. The purpose of the asset management

The asset management plan outlines the Municipality's planned approach for the acquisition and maintenance of its infrastructure, which in turn allows the Municipality to meet its stated mission and mandate by supporting the delivery of services to its residents. In achieving this objective, the asset management plan:

- Provides elected officials, Municipal staff, funding agencies, community stakeholders and residents with an indication of the Municipality's investment in infrastructure and its current condition;
- Outlines the total financial requirement associated with the management of this infrastructure investment, based on recommended asset management practices that encompass the total life cycle of the assets;
- Prioritizes the Municipality's infrastructure needs, recognizing that the scope of the financial requirement is beyond the capabilities of the Municipality and that some form of prioritization is required; and
- Presents a financial strategy that outlines how the Municipality intends to meet its infrastructure requirements.

It is important to recognize that the asset management plan is just that – a plan. The asset management plan does not represent a formal, multi-year budget for the Municipality. The approval of operating and capital budgets is undertaken as part of the Municipality's overall annual budget process. Accordingly, the financial performance and priorities outlined in the asset management plan are subject to change based on future decisions of Council with respect to operating and capital costs, taxation levels and changes to regulatory requirements or the condition of the Municipality's infrastructure.

# Introduction to the Asset Management Plan

## C. Scope

The asset management plan encompasses the following components of the Municipality's infrastructure:

- Roads
- Bridges and culverts
- Facilities
- Vehicles and large equipment

For the purposes of developing the asset management plan, a ten year planning horizon was considered, although the analysis includes a discussion of required activities over the entire life cycle of the Municipality's infrastructure. It is expected that the Municipality will update its asset management plan once per term of Council or earlier in the event of a major change in circumstances, which could include:

- New funding programs for infrastructure
- Unforeseen failure of a significant infrastructure component
- Regulatory changes that have a significant impact on infrastructure requirements
- Changes to the Municipality's economic or demographic profile (positive or negative), which would impact on the nature and service level of its infrastructure

# Introduction to the Asset Management Plan

## D. Methodology

The development of the asset management plan involved the following major worksteps:

| Workstep |
| --- |
| 1. Information concerning the Municipality's tangible capital assets was reviewed and summarized to provide a preliminary inventory of assets, acquisition year, remaining useful life and historical cost. |
| 2. A condition assessment of the Municipality's infrastructure was developed based on a review of previously commissioned assessments, the age and estimated remaining useful life of the infrastructure and engineering inspections of certain components. |
| 3. Asset management strategies for each component of the Municipality's infrastructure were developed to provide an indication as to the recommended course of action for infrastructure procurement, maintenance and replacement/rehabilitation over the estimated useful life of the infrastructure component. |
| 4. A forecast of the Municipality's infrastructure replacement requirements and timing was developed to identify the level of financial resources necessary to address end-of-life replacement requirements for its infrastructure. |
| 5. A recommended capital financing strategy, including suggested policies, was developed to provide the necessary resources to address the Municipality's infrastructure requirements. |

# Introduction to the Asset Management Plan

## E. Maintaining the asset management plan

The asset management plan outlined in this report represents a forecast of the Municipality's infrastructure-related activities under a series of assumptions that are documented within the plan. The asset management plan does not represent a formal, multi-year budget for infrastructure acquisition and maintenance activities but rather a long-term strategy intended to guide future decisions of the Municipality and its elected officials and staff, recognizing that the approval of operating and capital budgets is undertaken as part of the Municipality's overall annual budgeting process.

In order to evaluate and improve the asset management plan, the Municipality plans to undertake the following actions:

| Action Item | Frequency |
|---|---|
| 1. Updating of infrastructure priorities based on:<br>• Ongoing condition assessments (e.g. bi-annual bridge inspections)<br>• Visual inspection by municipal personnel<br>• Identified failures or unanticipated deterioration of infrastructure components<br>• Analysis of performance indicators | Once per term of Council |
| 2. Adjustment of asset management plan for changes in financial resources, including new or discontinued grant programs, changes to capital component of municipal levy, etc. | Once per term of council |
| 3. Comparison of actual service level indicators to planned service level indicators and identification of significant variances (positive or negative) | Annually |
| 4. Updating of infrastructure data maintained for the purposes of asset management planning. | Annually by auditors upon completion of the Municipality's financial statement audit |

# Introduction to the Asset Management Plan

## F. Restrictions

This report is based on information and documentation that was made available to KPMG at the date of this report. KPMG has not audited nor otherwise attempted to independently verify the information provided unless otherwise indicated. Should additional information be provided to KPMG after the issuance of this report, KPMG reserves the right (but will be under no obligation) to review this information and adjust its comments accordingly.

Pursuant to the terms of our engagement, it is understood and agreed that all decisions in connection with the implementation of advice and recommendations as provided by KPMG during the course of this engagement shall be the responsibility of, and made by, the Township of Nipissing. This report includes or makes reference to future oriented financial information. Readers are cautioned that since these financial projections are based on assumptions regarding future events, actual results will vary from the information presented even if the hypotheses occur, and the variations may be material.

Comments in this report are not intended, nor should they be interpreted to be, legal advice or opinion.

KPMG has no present or contemplated interest in the Township of Nipissing nor are we an insider or associate of the Township of Nipissing or its management team. Our fees for this engagement are not contingent upon our findings or any other event. Accordingly, we believe we are independent of the Township of Nipissing and are acting objectively.

KPMG

# Corporation of the Township of Nipissing

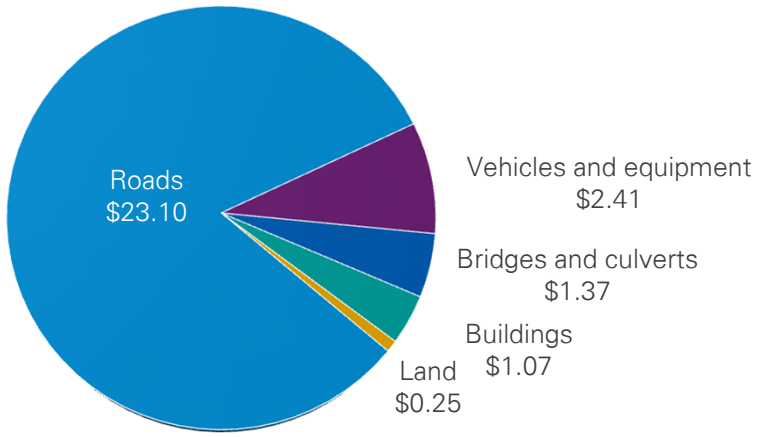
# Financial Overview

# Financial Overview

At the date of its most recent year-end (December 31st, 2015), the Municipality reported a total investment of $28.2 million in tangible capital assets ('TCA') at historical cost. This equates to an average investment of $28,400 per household or $16,600 per resident. With a historical cost of $23.1 million, the Municipality's road network represents the largest single type of infrastructure, accounting for 82% of the Municipality's TCA.

Over the last ten years, the Municipality reported total capital expenditures of $5.9 million, the majority of which ($4.6 million or 77%) related to transportation services. As noted on the following page, majority of the Municipality's capital expenditures were funded through its own sources (either debt or own-source revenues), with government grants funding 25% of total capital expenditures over the last ten years ($1.5 million). Over the same period, the Municipality issued $1.1 million in long-term debt in connection with capital expenditures.

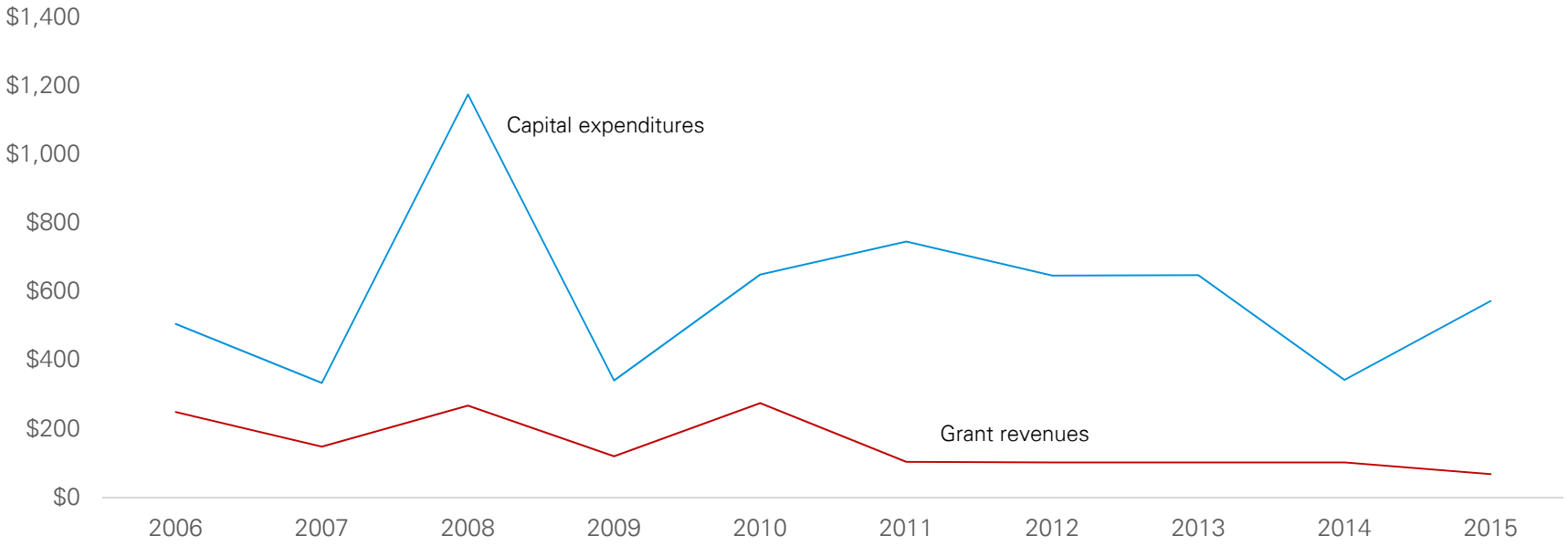
*TCA by Type of Asset (in millions)*




| Reported capital expenditures (in thousands of dollars) | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| General government | 28.1 | 10.6 | 7.1 | 51.6 | 31.5 | 40.1 | – | – | – | 75.1 | 244.1 |
| Protection to persons and property | 30.2 | 6.2 | 310.9 | 30.4 | 416.9 | 36.9 | – | – | 16.1 | 19.6 | 867.2 |
| Transportation | 431.3 | 308.7 | 826.8 | 258.1 | 128.2 | 668.1 | 645.7 | 557.2 | 294.8 | 477.5 | 4,596.4 |
| Environment | – | 0.8 | 3.4 | – | – | – | – | – | – | – | 4.2 |
| Recreation and culture | 12.9 | 3.0 | 22.5 | – | 72.7 | – | – | 89.7 | 30.6 | – | 234.4 |
| Other | – | – | – | – | – | – | – | – | – | – | – |
| Total | 502.5 | 329.3 | 1,170.7 | 340.1 | 649.3 | 745.1 | 645.7 | 646.9 | 341.5 | 572.2 | 5,943.3 |

# Financial Overview

*Capital Expenditures and Grant Revenues (in thousands)*



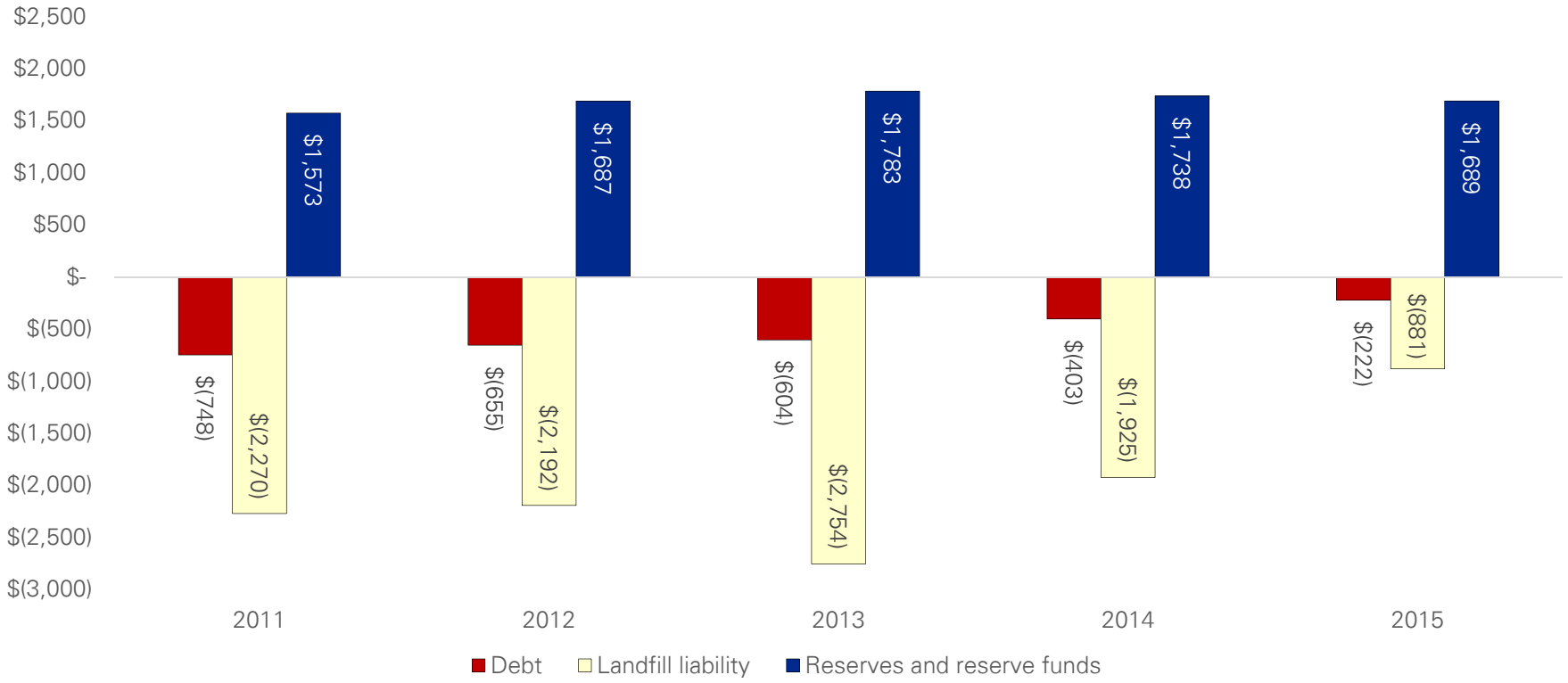

| (in thousands of dollars) | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Total capital expenditures | 502.5 | 329.3 | 1,170.7 | 340.1 | 649.3 | 745.1 | 645.7 | 646.9 | 341.5 | 572.2 | 5,943.3 |
| Grants received | 247.5 | 146.6 | 266.7 | 119.0 | 273.7 | 102.6 | 100.8 | 100.8 | 101.3 | 67.3 | 867.2 |
| Municipal share of expenditures | 255.0 | 182.7 | 904.0 | 221.1 | 375.6 | 642.5 | 544.9 | 546.1 | 240.2 | 504.9 | 5,076.1 |
| Debt issued | – | – | 326.8 | 130.0 | 200.0 | 210.0 | 120.0 | 150.0 | – | – | 1,136.8 |
| Own-source funding for capital | 255.0 | 182.7 | 577.2 | 91.1 | 175.6 | 432.5 | 424.9 | 396.1 | 240.2 | 504.9 | 3,939.3 |

# Financial Overview

At December 31st, 2015, the Municipality reported a total surplus of $18.9 million, the majority of which ($18.1 million or 95%) related to its investment in TCA. The remaining portion of the Municipality's reported surplus consisted of its reserves and reserve funds, which are allocated between operating, capital and landfill liability purposes.

Over the last five years, the Municipality's reserve and reserve fund position has remained fairly constant at between $1.6 million and $1.8 million. In comparison, its total debt, including landfill closure costs, have decreased from $3 million in 2011 to just over $1 million in 2015.

*Municipal Financial Position (in thousands)*



# Financial Overview

For asset management purposes, the historical cost of the Municipality's infrastructure is arguably of limited value in that it reflects the cost at the date that the infrastructure investment was incurred, as opposed to what it would cost the Municipality to replace the infrastructure at the present time. While the use of replacement value is a more meaningful measure of the financial requirement associated with the Municipality's infrastructure it is also of limited value in that it only considers the replacement cost at the end of the infrastructure's useful life and does not contemplate:

- The fact that certain components of the Municipality's infrastructure, such as roads, will not be fully replaced at the end of useful life but rather may be reconstructed; and
- Asset management activities that are required (by best practice) to be incurred prior to the end of the useful life of the Municipality's infrastructure.

Accordingly, for the purposes of the Municipality's asset management plan, we have provided the following for each component of the Municipality's infrastructure:

- Historical cost, based on the Municipality's TCA data as reported in its 2015 financial information return
- Replacement cost, which has been determined as follows:
    - Roads – estimated rehabilitation cost
    - Bridges and culverts – estimated reconstruction cost
    - Vehicles and major equipment – estimated purchase price
    - Buildings – insured values
- Life cycle costs, which encompass the cost of all recommended maintenance activities associated with a component of the Municipality's infrastructure prior to the end of useful life. The nature of life cycle costs will vary depending on the type of infrastructure in question, with certain assets requiring little life cycle activities prior to the end of useful life while others require regularly scheduled maintenance activities. For the purpose of the Municipality's asset management plan, life cycle costs have been provided for linear infrastructure only (i.e. roads).

# Financial Overview

The current replacement value of the Municipality's infrastructure is estimated to be in the order of $67.1 million, the majority of which ($50.6 million or 76%) relates to the municipal road network.

| | Quantity | Useful Life | Historical Cost | Replacement Cost |
|---|---|---|---|---|
| Paved roads | 2,280 m | 60 years | $765,941 | $1,924,320 |
| Surface treated roads | 32,330 m | 60 years | $6,943,193 | $12,802,680 |
| Gravel roads | 114,840 m | 100 years | $15,385,656 | $35,944,920 |
| Total roads | | | $23,094,790 | $50,671,920 |
| Bridges and culverts | 12 | 40 to 50 years | $1,371,821 | $5,025,000 |
| Buildings and facilities | 7 | 50 years | $1,071,315 | $2,342,000 |
| Vehicles and moveable equipment | 15 | 10 to 25 years | $2,410,567 | $3,000,000 |
| Landfills | 2 | 46 to 73 years | – | $6,050,000 |
| Total in-scope infrastructure | | | $27,948,493 | $67,088,920 |
| Land | | | $251,876 | |
| Total tangible capital assets per financial statements | | | $28,200,369 | |

Discussion concerning the individual components of the Municipality's infrastructure, including condition assessments, suggested asset management strategies, replacement cost and financial requirements are included in the following chapters.

KPMG

Corporation of the
Township of Nipissing

# Asset Management Planning for Roads

# Asset Management Planning for Roads

## A. Introduction

Section 44(1) of the Municipal Act establishes the Municipality's responsibility to keep highways or bridges under its jurisdiction "in a state of repair that is reasonable in the circumstances". Ontario Regulation 239/02: Minimum Maintenance Standards for Municipal Highways (which has been amended by Ontario Regulation 47/13) provides further clarification by establishing minimum maintenance standards for a range of road network maintenance activities, including but not limited to:

- Patrolling highways to monitor conditions
- Snow plowing
- Ice prevention (sanding and salting)
- Surface repairs, including potholes and surface cracking

Under Ontario Regulation 239/02, municipal roads are divided into one of six classes, with the categorization depending on the average annual daily traffic volume and the posted speed limit (see next slide). As noted on the following slides, maintenance standards will vary by class of road, with the standards decreasing (both in terms of response time and service level) as the classification progresses from Class 1 to Class 5. Minimum maintenance standards do not apply to Class 6 roads.

In addition to Ontario Regulation 239/02, other Provincial regulations and guidelines affect roads maintenance activities, including but not limited to:

- Ontario Traffic Manual, Book 11, establishes minimum requirements for pavement, hazard and delineation markings (including painting)
- Roadside Safety Manual prescribes standards for guide rails

While the bulk of the minimum maintenance standards are arguably operational in nature (e.g. snow removal), there are aspects that influence the Municipality's capital program, including standards relating to:

- Pothole patching
- Crack repairs
- Surface discontinuances
- Shoulder drop offs
- Traffic sign reflectiveness

# Asset Management Planning for Roads

*Classification of Roads Under Ontario Regulation 239/02*

| Average Annual Daily Traffic | Speed Limit (kilometres per hour) | | | | | | |
|---|---|---|---|---|---|---|---|
| | >90 | 81-90 | 71-80 | 61-70 | 51-60 | 41-50 | <41 |
| >15,000 | Class 1 | | | Class 2 | | | |
| 12,000-14,999 | | | | | | | |
| 10,000-11,999 | | | | | | | |
| 8,000-9,999 | | | | | | | |
| 6,000-7,999 | | | | | Class 3 | | |
| 5,000-5,999 | | | | | | | |
| 4,000-4,999 | | | | | | | |
| 3,000-3,999 | | | | | | Class 4 | |
| 2,000-2,999 | | | | | | | |
| 1,000-1,999 | | | | | | | |
| 500-999 | | | | | | Class 5 | |
| 200-499 | | | | | | | |
| 50-199 | | | | | | | |
| <50 | | | Class 6 | | | | |

# Asset Management Planning for Roads

*Minimum maintenance standards by class of road (selected standards only – not inclusive of all standards)*

| | Class | | | | | |
|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| Maximum accumulation before snow clearing commences | 2.5 cm | 5.0 cm | 8.0 cm | 8.0 cm | 10.0 cm | Minimum maintenance standards are not established for Class 6 roads |
| Minimum depth that snow must be cleared to | 2.5 cm | 5.0 cm | 8.0 cm | 8.0 cm | 10.0 cm | |
| Maximum time that snow clearing must be commenced once snow accumulates to maximum level | 4 hours | 6 hours | 12 hours | 16 hours | 24 hours | |
| Maximum time to treat icy roadway | 3 hours | 4 hours | 8 hours | 12 hours | 16 hours | |
| Maximum surface area of potholes on paved roadways before repairs are required | 600 $cm^2$ | 800 $cm^2$ | 1000 $cm^2$ | 1000 $cm^2$ | 1000 $cm^2$ | |
| Maximum depth of potholes on paved roadways before repairs are required | 8 cm | 8 cm | 8 cm | 8 cm | 8 cm | |
| Maximum time within which required pothole repairs are to be completed | 4 days | 4 days | 7 days | 14 days | 30 days | |
| Maximum dimension of cracks before repairs are required | 5 cm width 5 cm depth | 5 cm width 5 cm depth | 5 cm width 5 cm depth | 5 cm width 5 cm depth | 5 cm width 5 cm depth | |
| Maximum time within which required crack repairs are to be completed | 30 days | 30 days | 60 days | 180 days | 180 days | |
| Maximum time within which to complete required streetlight repairs (three or more consecutive are not functioning) | 7 days | 7 days | 14 days | 14 days | 14 days | |

# Asset Management Planning for Roads

## B. Condition Assessments

The Ontario Ministry of Transportation (the 'MTO') has developed the following guidelines for the assessment of municipal roads:

- SP-021 Manual for Condition Rating of Surface-Treated Pavements, Distress Manifestations
- SP-022 Flexible Pavement Condition Rating Guidelines for Municipalities
- SP-024 Manual for Condition Rating of Flexible Pavements, Distress Manifestations
- SP-025 Manual for Condition Rating of Gravel Surface Roads

These guidelines define how to assess the condition of paved, surface-treated and gravel roads, which is expressed as a Pavement Condition Index ('PCI'). PCI's are typically expressed on a scale of 0 (lowest) to 10 (highest) with the PCI dictating the level and timing of maintenance activities, as summarized below.

| | Paved | Surface Treated | Gravel |
|---|---|---|---|
| No maintenance required | PCI of 8.0 to 10.0 | | |
| Routine maintenance | PCI of 6.0 to 7.9 | PCI of 8.0 to 10.0 | PCI of 6.0 to 10.0 |
| Corrective maintenance | PCI of 4.0 to 6.0 | PCI of 6.0 to 7.9 | PCI of 4.0 to 5.9 |
| Rehabilitation required within three to ten years | PCI of 2.0 to 4.0 | PCI of 2.0 to 5.9 | PCI of 2.0 to 3.9 |
| Rehabilitation required within one to three years | PCI of <2.0 | PCI of <2.0 | PCI of <2.0 |

# Asset Management Planning for Roads

Based on these condition guidelines and consistent with the Municipality's original asset management plan, the Municipality's road network is characterized as being in good condition, with only limited portions of its surface treated and gravel roads requiring corrective maintenance or impending rehabilitation.

| | Paved | | Surface Treated | | Gravel | |
|---|---|---|---|---|---|---|
| | KMs | Percentage | KMs | Percentage | KMs | Percentage |
| No maintenance required | 1.40 | 61.4% | – | – | – | – |
| Routine maintenance | 0.88 | 38.6% | 27.84 | 86.1% | 112.49 | 98.0% |
| Corrective maintenance | – | – | 2.05 | 6.3% | 2.35 | 2.0% |
| Rehabilitation required within three to ten years | – | – | 2.44 | 7.6% | – | – |
| Rehabilitation required within one to three years | – | – | – | – | – | – |
| Total | 2.28 | 100.0% | 32.33 | 100.0% | 114.84 | 100.0% |

Detailed information concerning the Municipality's road network, rehabilitation costs and condition assessments is included in Appendix A to this report.

## C. Asset Management Strategies

Asset management strategies for municipal roads will depend on the nature of the road surface (paved, surface treated or gravel) but will generally commence within a few years of the initial construction of the road and continue at recommended intervals until complete reconstruction of the road is required. Generally speaking, asset management activities for paved roads are the most intensive, in terms of both frequency and cost, while gravel roads have a lower level of associated maintenance activities.

Summaries of asset management strategies by type of road network are provided on the following pages.

# Asset Management Planning for Roads

*Gravel Roads*

| | |
|---|---|
| *Anticipated asset life cycle* | The life cycle of newly placed gravel road systems are dependent on several factors including the material and construction quality, design, traffic volume, traffic loading, and environmental conditions. The service life can be approximated by the category of road: 60 years for earth with open ditch and 100 years for gravel with open ditch. Sufficient maintenance provided during the service life will help preserve conditions using such strategies as machine grading, ditching and brushing, and granular top up. |
| *Integration opportunities* | Various other elements may be considered as integrated with gravel roads. These include buried assets in the corridor, such as water mains, wastewater mains, storm sewers, hydro, telephone, natural gas, and cable. Other possible affected elements include traffic signs and signals, street lighting and guide rails. |
| *Replacement and rehabilitation criteria* | The PCI is used to assess the condition of gravel roads. The development of the PCI for gravel roads generally considers a variety of factors, including surface defects (loose gravel, dust, potholes, breakup), surface deformation (washboard, rutting, flat or reverse crown, distortion) and shoulder distress (excessive height, ponding, overgrowth). |
| *Rehabilitation and replacement strategies* | Several different rehabilitation strategies can be implemented. The selection of the strategy is dependent on PCI, road classification (collector, local), urban or rural and the benefit/cost ratio. In a rehabilitation scenario, the top 150 mm of gravel type "A" would be replaced. In the case of total reconstruction, the work would include the replacement of the granular road base and the granular surface. |
| *Life cycle consequences* | The effects of gravel road rehabilitation that is insufficiently funded are reflected in the PCI, resulting in rising reconstruction and maintenance costs. Roads which are identified by a PCI of 3.0 or lower typically show signs of a poor level of service increasing the associated degrees of risk and liability. |
| *Integrated asset priorities* | The schedule of road rehabilitation is often planned in conjunction with underground utility rehabilitation works. In some cases, it is the rehabilitation of gravel roads that prompts the replacement of underground utilities and sewer and water services if those services are deteriorating and approaching their useful service life. In other cases, road rehabilitation may be deferred if the underground infrastructure is not in need of replacement. |

# Asset Management Planning for Roads

*Surface Treated Roads*

| | |
|---|---|
| *Anticipated asset life cycle* | The life cycle of newly placed surface treated road systems are dependent on several factors including the material and construction quality, design, traffic volume, traffic loading, and environmental conditions and is generally in the order of 60 years. |
| *Integration opportunities* | Various other elements may be considered as integrated with surface treated roads. These include buried assets in the corridor, such as water mains, wastewater mains, storm sewers, hydro, telephone, natural gas, and cable. Other possible affected elements include traffic signs and signals, street lighting and guide rails. |
| *Replacement and rehabilitation criteria* | The PCI is used to assess the condition of surface treated roads. The development of the PCI for surface treated roads generally considers a variety of factors, including surface defects (loss of cover aggregate, streaking, flushing, potholes, pavement edge breaks), surface deformation (rippling, wheel track rutting, distortion) and cracking (longitudinal, transverse, pavement edge, alligator). |
| *Rehabilitation and replacement strategies* | Several different rehabilitation strategies can be implemented. The selection of the strategy is dependent on PCI, road classification (collector, local), urban or rural and the benefit/cost ratio. In a rehabilitation scenario, the surface treatment (either single or double) would be replaced. In the case of total reconstruction, the work would include the replacement of the granular road base and the surface treatment. |
| *Life cycle consequences* | The effects of surface treated road rehabilitation that is insufficiently funded are reflected in the PCI, resulting in rising reconstruction and maintenance costs. Roads which are identified by a PCI of 3.0 or lower typically show signs of a poor level of service increasing the associated degrees of risk and liability. |
| *Integrated asset priorities* | The schedule of road rehabilitation is often planned in conjunction with underground utility rehabilitation works. In some cases, it is the rehabilitation of surface treated roads that prompts the replacement of underground utilities and sewer and water services if those services are deteriorating and approaching their useful service life. |

# Asset Management Planning for Roads

*Paved Roads*

| | |
|---|---|
| *Anticipated asset life cycle* | The life cycle of newly constructed pavement systems is dependent on several factors including the pavement design, material and construction quality, traffic volume, traffic loading, and environmental conditions, and is generally in the order of 60 years. |
| *Integration opportunities* | Various other elements may be considered as integrated with paved roads. These include buried assets in the corridor, such as water mains, wastewater mains, storm sewers, hydro, telephone, natural gas, and cable. Other possible affected elements include traffic signals, street lighting, guiderails and sidewalks. |
| *Replacement and rehabilitation criteria* | The PCI is used to assess the condition of paved roads. The development of the PCI for paved roads generally considers a variety of factors, including surface defects (loss of coarse aggregates raveling, flushing), distortion or permanent deformation (rippling and shoving, wheel track rutting, distortion) and cracking (longitudinal wheel-track, longitudinal meander and mid-lane, centre line, pavement edge, transverse, map and alligator). |
| *Rehabilitation and replacement strategies* | Several different rehabilitation strategies can be implemented. The selection of the strategy is dependent on a variety of considerations, including PCI, road classification (arterial, collector, local), urban or rural, ditched or curbed and the benefit/cost ratio. These strategies include:<br>• Total reconstruction of pavement with 50 mm of hot mix asphalt (HMA)<br>• Mill and resurface pavement with 50mm of HMA<br>• Strip and resurface pavement with 50mm of HMA<br>• Pulverize with underlying granular and surface with 50mm of HMA<br>• Mill and resurface patches of pavement with 50mm of HMA<br>• Routing and crack sealing pavements |
| *Life cycle consequences* | Failure to fund timely pavement rehabilitation will result in a reduction in the pavement PCI, resulting in exponential increases in pavement rehabilitation costs. It also increases significantly road maintenance costs. Pavements identified by a PCI below 3.0 typically reflect decreases in level of service and increasing associated degrees of risk and liability. |
| *Integrated asset priorities* | The schedule of pavement rehabilitation is often planned in conjunction with underground utility rehabilitation works, where these exist. In some cases, it is the rehabilitation of pavement systems that prompts the replacement of underground sewer and water services if that infrastructure is also in deteriorating condition and approaching its useful service life. |

# Asset Management Planning for Roads

The suggested life cycle activities for roads maintenance are summarized below.

| Type of Road | Frequency | Activity | Cost per KM |
|---|---|---|---|
| Gravel | Every four years | Grader ditch, application of 500 tonnes of gravel per kilometre | $9,000 |
| | Every eight years | Brushing | $1,000 |
| | Every ten years | Application of 1,500 tonnes per kilometre for two roads only (Wolfe Lake Road, Alsace Road) | $22,000 |
| Surface treated | Every seven years | Application of second surface | $21,000 |
| | Every 17 years | Resurfacing | $100,000 |
| Paved roads | Every 30 years | Resurfacing (shave and pave) | $150,000 |

Based on these activities, the projected annual life cycle funding requirement for each type of road surface is as follows

| | Gravel | Gravel (Wolfe Lake and Alsace Road) | Surface Treated | Paved | Total |
|---|---|---|---|---|---|
| Number of kilometres of roadway | 99.74 | 15.10 | 32.33 | 2.28 | 149.45 |
| Average annual cost of asset management activities | $2,500 | $4,600 | $9,000 | $5,000 | |
| Annual sustaining life cycle requirement | $250,000 | $70,000 | $290,000 | $11,000 | $621,000 |
| Current commitment | $220,000 | $35,000 | $110,000 | – | $365,000 |
| Shortfall | $30,000 | $35,000 | $180,000 | $11,000 | $256,000 |

# Asset Management Planning for Roads

## D. Overall Financial Requirements

The current state of the Municipality's road network – which is classified as good – results in an immediate infrastructure requirement of $700,000 over the next ten years, with only four road sections identified as requiring rehabilitation within the next ten years.

| Asset ID | Road | Type | Current PCI | Length (KM) | Estimated Rehabilitation Cost | Projected Rehabilitation Year |
|---|---|---|---|---|---|---|
| 042 | Bear Creek Road | Surface treated | 60 | 1.80 | $150,000 | 2017 |
| 046 | Hunters Bay Road | Surface treated | 60 | 0.64 | $50,000 | 2017 |
| | Alsace Road | Gravel and surface treated | 60 | 5.4 (rehabilitation)<br>2.0 (new construction) | $500,000 | 2018 (pending OCIF funding) |
| Total | | | | | $700,000 | |

KPMG

Corporation of the
Township of Nipissing

# Asset Management Planning for Bridges and Structures

# Asset Management Planning for Bridges and Structures

## A. Introduction

Under Ontario Regulation 104/97: Standards for Bridges (amended by Ontario Regulation 472/10), all municipalities are required to undertake detailed visual inspections in accordance with the Ontario Structure Inspection Manual ('OSIM') of all:

- Bridges, culverts and tunnels with spans of three metres or greater;
- All retaining walls; and
- All movable bridges.

Under Ontario Regulation 104/97, inspections are required every second calendar year.

## B. Condition Assessments

In addition to establishing the requirements for bi-annual visual inspections, the OCIM defines the guidelines for bridge inspections. Specifically, the OCIM includes Condition State Tables that are used to assess the condition of various bridge components, based on the following ratings:

| Condition Rating | Description | Examples |
|---|---|---|
| Excellent | • New (as constructed) condition<br>• No visible deterioration-type defects noted, with minor construction defects excluded<br>• No remedial action required | |
| Good | • First signs of minor defects noted<br>• Defects would not normally require remedial action as overall performance is not affected | • Light corrosion<br>• Narrow cracks in concrete |
| Fair | • Medium defects are visible<br>• May require preventative maintenance where it is economic to do so | • Medium corrosion (up to 10% section loss)<br>• Medium cracks in concrete |
| Poor | • Severe and very severe defects are noted<br>• Rehabilitation or replacement required if overall performance is affected | • Severe corrosion<br>• Spalling |

# Asset Management Planning for Bridges and Structures

The results of the inspection of individual elements is then weighted to provide an overall Bridge Condition Index ('BCI'), which determines the timing of required maintenance activities for the structure under inspection.

| BCI | Condition | Maintenance Schedule |
|---|---|---|
| 70 to 100 | Good | No maintenance requirements are identified within the next five years |
| 60 to 70 | Fair | Maintenance requirements are identified within the next five years |
| <60 | Poor | Maintenance requirements are identified within one year |

Based on these condition guidelines, all but two of Municipality's bridges and culverts are characterized as being in good condition.

| Category | Name | Type | Construction Date | BCI | Condition Rating | Inspection Year |
|---|---|---|---|---|---|---|
| Bridges | Hummel | Steel | 1925 | 80 | Good | 2015 |
| | Seventh Concession | Concrete | 1950 | 60 | Fair | 2015 |
| | Pilgers' Road | Concrete | 1980 | 80 | Good | 2015 |
| | Old Nipissing Road | Concrete | 1930 | 80 | Good | 2015 |
| Culverts | Bear Creek Road | Steel | 1985 | 80 | Good | 2015 |
| | Hart Boundary Road | Steel | 1970 | 60 | Fair | 2015 |
| | Alsace Road | Steel | 2012 | 80 | Good | 2015 |
| | Black Creek Road | Steel | 1999 | 80 | Good | 2015 |
| | Wolfe Creek | Steel | 2009 | 80 | Good | 2015 |
| | South River Road | Steel | 1980 | 80 | Good | 2015 |
| | Stone Cutter's Road | Steel | 1988 | 80 | Good | 2015 |

# Asset Management Planning for Bridges and Structures

## C. Asset Management Strategies

Asset management strategies for bridges are determined primarily through the bi-annual engineering inspections and will generally involve the rehabilitation or replacement of specific bridge elements as opposed to the complete replacement of the bridge. Asset management activities for culverts are also identified through the bi-annual engineering inspections. Unlike bridges, culverts are more suited towards compete replacement at the end of their useful life, although inspections will identified elements such as guide rails that may require rehabilitation or replacement prior to the replacement of the culvert.

A summary of asset management strategies for bridges and culverts is provided below.

| | |
|---|---|
| *Anticipated asset life cycle* | The life cycle of bridges and culverts is considerably variable and dependent on construction methodology and materials, traffic loading, traffic volume, and environmental exposure conditions (temperatures, chloride concentrations, etc). Bridges and concrete culverts constructed after 2000 have an expected life cycle of 75 years, whereas those constructed before 2000 have an expected life of 50 years. Steel culverts have an estimated useful life of 40 years. |
| *Integration opportunities* | Bridge life cycle activities are typically not integrated with other infrastructure components with the exception of road widening or resurfacing projects. |
| *Rehabilitation and replacement criteria* | Asset management activities for bridges and culverts are determined primarily through the results of the bi-annual engineering inspections, which identify maintenance requirements for specific elements as well as the anticipated timeframe for completion (within one year, within five years). |
| *Rehabilitation and replacement strategies* | The specification of the bridge or culvert rehabilitation strategy is reliant on the structure's age, data and observations acquired through inspections and condition surveys, and the estimated remaining service life. |
| *Life cycle consequences* | The reduction of bridge and culvert service life endangers user safety and results in a decrease of level of service. |
| *Integrated asset priorities* | Bridge life cycle activities are typically not integrated with other infrastructure components with the exception of road widening or resurfacing projects. |

# Asset Management Planning for Bridges and Structures

## D. Overall Financial Requirements

The results of the most recently completed inspections of the Municipality's bridges and culverts identified an immediate infrastructure requirement of $921,000 over the next ten years.

| Category | Name | BCI | Condition Rating | Maintenance Requirements | | | Replacement Cost |
|---|---|---|---|---|---|---|---|
| | | | | Within One Year | Within 15 Years | Total | |
| Bridges | Hummel | 80 | Good | $52,000 | $396,000 | $448,000 | $695,000 |
| | Seventh Concession | 60 | Fair | $59,000 | – | $59,000 | $317,000 |
| | Pilgers' Road | 80 | Good | $52,000 | – | $52,000 | $1,033,000 |
| | Old Nipissing Road | 80 | Good | $52,000 | – | $52,000 | $488,000 |
| Culverts | Bear Creek Road | 80 | Good | $52,000 | – | $52,000 | $427,000 |
| | Hart Boundary Road | 60 | Fair | – | $50,000 | $50,000 | $223,000 |
| | Alsace Road | 80 | Good | $104,000 | – | $104,000 | $506,000 |
| | Black Creek Road | 80 | Good | – | – | – | $196,000 |
| | Wolfe Creek | 80 | Good | – | – | – | $200,000 |
| | South River Road | 80 | Good | $52,000 | – | $52,000 | $365,000 |
| | Stone Cutter's Road | 80 | Good | $52,000 | – | $52,000 | $575,000 |
| Total | | | | $475,000 | $446,000 | $921,000 | $5,025,000 |

KPMG

Corporation of the
Township of Nipissing

# Asset Management Planning for Buildings

# Asset Management Planning for Buildings

## A. Introduction

The Municipality's building inventory is comprised of seven major facilities that have been capitalized as TCA for financial reporting purposes. Unlike the Municipality's roads, bridges and culverts, there is no requirement for the Municipality to conduct periodic inspections of these facilities, with the most recent inspections completed as part of the preparation of the Municipality's original asset management in 2013.

## B. Condition Assessments

In connection with the preparation of the Municipality's initial asset management plan, the condition of all major permanent facilities were rated as good. We understand that no significant changes to these condition assessments has occurred, recognizing that formal inspections of the facilities have not been undertaken.

## C. Asset Management Strategies

Asset management activities for buildings will vary based on a number of factors, including the type of facility, its current condition, its intended use (residents vs. internal purposes) and the financial resources available to the Municipality. A summary of the asset management strategy for facilities is included on the following page.

# Asset Management Planning for Buildings

| | |
|---|---|
| *Anticipated asset life cycle.* | The life cycle for facilities from an overall perspective generally does not exceed 50 years, although it is possible to keep buildings in productive use beyond this expected life cycle. With respect to individual facility components, the expected useful life will vary, with roof systems expected to have a life cycle of 25 to 30 years; hot boiler and carpet replacement typically occurs every 15 years and the building superstructure life cycle is predicted to be 50 years or more. The actual life cycle of building components will vary based on the level of maintenance provided throughout their service lives. |
| *Integration opportunities* | Assets are typically approached separately with little to no integration of facilities. However, some municipalities have attempted to achieve economies of scale through (i) the consolidation of different types of facilities into one building (i.e. fire halls and public works depots); and/or (ii) the co-location of municipal operations with other public sector entities under shared service arrangements. |
| *Rehabilitation and replacement criteria* | To assess facilities, the Facility Condition Index (FCI) is recommended. FCI is a ratio of total deferred maintenance to the current replacement value of the facility. The index can be used to assess either individual assets or grouped assets. The FCI is currently accepted throughout North America. |
| *Rehabilitation and replacement strategies* | The replacement schedule will be dictated by the actual asset conditions at the time, the stage in its life cycle, and the FCI asset condition summaries. Replacement may also be undertaken to meet any changes in safety, industry or technological specifications and standards. The facility must also be maintained to meet the requirements of the Accessibility for Ontarians with Disabilities Act (AODA) and upgrade ingress/egress points as necessary. Critical components which should be given special attention with annual inspections include facility roof and HVAC systems. Any scheduled improvements should take into consideration the institution of economical energy efficient systems and equipment. |
| *Life cycle consequences* | Degradation of the building and its components are noticed by users, with associated increases in operational costs due to inefficiencies, increased maintenance costs or health and safety concerns. |
| *Integrated asset priorities* | The schedule of replacement is dependent on the facility's stage in its life cycle, the actual condition at the time, and the convenience of performing the replacement without disturbing the operations. |

# Asset Management Planning for Buildings

## D. Overall Financial Requirements

The immediate investment requirement for the Municipality's buildings has been estimated to be in the order of $10,000 over the next ten years, as follows:

| Facility | Construction Year | Most Recent Upgrade | Estimated Replacement Cost | Immediate Investment Requirement | | |
|---|---|---|---|---|---|---|
| | | | | Within Five Years | Within Ten Years | Total |
| Community centre and fire hall | 1982 | 2013 | $1,140,000 | $10,000[1] | – | $10,000 |
| Fire hall no. 2 | 1990 | 2011 | $100,000 | – | – | – |
| Township office | 1974 | 2010 | $200,000 | – | – | – |
| Rink change house and washrooms | 2010 | – | $57,000 | – | – | – |
| Museum buildings | 1882 | 1990 | $130,000 | – | – | – |
| Public works garage | 1974 | 2006 | $465,000 | – | – | – |
| Sand dome | 2000 | 2015 | $250,000 | – | – | – |
| Total | | | $2,342,000 | $10,000 | – | $10,000 |

[1] Installation of barrier free door

In addition to the above, the sustaining life cycle requirement for the Municipality's buildings has been estimated to be in the order of $47,000 annually, based on an estimated replacement value of $2.342 million and an estimated useful life of 50 years ($2.342 million ÷ 50 years = $47,000).

KPMG

Corporation of the
Township of Nipissing

# Asset Management Planning for Fleet

# Asset Management Planning for Fleet

## A. Introduction

The Municipality's fleet inventory (including heavy equipment) is comprised of 15 vehicles primarily used for roads maintenance and fire protection.

## B. Condition Assessments

For the purposes of assessing the condition of the Municipality's fleet, we have rated the vehicles as being in either good, fair or poor condition, based on the percentage of the vehicles remaining useful life. As summarized below, two-thirds of the Municipality's fleet is considered to be in good condition, with only two of 15 vehicles classified as poor.

| Condition Rating | Remaining Useful Life | Number of Vehicles | Percentage of Total Fleet |
|---|---|---|---|
| Good | More than 50% | 10 | 67% |
| Fair | 10% to 49% | 3 | 20% |
| Poor | Less than 10% | 2 | 13% |
| Total | | 15 | 100% |

## C. Asset Management Strategies

Asset management activities for vehicles and moveable equipment will vary based on a number of factors, including the type of vehicle, its current condition, and the financial resources available to the Municipality. A summary of the asset management strategy for vehicles and moveable equipment is included on the following page.

# Asset Management Planning for Fleet

| | |
|---|---|
| *Anticipated asset life cycle.* | Service life is dependent on the type or vehicle/equipment and service area, and will generally range from ten years for light vehicles (e.g. pick-up trucks) to 25 years for heavier equipment such as fire trucks. |
| *Integration opportunities* | Assets are typically approached separately with little to no integration of vehicles. However, operational changes, including modifications to service levels, the use of external vs. internal resources, changing regulatory requirements and other considerations can impact on fleet replacement. |
| *Rehabilitation and replacement criteria* | Replacement of fleet should be dictated by the results of lifecycle cost analysis considering the operating costs of continuing to own the vehicle (repairs, insurance, fuel, depreciation, and downtime costs) vs. the operating and acquisition costs of a new vehicle. |
| *Rehabilitation and replacement strategies* | In the case that vehicular repairs exceed 25% to 30% of replacement costs, replacement is the optimal strategy. Other strategies include leasing opportunities, refurbishing, seasonal rentals, or tendering services to a third party. |
| *Life cycle consequences* | Vehicles that are not maintained, or as vehicles reach the end of the service lives, the efficiency of vehicles decrease, seeing an increase in cost per km. In the event of service interruption, work force costs are increased due to extended work schedules. In addition, failure of critical vehicles and equipment (e.g. fire, winter roads maintenance) may result of public safety risks and potential regulatory risk if the municipality does not meet minimum maintenance standards. |
| *Integrated asset priorities* | Not applicable. |

## D. Overall Financial Requirements

The immediate investment requirement for the Municipality's fleet has been estimated to be in the order of $1,628,000 over the next ten years, as summarized on the following page, of which $278,000 is expected to be required over the next five years. Overall, the Municipality would be required to set aside $184,000 annually to replace its existing fleet over its entire useful life.

The identified immediate investment requirement reflects only the cost of replacing the Municipality's existing fleet upon their reaching the end of useful life. Other asset management activities (e.g. maintenance and repairs) are not considered in our analysis.

# Asset Management Planning for Fleet

| Vehicle | Purchase Year | Useful Life | Condition Assessment | Replacement Cost | Replacement Year | Immediate Investment Requirement | | Sustaining Investment Requirement |
|---|---|---|---|---|---|---|---|---|
| | | | | | | One to Five Years | Six to Ten Years | |
| Rapid response vehicle | 2016 | 25 | Good | $250,000 | 2033 | – | – | $10,000 |
| Maverick fire truck | 2012 | 25 | Good | $300,000 | 2037 | – | – | $12,000 |
| Rapid response vehicle | 2012 | 25 | Good | $250,000 | 2037 | – | – | $10,000 |
| GMC Sierra pickup truck | 2012 | 10 | Good | $50,000 | 2022 | – | $50,000 | $5,000 |
| Tandem axle plow truck | 2001 | 20 | Good | $300,000 | 2020 | $53,000 | $300,000 | $15,000 |
| Western Star plow truck | 2005 | 20 | Good | $300,000 | 2025 | – | $300,000 | $15,000 |
| Tandem truck (plow/sander) | 2010 | 20 | Good | $300,000 | 2030 | – | – | $15,000 |
| Dodge Ram pickup | 2003 | 10 | Poor | $50,000 | Not replaced | – | – | $5,000 |
| Chevrolet pickup truck | 2009 | 10 | Fair | $50,000 | 2019 | $50,000 | – | $5,000 |
| Ford F350 pickup truck | 2015 | 10 | Good | $50,000 | 2025 | – | $50,000 | $5,000 |
| Ford Escape OFFICE | 2015 | 10 | Good | $50,000 | 2025 | – | $50,000 | $5,000 |
| Backhoe – loader | 2006 | 15 | Good | $175,000 | 2021 | $175,000 | – | $12,000 |
| CAT 312 track excavator | 2011 | 15 | Good | $240,000 | 2026 | – | $240,000 | $16,000 |
| Rubber tire excavator | 2013 | 15 | Good | $275,000 | 2028 | – | – | $18,000 |
| John Deere grader | 2011 | 10 | Good | $360,000 | 2022 | – | $360,000 | $36,000 |
| Total | | | | $3,000,000 | | $278,000 | $1,350,000 | $184,000 |

KPMG

Corporation of the
Township of Nipissing

# Asset Management Planning for Landfills

# Asset Management Planning for Landfills

## A. Introduction

The Municipality currently operates two landfills – Wolfe Lake site and Bear Creek site.

## B. Condition Assessments

For the purposes of assessing the condition of the Municipality's landfills, we have rated the landfills as being in either good, fair or poor condition, based on remaining useful life, as follows:

- Good — More than 15 years
- Fair — Five to 15 years
- Poor — Less than five years

As summarized below, both the of Municipality's landfills are rated as good, given the number of years remaining:

| Landfill | Capacity | | | | Remaining Useful Life | Condition Assessment |
|---|---|---|---|---|---|---|
| | Total | Used | Remaining | Percentage Remaining | | |
| Wolfe Lake site | 54,900 $m^3$ | 9,900 $m^3$ | 45,000 $m^3$ | 82% | 73 years | Good |
| Bear Creek site | 40,300 $m^3$ | 21,400 $m^3$ | 18,900 $m^3$ | 47% | 46 years | Good |

## C. Asset Management Strategies

The Environmental Protection Act sets out the regulatory requirements to properly close and maintain all active and inactive landfill sites. Under environmental law, there is a requirement for closure and post-closure care of solid waste landfill sites. Landfill closure and post-closure care requirements have been defined in accordance with industry standards and include final covering and landscaping of the landfill, pumping of ground water and leachates from the site, and ongoing environmental monitoring, site inspection and maintenance.

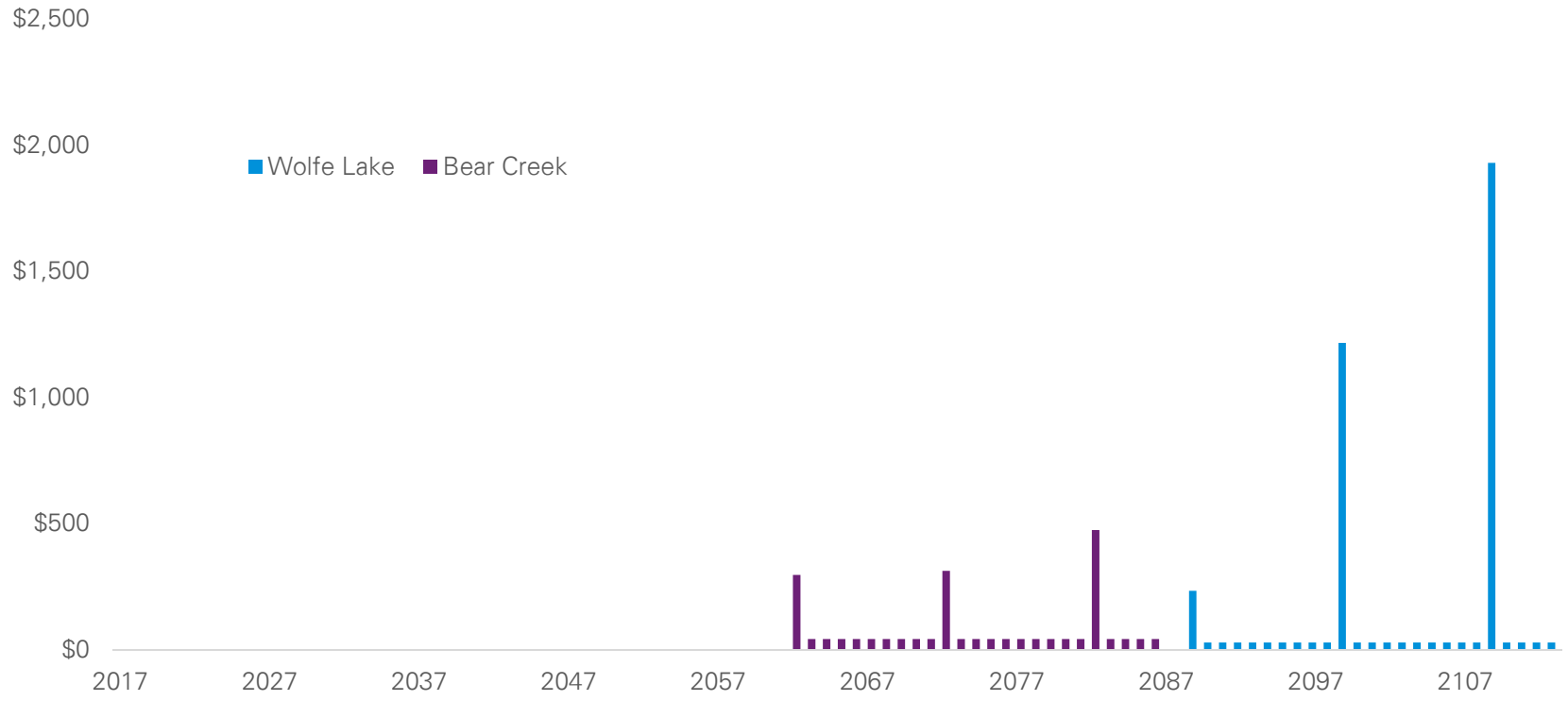
Landfill post-closure care is required to be provided over the greater of (i) the contaminating life of the landfill site or 20 years; or (ii) 20 years. Both landfills have estimated contaminating life spans of 25 years.

# Asset Management Planning for Landfills

## D. Overall Financial Requirements

Engineering studies relating to the Municipality's landfill sites have identified total closure and post-closure costs (expressed in 2015 dollars) of $4.02 million for the Wolfe Lake landfill and $2.03 million for the Bear Creek landfill. As noted below, the costs are expected to commence in 2062 and continue to 2113, at which time the final post-closure costs for the Wolfe Lake landfill will be incurred.

*Projected landfill closure and post-closure costs (in thousands)*



KPMG

# Corporation of the Township of Nipissing

# Service Levels

# Service Levels

The Municipality's asset management strategy is intended to maintain its infrastructure at a certain capacity and in doing so, allow it to meet its overall objectives with respect to service levels for its residents. Key performance measures and service level targets has been identified for core infrastructure assets, which is defined by the Province as follows:

*Core infrastructure assets include paved and unpaved roads; bridges; culverts; any assets involved in wastewater collection, conveyance, treatment and disposal; urban and rural stormwater systems; water treatment, distribution and transmission, and; public and non-profit housing infrastructure.*

Key performance measures for core infrastructure assets, as well as the Municipality's current status, are summarized below.

| Core Infrastructure Asset | Performance Measure | Targeted Performance | Current Performance |
|---|---|---|---|
| Roads | Compliance with Ontario Regulation 239/02 – Minimum Maintenance Standards for Municipal Highways | Full compliance | Full compliance |
| | Percentage of paved roads kilometres with a PCI of 60 or better | 80% | 100% |
| | Percentage of surface treated roads kilometres with a PCI of 60 or better | 80% | 86% |
| | Percentage of gravel roads kilometres with a PCI of 60 or better | 80% | 98% |
| | Accidents per year where road condition is a contributing factor | None | None |
| Bridges | Compliance with Ontario Regulation 104/97 – Standards for Bridges | Full compliance | Full compliance |
| | Percentage of bridges meeting a BCI of 60 or better | 80% | 100% |
| | Compliance with Ontario Regulation 239/02 – Minimum Maintenance Standards for Municipal Highways | Full compliance | Full compliance |
| | Number of annual road closures associated with bridge issues (exclusive of planned maintenance and repairs) | Two per year | None |

It is anticipated that the Municipality will monitor and report on its performance annually.

KPMG

# Corporation of the Township of Nipissing

# Financial Strategy

# Financial Strategy

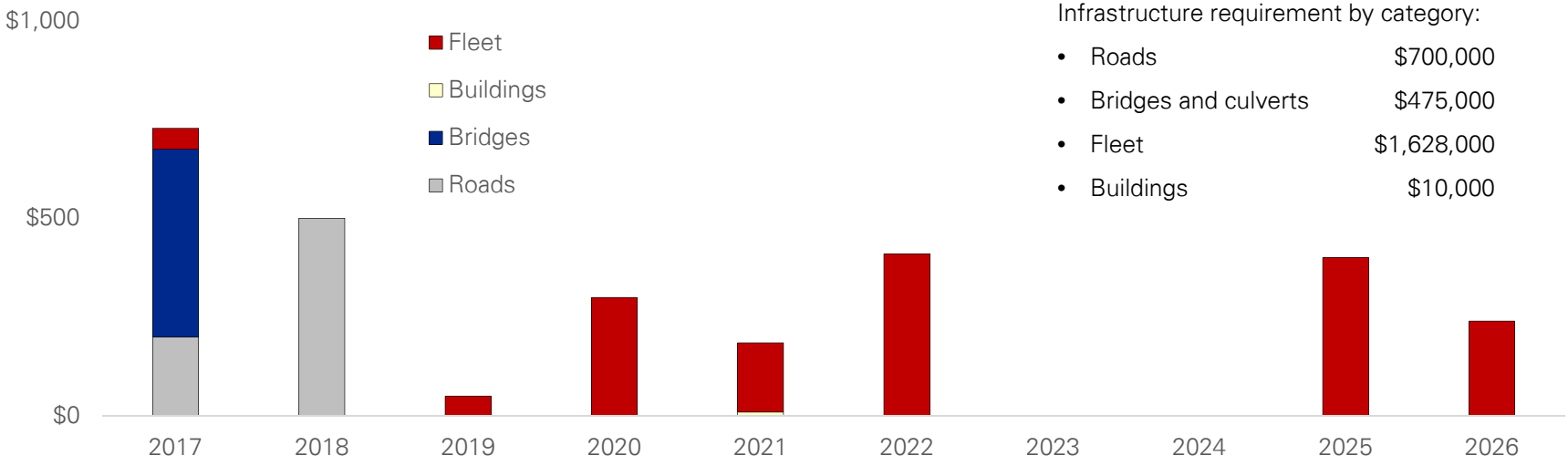
For asset management planning purposes, the financial requirement associated with the Municipality's infrastructure requirements is divided into two categories:

- The immediate investment requirement, which quantifies the amount requires to be spent to replace or rehabilitate infrastructure approaching the end of its useful life within the next ten years; and
- The sustaining investment requirement, which is the annual contribution that would be required to ensure the Municipality has sufficient financial resources to maintain its infrastructure over its entire life cycle.

## A. Immediate Investment Requirement

Over the next ten years, it is estimated that the Municipality will be required to spend $2,813,000 to replace or rehabilitate infrastructure approaching the end of its useful life.

*Immediate infrastructure requirement (in thousands)*




Infrastructure requirement by category:

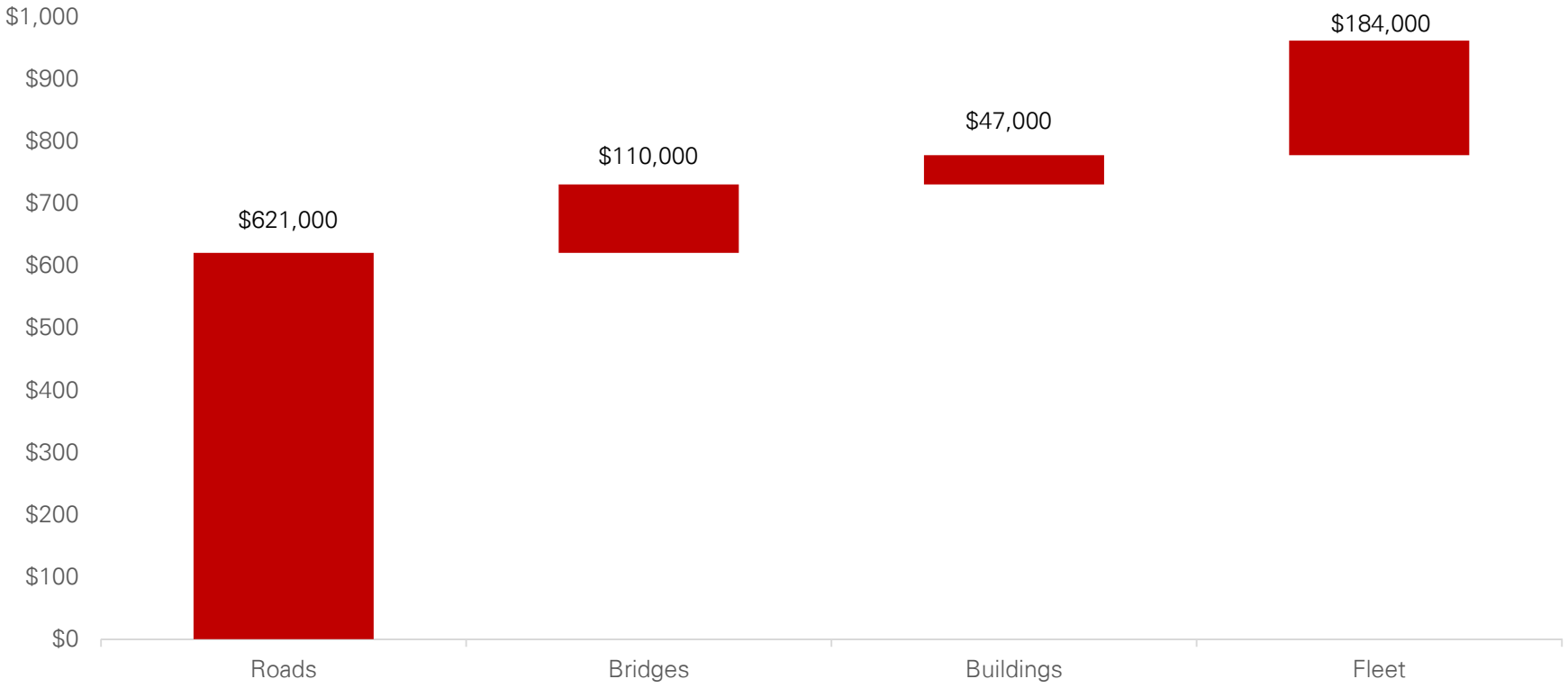
- Roads $700,000
- Bridges and culverts $475,000
- Fleet $1,628,000
- Buildings $10,000

# Financial Strategy

## B. Sustaining Infrastructure Requirement

In order to provide sufficient funding for infrastructure replacement and rehabilitation over the long-term, the Municipality is required to allocate a total of $962,000 annually, the majority of which ($621,000) relates to the municipal road network.

*Annual Sustaining Investment Requirement by Infrastructure Type (in thousands)*



# Financial Strategy

### C. Available Financial Resources and Funding Deficit

As part of its annual budgeting process, the Municipality budgets for capital-related costs, including:

- Debt servicing costs for facility and fleet purchases;
- Contributions to reserves for capital expenditures; and
- Capital expenditures, including road improvements and vehicle purchases.

These costs are also included in a five-year capital forecast that is updated annually by the Municipality.

While the amount of financial support for asset management activities will vary from year-to-year, the Municipality budgeted a total of $407,000 for capital expenditures and debt servicing costs in 2016, financed predominantly through own-source revenues and reserves (which funded approximately 61% of total capital expenditures).

| | Related to In-Scope Infrastructure | Related to Other Infrastructure | Total |
|---|---|---|---|
| Debt servicing contributions | $115,915 | $51,470 | $167,385 |
| Contributions to reserves | $60,000 | – | $60,000 |
| Capital expenditures | $179,450 | – | $179,450 |
| Total expenditures | $355,365 | $51,470 | $406,835 |
| Funded through: | | | |
| • Gas Tax grant | | | $134,950 |
| • OCIF grant | | | $25,000 |
| • Contributions from reserves | | | $72,115 |
| • Taxation and user fee revenues | | | $174,770 |
| Total revenue | | | $406,835 |

# Financial Strategy

On an annual basis, the Municipality will require an average of $282,000 per year in capital funding to address those components of its infrastructure that are in need of immediate replacement within the next ten years. In order to achieve full sustainability (i.e. generating sufficient annual revenues to fund capital replacement over the long-term), the Municipality will require an additional $962,000 per year, bringing its average capital financing requirement to $1.24 million.

| (in thousands) | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Investment requirement: | | | | | | | | | | | |
| • Immediate | $728 | $500 | $50 | $300 | $185 | $410 | – | – | $400 | $240 | $2,813 |
| • Sustaining | $962 | $962 | $962 | $962 | $962 | $962 | $962 | $962 | $962 | $962 | $9,620 |
| Total investment requirement | $1,690 | $1,462 | $1,012 | $1,262 | $1,147 | $1,372 | $962 | $962 | $1,362 | $1,202 | $12,433 |

# Financial Strategy

## D. Financial Strategies

In order to address its capital financing requirements, the Municipality may consider the following potential courses of action:

1. **Five year capital levy.** The Municipality may wish to consider the introduction of a five year capital levy that would see the total municipal levy increase by 2% per year in order to fund capital expenditures. The proceeds from this capital levy would either be expended during the year, used to finance debt servicing costs for infrastructure related borrowings or placed in a reserve fund until such time as the funds are required. As noted below, the introduction of a 2% five year capital levy is expected to provide an additional $245,000 for capital purposes, representing a 41% increase in capital expenditures over the next five years.

| Year | Municipal Levy | | | Capital Funding (Taxation and Grants) | | |
|---|---|---|---|---|---|---|
| | Prior Year's Levy | Capital Levy Increase | Current Year's Levy | Prior Year's Funding | New Funding | Current Year's Funding |
| 2017 | $2,356 | $47 | $2,403 | $598 | $47 | $645 |
| 2018 | $2,403 | $48 | $2,451 | $645 | $48 | $693 |
| 2019 | $2,451 | $49 | $2,500 | $693 | $49 | $742 |
| 2020 | $2,500 | $50 | $2,550 | $742 | $50 | $792 |
| 2021 | $2,550 | $51 | $2,601 | $792 | $51 | $843 |
| Average annual increase in municipal levy | | | 2.0% | Increase in capital expenditures | | 41% |

A suggested capital financing policy is included as Appendix B.

# Financial Strategy

2. **Use of borrowing for infrastructure investments.** Historically, the Municipality has relied on borrowings as a means of funding infrastructure investments, with the Municipality currently having outstanding long-term debt in respect of facilities, vehicles and moveable equipment. On an ongoing basis, the Municipality may wish to consider the use of debt for additional infrastructure investments, conditional upon the following:

   - The infrastructure investment will provide a stream of non-taxation revenues that can be used to fund some or all of the associated debt servicing costs; and/or
   - The Municipality requires debt financing to fund its portion of infrastructure projects that are cost shared with senior government; and/or
   - The infrastructure investment is unavoidable as a result of regulatory changes or concerns over public health and safety and cannot be funded through other means; and
   - The associated debt servicing costs would not jeopardize the Municipality's financial sustainability or result in the Municipality exceeding its annual debt repayment limit.

   In addition to the issuance of new debt, the Municipality can also redirect funds currently used to service existing debt towards capital expenditures once the debt is repaid. By debt repayments funds into capital or using them to pay for new infrastructure loans (as opposed to reducing the municipal levy upon the repayment of the existing loans), the Municipality can maintain its funding for capital purposes.

   A suggested debt financing policy is included as Appendix C.

# Financial Strategy

2. **Capital project deferral.** As time proceeds, aspects of the Municipality's sustaining capital reinvestment requirement will evolve into immediate infrastructure requirements as the Municipality's infrastructure continues to decline through usage, weather conditions and other considerations. While the Municipality's funding appears to be sufficient to fund its immediate infrastructure requirements over the next ten years, over the long-term its ability to meet its infrastructure replacement and rehabilitation requirements will be compromised. In the absence of new funding sources (taxes, grants or loan proceeds), the Municipality will be required to defer capital projects, accepting increased operating costs and/or lower levels of service as a consequence, including:

   - A reduction in the quality of ride conditions resulting from the deterioration of PCI for municipal roads;
   - The replacement of road surfaces with lower cost alternatives (e.g. replacement of paved roads with surface treated or gravel roads, replacement of surface treated roads with gravel roads);
   - Load restrictions for municipal roads and bridges (some of which are already subject to load restrictions);
   - Increased maintenance costs and downtime for municipal vehicles and moveable equipment
   - Increased maintenance costs, functional obsolescence and space limitations with respect to municipal facilities.

   In determining where to focus capital expenditures where funding shortfalls occur, the Municipality may wish to consider investing in projects that:

   - *Provide the greatest impact to residents.* For example, roads with higher daily traffic volumes will generally represent a priority over more rural roads with lower traffic volumes.
   - *Address the greatest risks.* With the potential to impact on public health and safety, investments in fire and winter roads maintenance vehicles may be viewed as a priority over roads, where poor infrastructure conditions can be managed through load restrictions, speed limit reductions and other means.
   - *Have the greatest probability of failure.* Infrastructure in poor condition has a greater risk of failure than infrastructure in good condition and as such, represents a higher priority from a reinvestment perspective.
   - *Align with the Municipality's strategic direction and priorities.* The Municipality's strategic plan has identified a number of priorities that should guide future capital expenditures.

In order to assist with prioritizing capital expenditures, a suggested impact, risk, probability and fit framework has been provided on the following page.

# Financial Strategy

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| **Impact** | Impact of failure is restricted to low use infrastructure with no effect on residents or community assets (e.g. arena) | | Impact felt by some Municipal residents or impacts aspects of community infrastructure | | Highest use assets impacted, with effects felt by almost all residents and community infrastructure |
| **Risk** | Failure poses no threat to public health and safety, property, local economy or environment. | | Failure poses minor threat to public health or results in moderate property loss, economic disruption for some businesses or some environmental damage. | | Failure poses major threat to public health and safety and/or will result in major property losses, economic disruption or environmental damage. |
| **Probability of Failure** | Probability of failure is low as asset has 20% or more of useful life remaining or condition rating indicates failure is not imminent. | | Probability of failure is moderate as asset has 10% to 15% of useful life remaining or condition rating indicates failure is not likely for 10 years. | | Probability of failure is high as asset is past its useful life or condition rating indicates immediate replacement required. |
| **Fit** | There is no linkage between the capital project and the priorities identified in the official plan or strategic plan. | | The capital project has some contribution towards priorities identified in the strategic and/or official plans but is not viewed as essential. | | The capital project strongly supports priorities identified in the strategic or official plans. |

KPMG

Corporation of the
Township of Nipissing

# Appendix A
# Roads Analysis

# CORPORATION OF THE TOWNSHIP OF NIPISSING

**Summary of Roads Infrastructure**

| Section ID | Road Name | Length | Number of Lanes | Lane Kilometres | Surface | Condition Rating (2013) | Condition Rating (2015) | Estimated Replacement Cost per KM | Total Replacement Cost |
|---|---|---|---|---|---|---|---|---|---|
| 038 | Sandy Bay Rd | 0.50 | 2 | 1.00 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 156,500 |
| 040 | Jones Rd | 0.54 | 2 | 1.08 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 169,020 |
| 044 | Bear Creek Rd | 0.33 | 1 | 0.33 | Gravel (G/S) | 0 | 100 | $ 313,000 | $ 103,290 |
| 048 | Culham Rd | 1.10 | 2 | 2.20 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 344,300 |
| 050 | Stone Cutters Rd | 2.06 | 2 | 4.12 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 644,780 |
| 052 | Hart Rd | 2.01 | 2 | 4.02 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 629,130 |
| 054 | Hazel Glen Rd | 2.20 | 2 | 4.40 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 688,600 |
| 056 | Byers Rd | 0.43 | 1 | 0.43 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 134,590 |
| 060 | Lake Nipissing Rd | 1.93 | 2 | 3.86 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 604,090 |
| 062 | Promised Land Rd | 0.20 | 2 | 0.40 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 62,600 |
| 064 | Chapman's Landing Rd | 1.50 | 2 | 3.00 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 469,500 |
| 066 | Blake St | 0.30 | 2 | 0.60 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 93,900 |
| 068 | Front St | 0.38 | 2 | 0.76 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 118,940 |
| 072 | Power Plant Rd | 3.30 | 2 | 6.60 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 1,032,900 |
| 074 | Hamilton Farm Rd | 0.35 | 1 | 0.35 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 109,550 |
| 076 | Hamilton Farm Rd | 1.35 | 1 | 1.35 | Gravel (G/S) | 60 | 50 | $ 313,000 | $ 422,550 |
| 078 | Hamilton Rd | 0.33 | 2 | 0.66 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 103,290 |
| 080 | Hamilton Farm Rd | 1.00 | 1 | 1.00 | Gravel (G/S) | 60 | 50 | $ 313,000 | $ 313,000 |
| 082 | Armstrong Rd | 1.12 | 2 | 2.24 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 350,560 |
| 084 | Simpsons Hill Rd | 0.66 | 2 | 1.32 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 206,580 |
| 086 | South River Rd | 3.89 | 2 | 7.78 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 1,217,570 |
| 088 | King's Rd | 4.46 | 2 | 8.92 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 1,395,980 |
| 090 | McQuaby Lake Rd | 0.28 | 2 | 0.56 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 87,640 |
| 092 | Settlers Rd | 1.02 | 2 | 2.04 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 319,260 |
| 094 | Barber Valley Rd | 1.34 | 2 | 2.68 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 419,420 |
| 096 | Barber Valley Rd | 1.30 | 1 | 1.30 | Gravel (G/S) | 0 | 100 | $ 313,000 | $ 406,900 |
| 098 | Barton Lake Rd | 0.70 | 2 | 1.40 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 219,100 |
| 100 | Bella Hill Rd | 0.40 | 2 | 0.80 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 125,200 |
| 104 | Ski Hill Rd | 2.85 | 2 | 5.70 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 892,050 |
| 106 | Mountain Rd | 0.42 | 2 | 0.84 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 131,460 |
| 108 | Maple Ridge | 0.15 | 2 | 0.30 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 46,950 |
| 110 | Aspen Ln | 0.15 | 2 | 0.30 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 46,950 |
| 112 | Sun Valley Way | 0.15 | 2 | 0.30 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 46,950 |
| 122 | Alsace Rd | 2.80 | 2 | 5.60 | Gravel (G/S) | 60 | 100 | $ 313,000 | $ 876,400 |
| 124 | Alsace Rd | 7.50 | 2 | 15.00 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 2,347,500 |
| 126 | Pilgers Rd | 8.40 | 2 | 16.80 | Gravel (G/S) | 80 | 70 | $ 313,000 | $ 2,629,200 |
| 128 | Hemlock Rd | 0.85 | 2 | 1.70 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 266,050 |
| 130 | Busch's Mill Rd | 0.35 | 2 | 0.70 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 109,550 |
| 132 | Stories Rd | 0.37 | 2 | 0.74 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 115,810 |
| 134 | Stories Rd | 1.80 | 1 | 1.80 | Gravel (G/S) | 0 | 100 | $ 313,000 | $ 563,400 |
| 136 | Stiller Side Road | 4.42 | 2 | 8.84 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 1,383,460 |
| 138 | Dowdall Rd | 1.01 | 2 | 2.02 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 316,130 |

# CORPORATION OF THE TOWNSHIP OF NIPISSING

**Summary of Roads Infrastructure**

| Section ID | Road Name | Length | Number of Lanes | Lane Kilometres | Surface | Condition Rating (2013) | Condition Rating (2015) | Estimated Replacement Cost per KM | Total Replacement Cost |
|---|---|---|---|---|---|---|---|---|---|
| 140 | Wolfe Lake Rd | 4.65 | 2 | 9.30 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 1,455,450 |
| 142 | Green Acres Rd | 3.65 | 2 | 7.30 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 1,142,450 |
| 143 | Niagara Rd | 1.23 | 2 | 2.46 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 384,990 |
| 144 | Barrett Rd | 6.20 | 2 | 12.40 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 1,940,600 |
| 146 | Old Nipissing Rd N | 0.24 | 1 | 0.24 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 75,120 |
| 148 | Old Nipissing Rd S | 1.60 | 2 | 3.20 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 500,800 |
| 150 | Rye Rd | 2.74 | 2 | 5.48 | Gravel (G/S) | 80 | 70 | $ 313,000 | $ 857,620 |
| 152 | Rye Rd | 2.16 | 1 | 2.16 | Gravel (G/S) | 80 | 70 | $ 313,000 | $ 676,080 |
| 154 | Rye Rd | 2.75 | 1 | 2.75 | Gravel (G/S) | 20 | 100 | $ 313,000 | $ 860,750 |
| 156 | Booth Rd | 0.71 | 2 | 1.42 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 222,230 |
| 158 | Granite Hill Rd | 2.60 | 1 | 2.60 | Gravel (G/S) | 10 | 100 | $ 313,000 | $ 813,800 |
| 160 | Granite Hill Rd | 2.90 | 2 | 5.80 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 907,700 |
| 162 | Lingenfelters Rd | 0.10 | 2 | 0.20 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 31,300 |
| 164 | Lingenfelters Rd | 1.50 | 1 | 1.50 | Gravel (G/S) | 80 | 70 | $ 313,000 | $ 469,500 |
| 166 | Black Creek Rd S | 1.20 | 1 | 1.20 | Gravel (G/S) | 80 | 70 | $ 313,000 | $ 375,600 |
| 168 | Black Creek Rd S | 0.85 | 1 | 0.85 | Gravel (G/S) | 0 | 100 | $ 313,000 | $ 266,050 |
| 170 | Black Creek Rd N | 4.10 | 2 | 8.20 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 1,283,300 |
| 172 | Lamb's Rd | 0.89 | 2 | 1.78 | Gravel (G/S) | 80 | 70 | $ 313,000 | $ 278,570 |
| 174 | Ponderosa Rd | 2.52 | 2 | 5.04 | Gravel (G/S) | 80 | 70 | $ 313,000 | $ 788,760 |
| 176 | Ponderosa Rd | 2.00 | 2 | 4.00 | Gravel (G/S) | 80 | 70 | $ 313,000 | $ 626,000 |
| 178 | Sprucedale Rd | 1.15 | 1 | 1.15 | Gravel (G/S) | 10 | 100 | $ 313,000 | $ 359,950 |
| 180 | Sprucedale Rd | 0.90 | 2 | 1.80 | Gravel (G/S) | 100 | 90 | $ 313,000 | $ 281,700 |
| 182 | Butterfield Rd | 2.00 | 2 | 4.00 | Gravel (G/S) | 90 | 80 | $ 313,000 | $ 626,000 |
| 002 | Waltonian Dr | 0.88 | 2 | 1.76 | Paved (HCB) | 80 | 70 | $ 844,000 | $ 742,720 |
| 022 | Lakeview Dr | 0.60 | 2 | 1.20 | Paved (HCB) | 100 | 90 | $ 844,000 | $ 506,400 |
| 070 | Beatty St | 0.30 | 2 | 0.60 | Paved (HCB) | 100 | 90 | $ 844,000 | $ 253,200 |
| 119 | Ruth Haven Dr | 0.50 | 1 | 0.50 | Paved (HCB) | 100 | 90 | $ 844,000 | $ 422,000 |
| 004 | Pine Dr | 0.10 | 2 | 0.20 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 39,600 |
| 006 | Pine Dr | 0.40 | 2 | 0.80 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 158,400 |
| 008 | Pine Dr | 0.30 | 2 | 0.60 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 118,800 |
| 010 | Pine Dr | 0.29 | 2 | 0.58 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 114,840 |
| 012 | Westview Dr | 0.45 | 2 | 0.90 | Surface treated (LCB) | 80 | 70 | $ 396,000 | $ 178,200 |
| 014 | Marion Dr | 1.15 | 2 | 2.30 | Surface treated (LCB) | 60 | 100 | $ 396,000 | $ 455,400 |
| 016 | Birch Grove Dr | 0.45 | 2 | 0.90 | Surface treated (LCB) | 90 | 80 | $ 396,000 | $ 178,200 |
| 018 | Birch Grove Dr | 3.75 | 2 | 7.50 | Surface treated (LCB) | 90 | 80 | $ 396,000 | $ 1,485,000 |
| 024 | William Rd | 0.25 | 2 | 0.50 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 99,000 |
| 026 | Lillian Ct | 0.19 | 2 | 0.38 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 75,240 |
| 028 | Rocky Shore Dr | 0.95 | 2 | 1.90 | Surface treated (LCB) | 70 | 60 | $ 396,000 | $ 376,200 |
| 030 | Hinchberger Bay Dr | 0.65 | 1 | 0.65 | Surface treated (LCB) | 80 | 70 | $ 396,000 | $ 257,400 |
| 032 | Muskeg Rd | 2.05 | 2 | 4.10 | Surface treated (LCB) | 60 | 100 | $ 396,000 | $ 811,800 |
| 034 | Sunset Cove Rd | 3.92 | 2 | 7.84 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 1,552,320 |
| 036 | Sandy Bay Rd | 0.16 | 2 | 0.32 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 63,360 |

# CORPORATION OF THE TOWNSHIP OF NIPISSING

**Summary of Roads Infrastructure**

| Section ID | Road Name | Length | Number of Lanes | Lane Kilometres | Surface | Condition Rating (2013) | Condition Rating (2015) | Estimated Replacement Cost per KM | Total Replacement Cost |
|---|---|---|---|---|---|---|---|---|---|
| 042 | Bear Creek Rd | 1.80 | 2 | 3.60 | Surface treated (LCB) | 60 | 50 | $ 396,000 | $ 712,800 |
| 046 | Hunters Bay Rd | 0.64 | 2 | 1.28 | Surface treated (LCB) | 60 | 50 | $ 396,000 | $ 253,440 |
| 058 | Lake Nipissing Rd | 2.44 | 2 | 4.88 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 966,240 |
| 102 | Ski Hill Rd | 0.32 | 2 | 0.64 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 126,720 |
| 114 | Alsace Rd | 2.80 | 2 | 5.60 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 1,108,800 |
| 116 | Alsace Rd | 3.45 | 2 | 6.90 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 1,366,200 |
| 118 | Alscace Rd | 4.52 | 2 | 9.04 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 1,789,920 |
| 120 | Alsace Rd | 1.30 | 2 | 2.60 | Surface treated (LCB) | 100 | 90 | $ 396,000 | $ 514,800 |
| | | 149.45 | | 278.74 | | | | | $ 50,671,920 |

KPMG

Corporation of the
Township of Nipissing

# Appendix B Suggested Capital Financing Policy

## PURPOSE

The goal of the Municipality's capital financing policy shall be to set out the guiding principles for the financing of future capital expenditures in a manner that considers the infrastructure investment requirements of the Municipality as well as affordability issues for taxpayers.

## GLOSSARY

**Capital Levy –** The amount of money raised through taxation that is transferred to the capital fund or reserves to be used to help pay for the cost of capital projects.

**Debt** – Any obligation for the payment of money. The Municipality considers debt to consist of debentures, cash loans from financial institutions, capital leases, debenture financing approved through bylaw for which no debt has yet been issued, debenture financing approved through the capital budget for which no bylaw has yet been established, outstanding financial commitments, loan guarantees and any debt issue by, or on behalf of the Municipality, including mortgages, debentures or demand loans.

**Long-term Debt** – Any Debt for which the repayment of any portion of the principal is due beyond one year.

**Municipal Levy** – The amount of money raised through taxation by the Municipality for the purposes of funding operating costs as well as the Capital Levy.

## POLICY STATEMENTS

1. The Municipality shall increase the Municipal Levy by a minimum of 2% per year for each of the next five years (2017 to 2021 inclusive), with the 2% increase being added to the Capital Levy.

2. The increase in the Capital Levy shall only be used for the following purposes:

    a. To fund capital expenditures;

    b. To increase reserve balances in order to finance future capital expenditures; or

    c. To finance the annual costs associated with Long-term Debt issued in connection with capital projects.

3. Subsequent to the five year phase-in period for increases to the Municipal Levy, the Municipality shall increase the Capital Levy by at least the Consumer Price Index, as published by Statistics Canada.

KPMG

Corporation of the
Township of Nipissing

# Appendix C
# Suggested Debt Policy

## PURPOSE

The goal of the Municipality's debt policy shall be to set out the guiding principles for the approval, issuance and administration of any municipal debt, which shall adhere to all statutory requirements.

## GLOSSARY

**Debt** – Any obligation for the payment of money. The Municipality considers debt to consist of debentures, cash loans from financial institutions, capital leases, debenture financing approved through bylaw for which no debt has yet been issued, debenture financing approved through the capital budget for which no bylaw has yet been established, outstanding financial commitments, loan guarantees and any debt issue by, or on behalf of the Municipality, including mortgages, debentures or demand loans.

**Debt and Financial Obligation Limit** – The maximum amount of annual debt servicing costs that a municipality can undertake or guarantee without seeking the approval of the Ontario Municipal Board. The Debt and Financial Obligation Limit is calculated pursuant to *Ontario Regulation 403/02 – Debt and Financial Obligation Limits*.

**Lease Financial Agreements** – A financial agreement, in accordance with *Ontario Regulation 653/05 – Debt Related Financial Instruments and Financial Agreements* that a municipality may enter into for the purpose of obtaining long-term financing of a capital undertaking of the municipality.

**Long-term Debt** – Any Debt for which the repayment of any portion of the principal is due beyond one year.

**Material Impact** – Under *Ontario Regulation 653/05 – Debt Related Financial Instruments and Financial Agreements*, a Lease Financing Agreement has a material impact on a municipality if the costs or risks associated with the agreement significantly affect the municipality's Debt and Financial Obligation Limit, or would reasonably be expected to have a significant effect on that limit.

## POLICY STATEMENTS

1. The Municipality shall only enter into Long-term Debt, including Lease Financing Agreements, where the following conditions are met:

    a. Long-term Debt will only be issued for the acquisition of tangible capital assets and will not be used to finance operating costs.

    b. Long-term Debt will be managed in a manner consistent with other long-term planning, financial and management objectives, with consideration given to the impact on future taxpayers.

    c. The timing, type and term of Long-term Debt will be determined with a view of minimizing long-term cost to the extent possible.

d. The term of Long-term Debt will not exceed the useful life of the particular asset.

e. The issuance of Long-term Debt will not result in the Municipality exceeding its Debt and Financial Obligation Limit.

f. A category of Lease Financing Agreements may be relied upon for non-material or operational leases where the agreements will not, in the opinion of the Clerk-Treasurer as delegated by Council through this policy, result in a Material Impact for the Municipality.

2. All Debt shall be issued in Canadian dollars.

3. It shall be the general practice to issue Debt where the interest rates will be fixed over its term. The Municipality may issue Debt in which the interest rate will vary where, in the opinion of the Clerk-Treasurer, it is in the Municipality's best interest to allow the rate to float provided such Debt, in addition to any other Debt, does not exceed fifteen percent (15%) of the total outstanding Debt of the Municipality in accordance with *Ontario Regulation 276/02 – Bank Loans*.

4. Upon the repayment of Long-term Debt, the amounts previously committed to annual debt servicing shall not be removed from the Municipality's budget but rather will be reallocated towards:

    a. Debt servicing costs for new Long-term Debt issued by the Municipality; and/or

    b. Contributions to reserves for capital purposes.

5. The awarding of any contract under this Policy, unless otherwise authorized by Council, shall follow the requirements as set out in the Municipality's procurement policy.

6. Council, in conjunction with staff, shall review the Municipality's outstanding Debt in conjunction with the annual budget process.

**RELEVANT LEGISLATION**

- Municipal Act, 2001
- Ontario Regulation 247/01 – Variable Interest Rate Debentures and Foreign Currency Borrowing
- Ontario Regulation 276/02 – Bank Loans
- Ontario Regulation 278/02 – Construction Financing
- Ontario Regulation 403/02 – Debt and Financial Obligation Limits
- Ontario Regulation 653/05 – Debt Related Financial Instruments and Financial Agreements

# Contacts

The contacts at KPMG in connection with this report are:

Oscar Poloni, CPA, CA, CBV
Partner
KPMG LLP

705.669.2515

opoloni@kpmg.ca

**kpmg.ca**