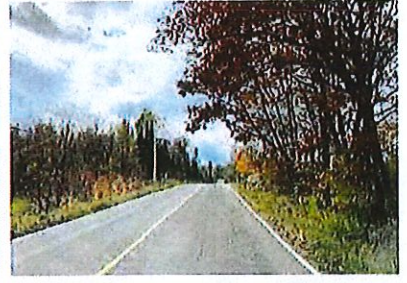




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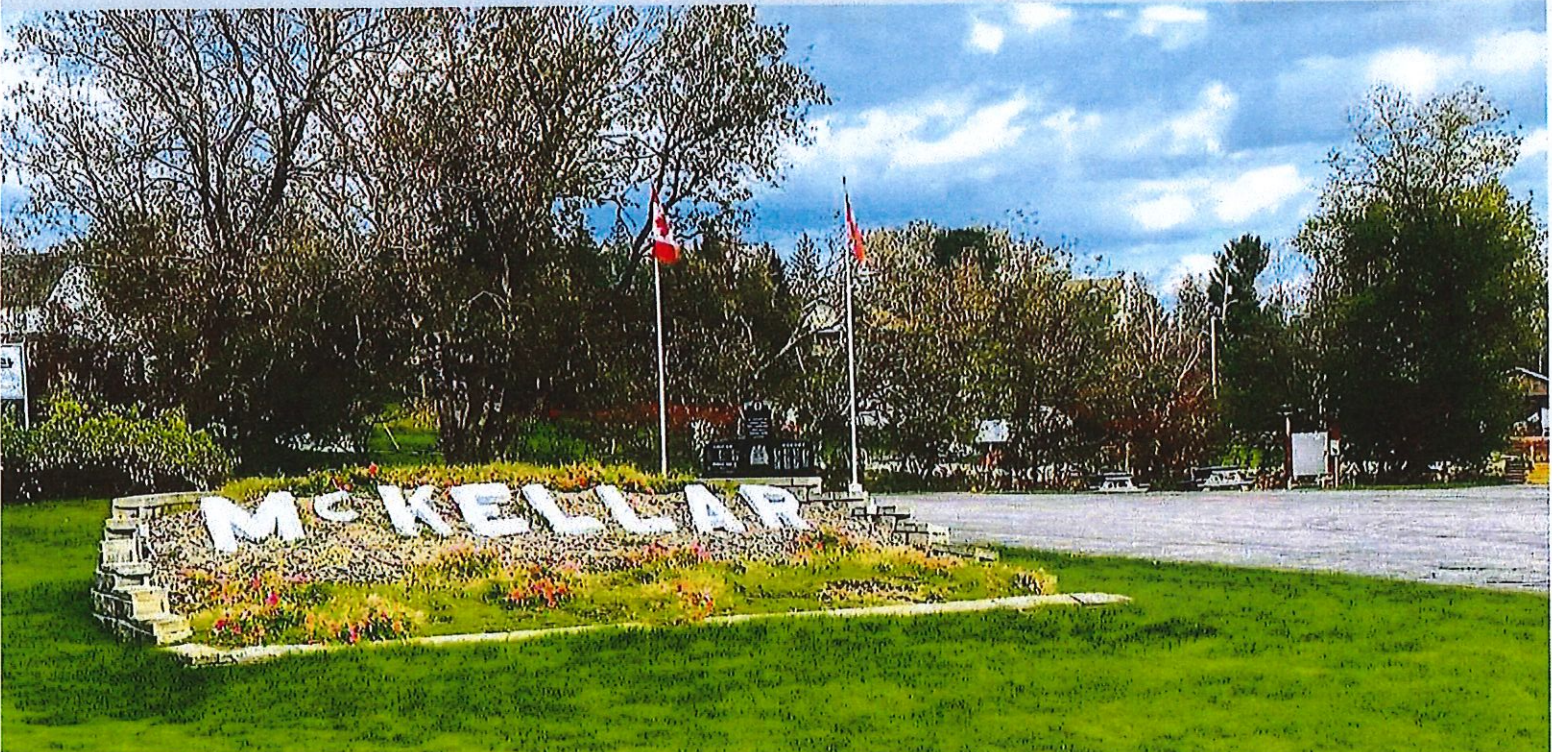


## Township of McKellar 2021 Asset Management Plan

Township of McKellar

300053034

June 29, 2022





**BURNSIDE**

## **2022 Asset Management Plan (Core Assets)**

### **Township of McKellar**

**R.J. Burnside & Associates Limited  
15 Townline  
Orangeville ON L9W 3R4 CANADA**

**June 29, 2022  
300053034**

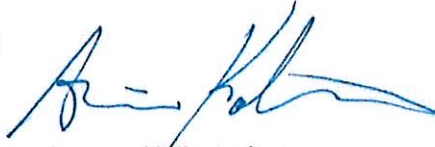


### Record of Revisions

Revision	Date	Description
1	March 25, 2022	Review of Financial Strategy with Township
2	April 21, 2022	Initial Submission to Township of McKellar
3	June 29, 2022	Final Report

### R.J. Burnside & Associates Limited

Report Prepared By:



Arunas Kalinauskas  
Business Manager – Asset Management / GIS  
AK:jh

2022 Asset Management Plan (Core Assets)  
June 29, 2022

## Executive Summary

This report contains the Asset Management Plan for the Township of McKellar (Township) core assets. The report has been organized as follows:

- Section 1: Introduction;
- Section 2: State of Local Infrastructure;
- Section 3: Expected Levels of Service;
- Section 4: Asset Management Strategy;
- Section 5: Financing Strategy; and,
- Section 6: Recommendations.

The "state of local infrastructure" section provides an overview of the core capital assets owned by the Township. This includes detailed information on asset inventory, including asset attributes, accounting valuations, replacement costs, useful life, age, and asset condition. This information provides the foundation for other sections of the asset management plan.

Based on data provided by the Township and discussions with Township Staff, it is believed that the Township's core assets including Water, Wastewater, Storm Water, Roads, and Bridges have a Good weighted average condition (with the weighting based on asset replacement cost) as outlined in the following assets table. Please note that weighted average conditions do not fully reflect the many assets that need to have capital improvement investments but provide an overall high level perspective of all the assets found in that asset grouping/network.

Asset Type	Asset Sub-Type	Condition (Weighted Average)	Risk (Weighted Average)	Useful Life (UL) Weighted Average	Remaining Service Life (RSL) - Weighted Average	RSL as a % of UL
Road Base	Base		Low			
Road Surface	Asphalt	Good	Moderate	25	20	80%
	Surface Treatment	Good	Moderate	7	6	80%
	Gravel	Good	Moderate	4	3	80%
Bridge & Culverts		Fair	Moderate	57	22	39%
Water		Good	Moderate	40	33	83%
Wastewater		Good	Moderate	50	39	78%

Looking at the remaining life as a percentage of useful life one may quickly identify the most used up asset value is Road Surface assets, and yet these road surfaces are in "Good" condition. So, it is important to view these percentages not as absolutes but as triggers to seek more information about an asset type. For example, when looking at the Bridge & Culvert assets there are only two out of nine bridges that the bridge inspection report indicates are in "Poor" condition, yet the Remaining Service Life as a percentage of Useful Life indicates 39%. This percentage may lead one to believe that the Township bridges are in close to the end of their lifecycle, which is incorrect.

2022 Asset Management Plan (Core Assets)  
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"Expected levels of service" compares the current level of service provided by the Township, and the recommended levels of service that will help extend the life of the above mentioned asset types as well as help accommodate for growth of the Township. The Township of McKellar takes great care in the service levels they offer their constituents and public. This report has made a few additional Levels of Service (LOS) recommendations that can extend the life of the Township's core tangible capital assets and therefore reduce the total lifecycle costs of these assets.

The "asset management strategy" for core assets provides a long term operating and capital forecast for these asset related capital costs, indicating the requirements for maintaining, rehabilitating, replacing/disposing, and expanding the Township's assets, while moving towards the specified expected levels of service identified above. The goal of the asset management strategy is to have the Township moving towards a more sustainable asset management position over the 10 year forecast period. We have also taken into consideration the potential risk of each asset by identifying the asset consequence of failure and probability of failure.

Asset risk was assessed based on the asset's age, condition, consequence of failure, and probability of failure. The following have been identified based on Township data as assets that need to be replaced or improved over the next few years:

### Roads

- Lakeshore Road, from Henry Street to 800 m South of Henry Street – Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2022, approximate cost \$145,000).
- The Inn Road, from Camp Road to Fire Route 160 – Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2022, approximate cost \$144,000).
- Centre Road, from Hollys Road to Stewart Park Road – Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2023, approximate cost \$387,000).
- Centre Road, from Armstrong Street to Balsam Road – Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2024, approximate cost \$18,000).
- Centre Road, from Balsam Road to Veterans Memorial Bridge - Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2024, approximate cost \$144,000).
- Fire Route 305 Road, from Hurdville Road to McDougall Road - Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2024, approximate cost \$29,200).

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### Bridges

- Hurdville Bridge (RS-08 and Bridge 004) – Install approach guiderail (recommended improvement in 2022, approximate cost \$106,000).
- Inholmes Bridge (RS-03 and Bridge 007) – Coating structural steel, partial deck replacement, with railing improvement/replacement. The substructure needs to be rehabilitated as well (recommended improvement in 2023, approximate cost \$347,000).
- Hurdville Bridge (RS-08 and Bridge 004) – Concrete deck soffit repairs, and embankment improvements/rehabilitation as well as substructure and superstructure rehabilitation. There also needs to be some railing improvement/replacement (recommended improvement in 2024, approximate cost \$502,000).

### Storm Water

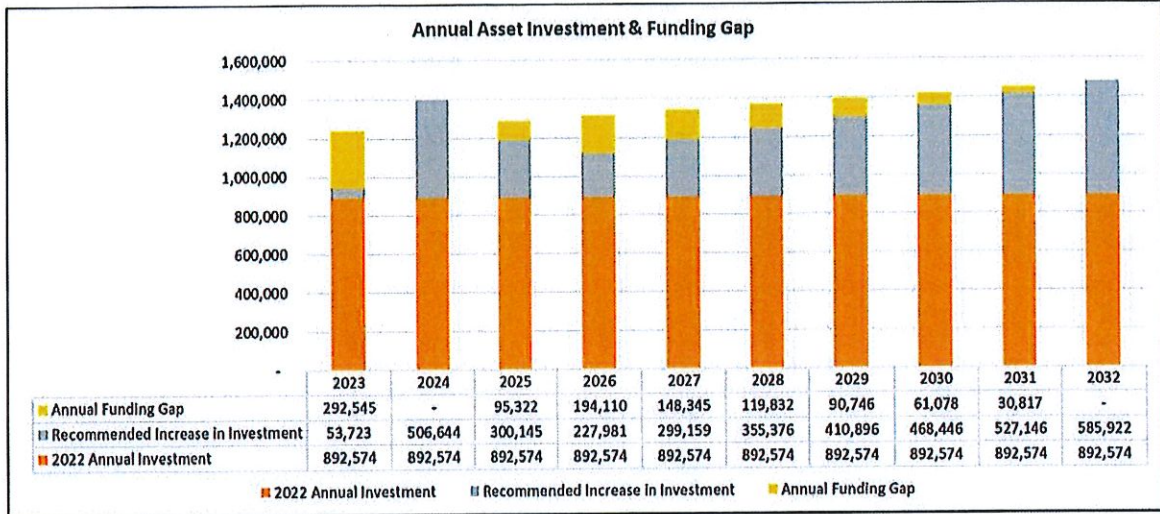
- The Township indicated that it does not have any storm water assets recorded. It was recommended that collecting the details of all the crossroad culverts will be a good value to better understand potential vulnerable areas during extreme weather events. What we do know is that the Township invests approximately \$3,000 annually in replacing crossroad culverts.

The above listed projects summarise the most current core assets improvement needs for the Township. Adding up the total costs of these projects and comparing this to the Township's past capital funding investments shows a growing gap in infrastructure funding, which is found not only in the Township of McKellar but throughout Ontario, and across Canada. See the graphic representation below that identifies the Township's funding gap. The Township has been making steps to close this funding gap and working hard to seek available funding grants to help close the gap. However, more needs to be done to ensure that the Township can offer appropriate levels of service to the public now and into the future.

We have recommended that detailed inspections of the Township's crossroad culverts are undertaken to provide an inventory and accurate asset condition, remaining life, potential risk of failure, and future levels of service requirements.

The "financing strategy" described in Section 5 of this report identifies a funding plan for the recommended asset management strategy, including a review of historical results and recommendations with respect to the required amounts and types of funding (revenue) annually over the forecast period. Also, any infrastructure funding gaps are identified, and recommendations are made regarding potential approaches to reduce and mitigate these gaps over the 10 year forecast period.

**Annual Asset Investment & Funding Gap**



Overall, this asset management plan is a tool to be used by the Township for capital and financial decision making. It can be tied to various existing reports (such as budget, official plan, and strategic planning reports) to ensure the asset management plan can be updated to reflect any changes in the Township of McKellar's priorities.

Please note that this study only focused on the Township's core assets (Water, Wastewater, Storm Water, Roads, and Bridges). The identified gap in infrastructure funding is expected to change when incorporating all of the remaining Township's asset types of which Facilities, Vehicles and Recreation Equipment are the major contributors.

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## **1.0 Introduction**

### **1.1 Overview**

R.J. Burnside & Associates Limited (Burnside) was retained by the Township of McKellar (Township) to prepare an asset management plan for core assets. This plan is intended to be a tool for the Township to use during various decision making processes, including the annual budget process and Provincial/Federal capital grant application processes. This plan will serve as a road map for sustainable infrastructure planning going forward.

Assets included in this asset management plan are the following:

- Water (Mains, Wells, Equipment);
- Wastewater (Septic Systems);
- Storm Water (None Identified by Township);
- Roads (Bases and Surfaces - Asphalt, Surface Treated, Gravel); and,
- Bridges.

It is recommended that this plan be updated on an annual basis to ensure that it is kept up to date. All assets listed above are tax supported and are discussed more thoroughly in this report.

### **1.2 Plan Objectives**

The Township's goals and objectives with respect to their core capital assets relate to the level of service being provided to the Township's residents and visitors. Services should continue to be provided at expected levels, as defined within this asset management plan. The Township's infrastructure and other capital assets are anticipated to be maintained at condition levels that provide for a safe and functional environment for its residents and visitors. Therefore, the asset management plan and its implementation will be evaluated based on the Township's ability to meet these goals and objectives.

### **1.3 Plan Development**

The development of the Township's asset management plan was based on the steps summarized below:

1. Develop a complete listing of core capital assets to be included in the plan, including attributes such as useful life, age, accounting valuation and current replacement valuation. Update the replacement cost of assets to 2021 dollars, and where required, using applicable inflationary indices.

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2. Assess current condition of the assets, based on a combination of the following:
  - Existing reports;
  - Burnside desktop assessments;
  - Staff assessments; and,
  - Asset age analysis.
3. Assess the risk of asset failure for each asset, based on determining the probability of each asset failing, as well as the consequence of the asset failing. This risk analysis is one of the components used to identify priority projects for inclusion in the asset management plan, as well as asset risk levels that require mitigation.
4. Determine current levels of service, based on standard practices and discussions with Township staff and discussions with Burnside Engineering staff. Further analysis of the maintenance practices and identification of additional measures that can be applied to the assets to extend their lifecycle and potentially provide a lower asset total lifecycle cost.
5. Prepare an asset management strategy (i.e., operating and capital forecast) based on the core asset inventory, identified priorities, forecast scenarios and level of service analysis discussed above.
6. Determine a financial strategy to support the asset management strategy, thus determining how the operating and capital related expenditure forecast will be funded over the plan period.
7. Prepare a final report, summarizing the process, strategy, and results of the asset management plan.

#### **1.4 Maintaining the Asset Management Plan**

The asset management plan should be updated as the capital needs and priorities of the Township changes. This can be accomplished in conjunction with the Township's budget process. With the delivery of this project spreadsheet file, the Township will have the tools available to perform updates to the plan when needed.

When updating the asset management plan, note that the state of local infrastructure, expected levels of service, asset management strategy and financing strategy are integrated and impact each other. Looking at these components in reverse order, one can see the financing strategy outlines how the asset management strategy will be funded. The asset management strategy illustrates the costs required to maintain expected levels of service at a sustainable level. The expected levels of service component summarizes and links each service area to specific assets contained in the

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state of local infrastructure section and thus determines how these assets will be used to provide expected service levels.

This report covers a forecast period of 10 years; however, it is suggested that more focus and attention be put on the first 5 years of the asset management plan, to ensure accurate capital planning in the short term. It is also recommended that the Township start moving towards 50 year forecasts. This longer term vision will ensure that future infrastructure investments are not lost in the shorter 10 year forecast window.

### **1.5 Plan Integration**

The municipal environment is continually changing and demanding when it comes to legislation and other responsibilities. Integrating the asset management plan with the Township's budget process, as well as Public Standards Accounting Board Handbook Section 3150 (tangible capital asset) requirements can make updates in all three areas more efficient.

With respect to integrating the Township's budget process with asset management planning, requires a projection of capital and operating costs over a future period. The budget outlines total operating and capital requirements for the Township, while the asset management plan focuses in on specific asset related requirements. With this link to the annual budget, the budget update process can also become an asset management plan update process.

Both asset management and PSAB 3150 require a complete and accurate asset inventory. The significant difference between the two lies in valuation approaches (PSAB 3150 requires historical cost valuation, while asset management requires future replacement cost valuation). Using a single asset inventory as developed in the asset management spreadsheets for the core assets contain both historic and current replacement valuation methods as an effective approach to maintaining the Township's asset data (digital spreadsheets of these assets are provided in Appendix A).

## 2.0 State of Local Infrastructure

### 2.1 Scope and Process

This section of the plan provides an opportunity to develop a greater understanding of the core capital assets owned by the Township. The state of local infrastructure analysis includes:

- An asset inventory documenting asset types, sub-types including quantities, materials, and other similar asset attributes (where available);
- Financial accounting valuation (where available);
- Replacement cost valuation;
- Asset age distribution analysis and asset age as a proportion of expected useful life;
- Asset condition information (mostly based on report and/or staff assessment as well as the age of the asset);
- Draft Data Verification and Asset Condition policies; and,
- Documentation of assumptions made in creating the asset inventory.

Burnside developed a detailed asset inventory listing for the Township which was used as a starting point in fulfilling the requirements for this report. This inventory provides current financial accounting valuations (i.e., historical cost, accumulated amortization, and net book value), as well as attributes such as replacement cost, useful life, and age). With respect to replacement cost, the Township provided various recent valuations, which were inflated in order to estimate current 2021 replacement costs. Other valuations were made for assets that were not part of the PSAB 3150 asset listing using a current 2021 replacement cost and deflating the value to the year or estimated year that the asset was constructed and/or acquired.

The following data and reports were used to develop the Township's asset inventory during this project:

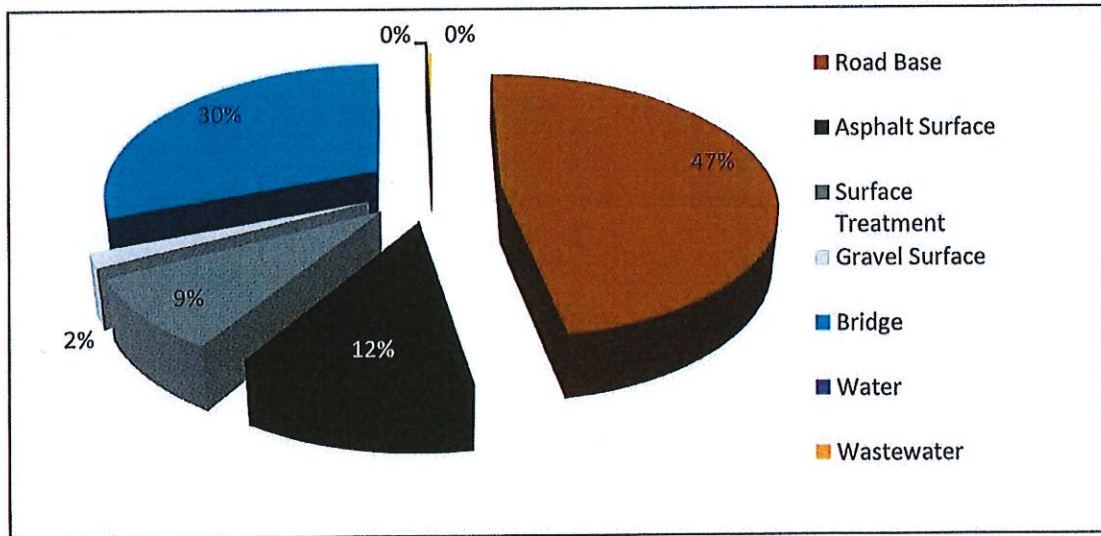
- Township PSAB 3150 asset inventory;
- Township reports (such as spreadsheets; septic system documents; well records; notes from staff, and some Township vendors);
- Township 2021 Road Needs Study spreadsheets;
- Township 2021 Bridge Inspection Report;
- Recent purchase information from the Township; and,
- Discussions with Township staff.

Some adjustments to asset useful lives have been made but further analysis may reveal that the Township will want to update some useful life values in the tangible capital asset financial reporting so that they better reflect the lifecycle and remaining life of the Township's assets. Burnside engineers have reviewed the useful lives of the core assets identified in this project and believe they now better reflect the conditions, maintenance practices and management of the Township's assets.

## 2.2 Capital Asset Overview

The Township presently owns core capital assets with a 2021 replacement value of approximately \$45.6 million. All of the assets studied in this project are tax supported assets. Close to half of the total replacement value is contained in Road Base assets (\$21.6 million) which then results in the remaining replacement asset value of \$24 million. Table 2-1, Figure 2-1, and Figure 2-2 outline the breakdown of these totals into the Township's asset categories.

**Figure 2-1: Tax Supported Asset Distribution Replacement Costs (2021)**



The capital asset inventory was organized in a Microsoft Excel spreadsheet and delivered to the Township in digital form shown in Appendix A. Each of the asset types were assessed for their age, condition (where available) and for data accuracy and completeness.

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Table 2-1 and Figure 2-1 show the Township's financial accounting valuation summary by asset type for tax supported assets. Since 2009, municipalities have been required under the Public Sector Accounting Board Handbook Section 3150 (PSAB 3150) to maintain asset listings complete with historical cost (i.e., the original cost to purchase or construct an asset), accumulated amortization and net book value. These values were to be reported on the Township's audited financial statements each year. Burnside has done the additional work of developing the 2021 Cost for assets that have been added to the Township's asset inventory. If the Township chooses to use the asset inventory developed in this project to report the PSAB 3150 values, the data/information is found in Appendix A.

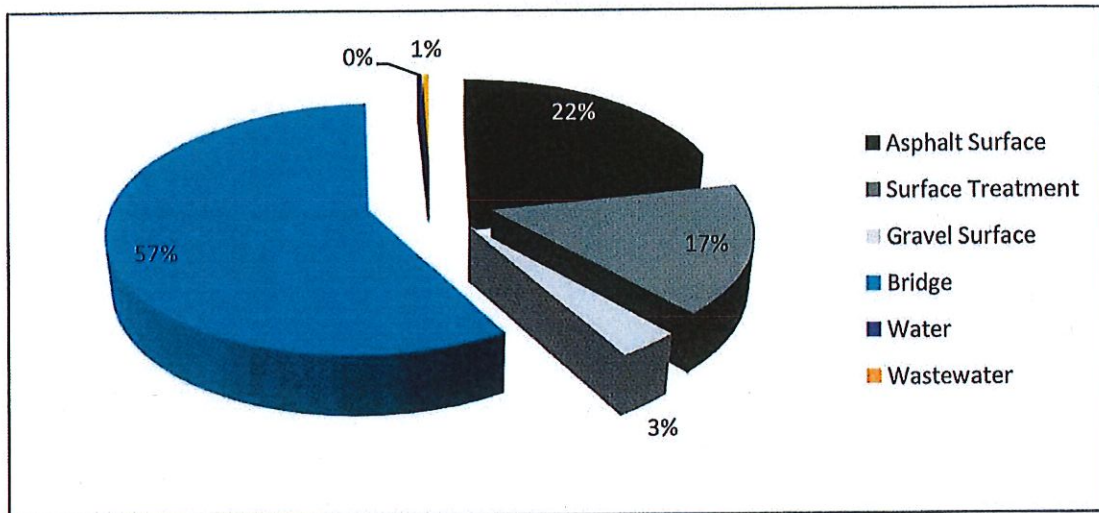
Including all the Township's assets studied in this project, the total tangible capital asset historical cost is approximately \$17.8 million. This is approximately 39.1% of the total replacement cost, or 38.8% excluding road base historic/replacement costs. It is expected that historical cost totals are less than replacement cost totals, given inflationary adjustments that would occur between the original asset purchase/construction date and 2021. Total accumulated amortization for the Township's project assets is approximately \$11.1 million or 24.3% of the total asset historical cost and \$5.5 million or 22.9% without road base costs included. This represents the proportion of tangible capital assets that have been amortized (i.e., used up) to date from a financial valuation perspective.

Clearly the Township's owned road assets have the greatest percentage tax supported replacement cost if the road base values were included in the calculation (see Table 2-1). Road bases are considered assets that will never be totally replaced but will from time to time be improved and in spot locations reconstructed on an as needed basis. Therefore, by excluding road base asset values (see Figure 2-2), the Township's bridges percentage replacement costs are 57.4% of the asset types studied in this project. Other asset types studied are Road Surfaces with 41.9% (made up of Asphalt 21.9%, Surface Treated 16.6%, and Gravel 3.4%), Wastewater with 0.4%, and Water with 0.3%. Please note that the Township indicated that they do not own any Storm Water assets. More in depth discussion of these asset types follows below.



Table 2-1: Municipality Tax Supported Asset Summary

Asset Type	Asset Sub-Type	Historic Cost	2020 Accumulated Amortization	2019 Net Book Value	2021 Replacement Cost	Condition (weighted average)		Useful Life (years)	Age (weighted average)	Remaining Life (weighted average)	Risk (weighted average)		
						Value	Text				Value	Text	
Road Base	Base	\$8,511,857	\$5,570,583	\$2,941,273	\$21,592,368			75	121	NA	NA	Low	
	Asphalt	\$2,130,787	\$1,406,348	\$724,439	\$5,259,968	8.0	Good	25	13	20	2	Moderate	
Road Surface	Surface Treatment	\$1,820,626	\$962,743	\$857,883	\$3,998,518	8.0	Good	7	10	5.6	2	Moderate	
	Gravel	\$1,906,307	\$1,895,432	\$10,875	\$815,226	8.0	Good	4	24	3.2	2	Moderate	
Bridge & Culverts	Water	\$3,331,123	\$1,222,986	\$2,108,137	\$13,805,194	6.6	Fair	50, 75	52	22	2	Moderate	
	Wastewater	\$64,692	\$14,597	\$50,095	\$77,500	8.5	Good	20, 50	7	33	2	Moderate	
		\$74,013	\$16,120	\$57,893	\$100,000	7.5	Good	50	11	39	2	Moderate	
	<b>Total</b>	<b>\$17,839,405</b>	<b>\$11,088,810</b>	<b>\$6,750,595</b>	<b>\$45,648,774</b>								
		<b>Total without Road Base Replacement Costs</b>				<b>\$24,056,406</b>	7.2	Good			18	2	Moderate

**Figure 2-2: Tax Supported Asset Distribution Replacement Costs, Without Road Bases (2021)**

It is important to note that the identified Township's Water and Wastewater assets in this project are all tax supported as these assets are related to township buildings. These assets are separated out to ensure that the Township can best maintain and prepare for future asset replacements.

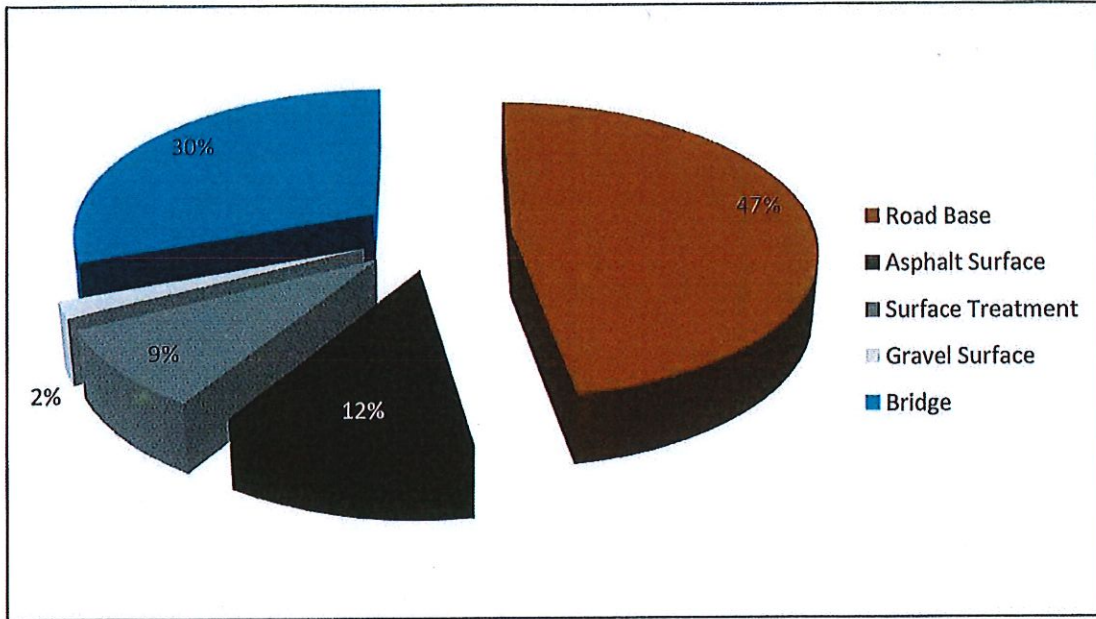
### 2.3 Road Environment Assets

The Township's road assets make up a key service that reflects the economic and social development of the community. The road environment assets are 99.6% of the assets studied in this project and are made up of the following asset types:

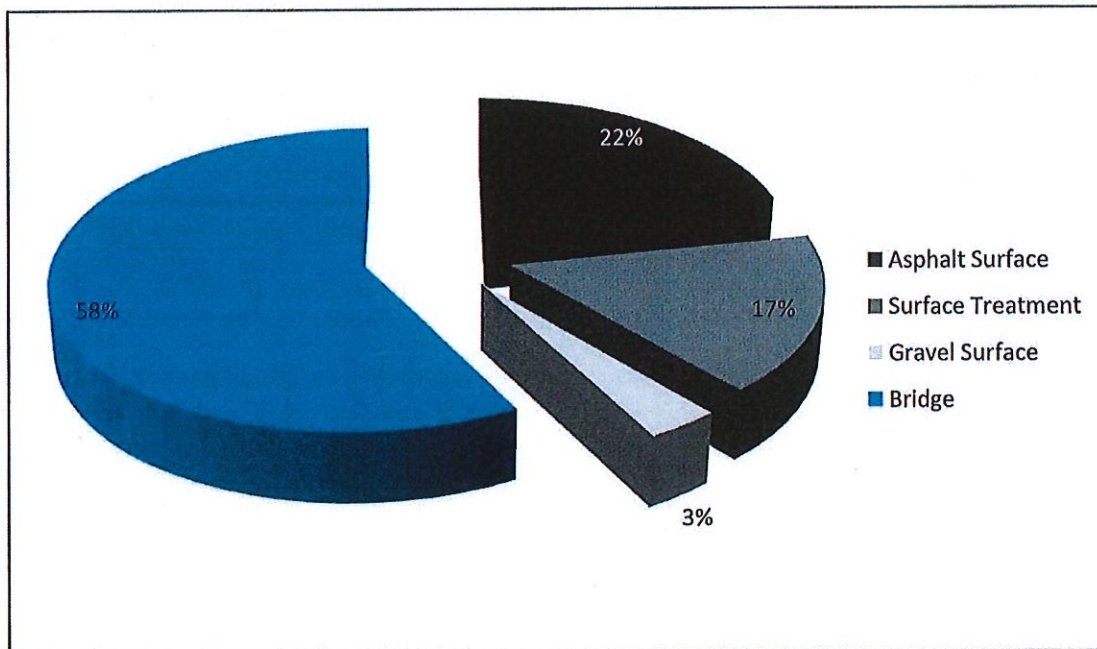
- Road Surface Asphalt – 11.5% of the total Township's asset replacement costs;
- Road Surface Treatment – 8.8% of the total Township's asset replacement costs;
- Road Surface Gravel – 1.8% of the total Township's asset replacement costs;
- Road Bases – 47.3% of the total Township's asset replacement costs;
- Bridges – 30.2% of the total Township's asset replacement costs;
- Cross Road Culverts – not identified in the Township's asset inventory;
- Street Lights – not identified in the Township's asset inventory;
- Signs – not identified in the Township's asset inventory;
- Barriers – not identified in the Township's asset inventory; and,
- Sidewalks – not identified in the Township's asset inventory.

Figure 2-3 and Figure 2-4 outline the replacement cost distribution of Road assets with and without Road Base values included.

**Figure 2-3: Road Environment Asset Distribution Replacement Costs (2021)**



**Figure 2-4: Road Environment Asset Distribution Replacement Costs (2021) without Road Bases**



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Below we provide more detail on the two key asset groups in the Road Environment group of assets, Roads, and Bridges.

### 2.3.1 Roads

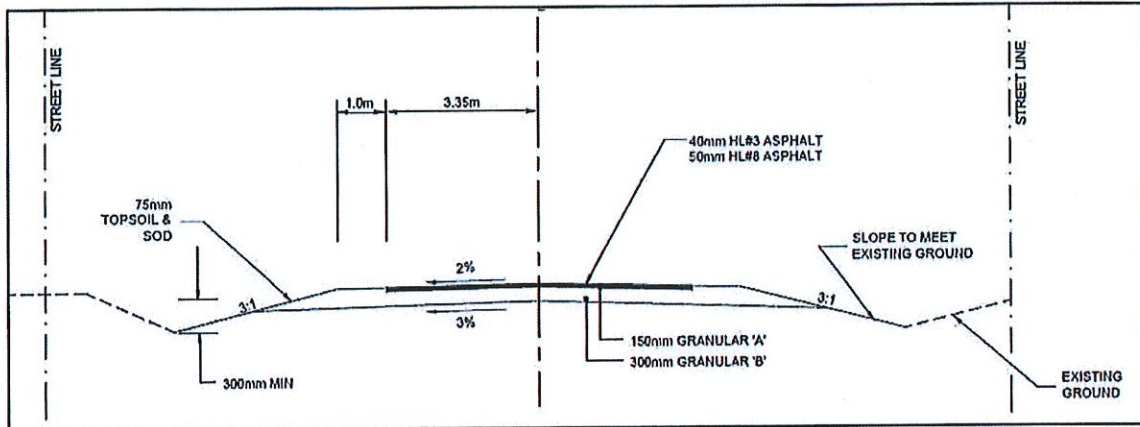
At the current replacement cost the road environment assets account for \$31.7 million dollars and without Road Bases included \$10.1 million or 69.4% of the assets studied in this project. The composition of the road surfaces is outlined in Table 2-2.

**Table 2-2: Road Surface Assets**

Road Surface	Surface Length (m)	Condition Road Study (weighted average)	Condition (Text)	Replacement Cost			Useful Life		
				Surface	Base	Total	Financial Statements	TCA Policy	Public Works
Asphalt	27,225	8.0	Good	\$5,259,968	NA	NA	20	20	25
Surface Treatment	28,677	8.0	Good	\$3,998,518	NA	NA	8 and 20	8	7
Gravel	48,497	8.0	Good	\$815,226	NA	NA	NA	10	4
<b>Total</b>	<b>104,399</b>		<b>Good</b>	<b>\$10,073,712</b>	<b>\$21,592,368</b>	<b>\$31,666,080</b>			

The Township had completed a Road Needs Study in 2021 and established a more complete road inventory than the PSAB 3150 asset listing and prioritization of both capital and operational maintenance programs for the Township. This project was provided with the results of the Study which are included. We recommend that the Township incorporate their road data within their Geographic Information System (GIS) dataset if possible. This will assist the Township's staff in updating more readily identified roadway deficiencies and plan for improvements.

Key to all roads is the road base on which they are built. These road bases in most cases have been established many years ago. Hard top (asphalt, and surface treated) road surface roads provide the longest life cycle with best level of service when constructed on excellent road bases. Once the road base becomes soft it cannot economically support a hardtop road surface and it can be best to convert it to a gravel road until funding is made available and the base has been reinforced. Figure 2-5 provides a typical road cross-section diagram. This can be applied for all surface types as asphalt (shown in figure), surface treatment replaced for asphalt and without asphalt or surface treatment for gravel road surfaces. Please note that the Township has some roads located in challenging granite outcrop, or wet areas, which require more specific localized engineering design.

**Figure 2-5: Typical Asphalt Road Surface Cross-Section**

The Township's gravel surface roads are upgraded approximately every four years or as required with surface gravel replacement/top-up. In some locations additional gravel is at times required to help reinforce the road base. The four year lifecycle for gravel roads is in contrast to the PSAB useful life of gravel surface roads is identified as 10 years.

The Road Needs Study provides detailed explanations of the Township's road conditions and related deficiencies that impact longevity or operations of the roads, including road widths, drainage, surface type, alignment, and brushing maintenance where required. Results of the Road Needs Study were incorporated into this asset management plan.

### 2.3.2 Bridges & Culverts

The Township has nine bridges and culverts structures over the span of 3.0 m inspected in 2021. The inspection report was reviewed, and information used in this asset management analysis. Visual inspections are required to be carried out every two years in accordance with the Ministry of Transportation – Ontario Structure Inspection Manual (OSIM). The inspections are to be completed under the direction of a Professional Engineer to assess their condition and identify any material defects, performance deficiencies, maintenance needs, additional studies and/or repairs/rehabilitation work required on a structure by structure basis.

The Township has a total of just over \$13.8 million replacement cost of bridge, and culvert assets. Table 2-3 provides the distribution of the types of bridges that the Township owns.

**Table 2-3: Structure Types**

Bridge Type	Number	Replacement Cost
CPCI Girder	1	\$2,342,665
Concrete Deck on Steel Girder	1	\$3,029,916
Steel Deck on Steel Girder	1	\$1,256,252
Timber Deck on Steel Girder	2	\$2,229,125
T Beam with Concrete Deck	2	\$2,827,884
CSP Arch Culvert	1	\$1,105,617
CSPA Multi-Plate Culvert	1	\$1,013,735
<b>Total</b>	<b>9</b>	<b>\$13,805,194</b>

No bridges were identified to have load limits from the OSIM report.

The inspection report made recommendations based on the inspected data. Depending on the condition of each structure, the remedial needs were provided in three classifications; routine maintenance, additional investigations and repairs and rehabilitations (Capital Works). The review of the 2021 OSIM inspection report identified the most current Ministry of Transportation Ontario (MTO) structure degradation models were not used. The older version of OSIM inspections do not calculate Bridge Condition Index and therefore approximations for condition index were tabulated based on the OSIM report data and structure photos.

The OSIM report identified that the Township's defined PSAB 3150 Useful Life of 60 years for all bridges did not reflect the true nature of the lifecycle of these assets. The useful life was adjusted to the following for this project:

- "Structures constructed prior to 2000 were generally designed to 50 year lifespan" (based on Engineer's Bridge Inspection Report); and,
- Current new structures are designed for a 75 year lifespan (based on Engineer's Bridge Inspection Report).

The capital works needs include any repair, rehabilitation or replacement work which would typically be completed by the Township's hired Contractor, to assist in extending the service life of a structure and increasing the Bridge Condition Index (BCI). In accordance with the OSIM, the capital and maintenance works required are based on a priority of six to ten years, one to five years, within one year, and urgent now needs have been estimated and presented in Table 2-4.

**Table 2-4: Bridge Capital Works Costs and Timeframes (OSIM Report)**

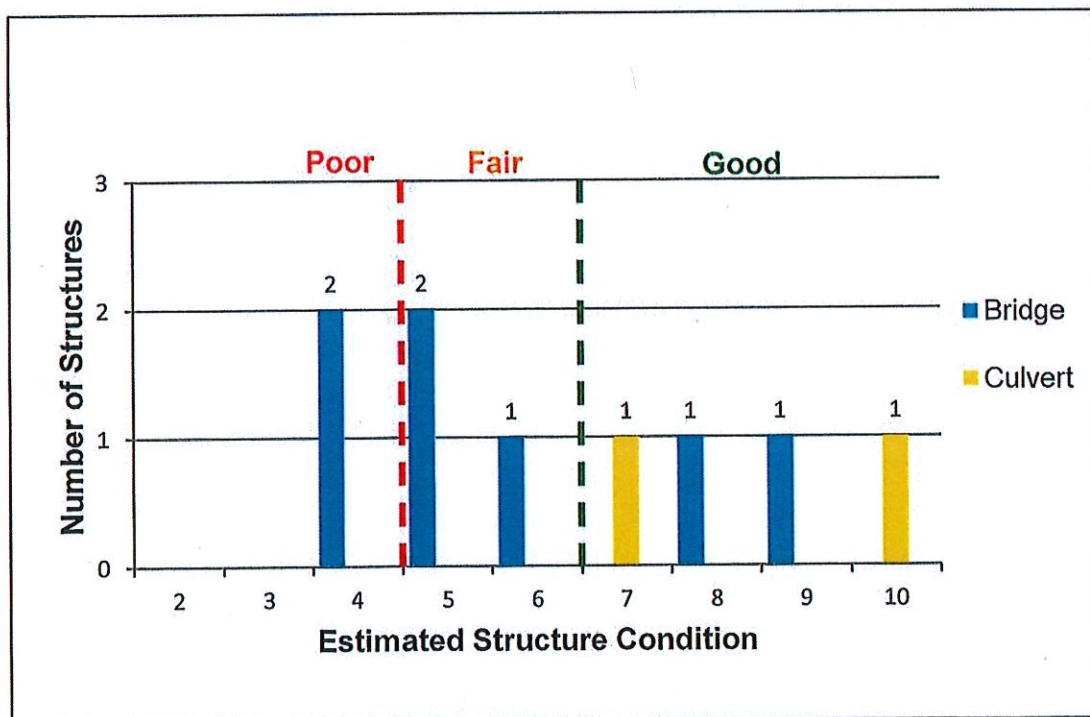
Time Frame	Capital and Maintenance Cost
< 1 year	\$106,000
1 – 5 years	\$1,115,000
6 – 10 years	\$114,000
<b>TOTAL</b>	<b>\$1,335,000</b>

It should be noted that the Capital Works costs include recommended replacement or rehabilitation costs for structures in need.

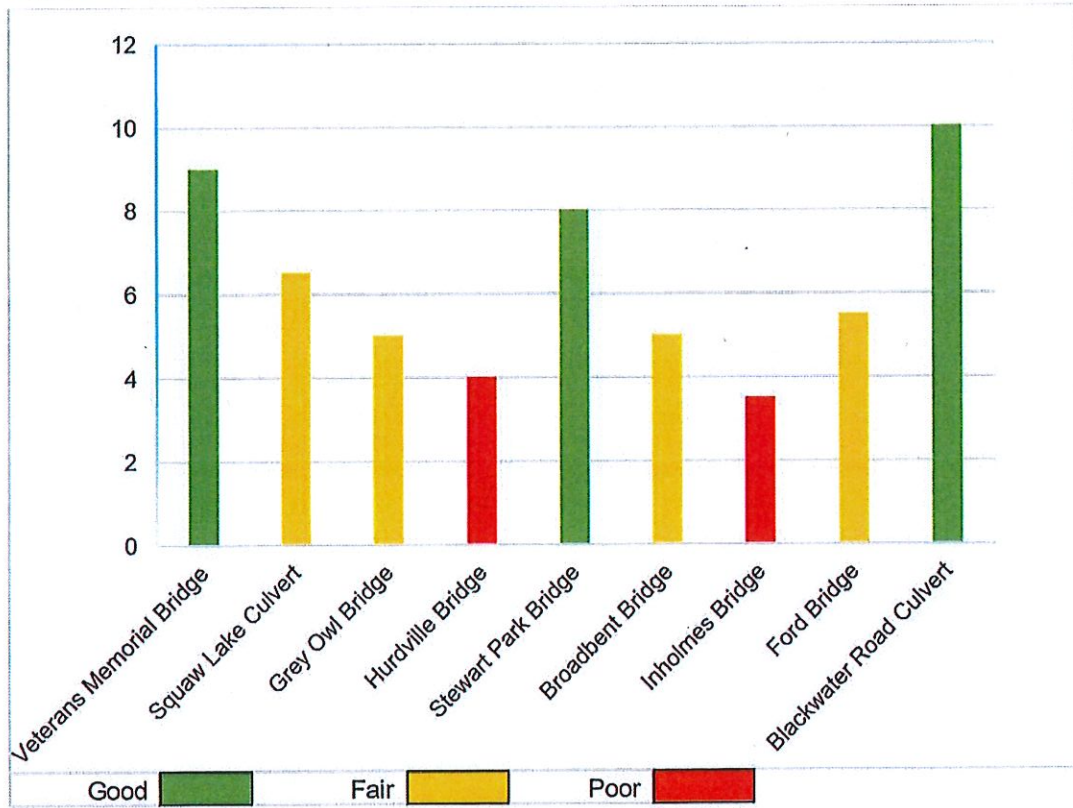
Taking into consideration the structures estimated condition index, several structures have been identified for some form of rehabilitation and/or maintenance. Within the next eight years, seven structures have been identified for rehabilitation and/or maintenance work.

Based on the biennial inspection of each structure, the estimated Structure Condition Index Distribution graph, shown in Figure 2-6 and Figure 2-7 below, provides a summary of the current state of the Municipality's structures.

**Figure 2-6: Estimated Structure Condition Distribution**



**Figure 2-7: Estimated Structure Condition Distribution**



Currently, 44% of the Township's structures are within the "good" range, with 33% of the structures classified as "fair" and 23% classified as "poor", as illustrated in Figure 2-6 above. Of interest, the Ministry of Transportation Ontario (MTO) has established a goal to have 85% of their structures in "good" condition by the year 2021, and to maintain that condition moving forward by addressing rehabilitations and replacements as necessary. Burnside recognizes that the above goal was not established by the Township, but it is noted that, based on the current state of the inspected structures, the Township could increase investment in the management of their bridge assets when compared to the MTO's established goal. This can also be an avenue to ask the Province for more assistance in funding to improve the condition of the Township bridge structures.

Continued maintenance and completion of rehabilitative work as recommended in this report will help to continue a trend of overall improvement of the Township's bridge/ culvert assets.



## 2.4 Storm Water Assets

The Township has indicated that they do not classify their crossroad culverts as Storm Water assets. These crossroad culverts are key to ensuring that water stays away from the Township's road base. This is particularly important during extreme weather events which produce large volumes of rain over a short period of time.

It is recommended that the Township undertake an inventory to locate all the crossroad culverts and any other municipal drainage network assets along with their attributes (material, length, diameter, year of construction etc.). These assets are best incorporated, if possible, in the Township's GIS dataset which is serviced by the West Parry Sound GIS (WPSGIS) group.

## 2.5 Water Assets

The Township does not have a formal water distribution network however the Township owns water assets implemented for each of the Township's facilities. These assets include wells and filtration systems. Water quality testing is completed as required to ensure potable water is provided to staff and public at each facility.

In general, the condition of the water assets are "good" to "very good".

## 2.6 Wastewater Assets

The Township wastewater assets provide an environmentally acceptable safe process of returning back to nature used water supplies. These septic systems are located at Township owned facilities. The Township's wastewater assets are in good condition. The septic tanks are cleaned out on a regular basis (Fire Halls every three years, and other facilities every five years or as required).

## 2.7 Asset Condition

Each asset was tracked based on estimated total useful life and remaining service life. Using this data, along with staff information, and age analysis of the Township's assets assisted in identifying potential areas of focus where inspected asset condition was not available. We want to state that asset condition is always best defined via engineering best practices. Engineering based condition assessments can provide more realistic estimates of an asset's remaining service life, which can then be used to establish asset rehabilitation and/or replacement schedules. Age related condition values can be problematic if the asset's useful life is not appropriately defined. For example, if a useful life of an asset is defined shorter than the assets true performance, this will result in a lower/poorer age assessed condition rating. This method of condition approximation was only used when inspected or staff commented conditions were not available.

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A rating out of 10 was established for all assets and was based on a combination of past reported physical inspections, current inspections, staff assessment, and asset age analysis. This rating was then converted to a condition description of "Very Good" to "Very Poor" as shown in Table 2-5.

**Table 2-5: Asset Condition Format for all Assets**

Condition (Value 0-10)	Condition
9 – 10	Very Good
7 – 8	Good
5 – 6	Average
3 – 4	Poor
1 – 2	Very Poor

The condition of the assets is an important element of any lifecycle assessment process. This process also identifies maintenance and operating practices that can be applied to ensure appropriate service levels, as well as extending the life of the asset to its maximum service life.

A draft policy has been proposed that will ensure the Township's core assets are reviewed using established engineering methods and practices. Appendix B contains the draft Data Verification and Condition Assessment Policy, which identifies how often the Township's assets are recommended to be assessed.

A high level summary of the average conditions for the Township's assets are shown in Table 2-1. The conditions listed in Table 2-1 were calculated using weighted average conditions. The weighting factor used was the asset replacement costs so that the greater the cost the greater the weighting of that asset's condition used to determine the average. Using this method provides more emphasis on the more expensive to replace assets. However please note that averages are a composition of many assets in a group. Averages can be misleading with respect to immediate needs as the new assets offset the old assets requiring urgent replacement.

## 2.8 Data Accuracy and Completeness

An important element of this asset management plan is ensuring that tools and procedures are in place to maintain accuracy and completeness of the asset data and calculations moving forward. As time passes, assets are used, maintained, improved, disposed of, and replaced.

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All of these lifecycle events can trigger changes to the asset database used within the asset management plan. Therefore, tools and procedures are essential to ensure the asset data remains accurate and complete. Please refer to Appendix B of this report for the draft "Data Verification and Condition Assessment Policy" for the Township. This policy illustrates how the asset data can be updated and verified going forward. This includes the timing of condition assessments for each asset type and what should be included within the condition assessment procedures.

### 3.0 Expected Levels of Service

The Township has been offering and maintaining for its residents and visitors, good service levels, during challenging economic times. The Province has demanded via Ontario Regulation 588/17 that municipalities complete asset management plans on a regular basis to ensure that appropriate investments are being made in municipal infrastructure. Reviewing past records has shown that small investments were being made into maintaining and replacing the Township's infrastructure. The last few years have seen much improvement with greater investments in Township infrastructure. It is important to note that the long term objective of the Township needs to be infrastructure sustainability. In general, the Township is performing maintenance activities when required.

#### 3.1 Scope and Process

A levels of service (LOS) analysis gives the Township an opportunity to document the levels of service that are currently being provided and compare it to the levels of service that will ensure the assets achieve their full lifecycle potential. This can be done through a review of current practices and procedures, an examination of trends or issues facing the Township and/or through an analysis of performance measures and targets that staff can use to measure performance.

Expected LOS can be impacted by a number of factors, including:

- Legislative requirements (e.g., minimum maintenance standards for roads, water guidelines, etc.);
- Strategic planning goals and objectives;
- Resident expectations;
- Visitor expectations;
- Council expectations; and,
- Financial or resource constraints.

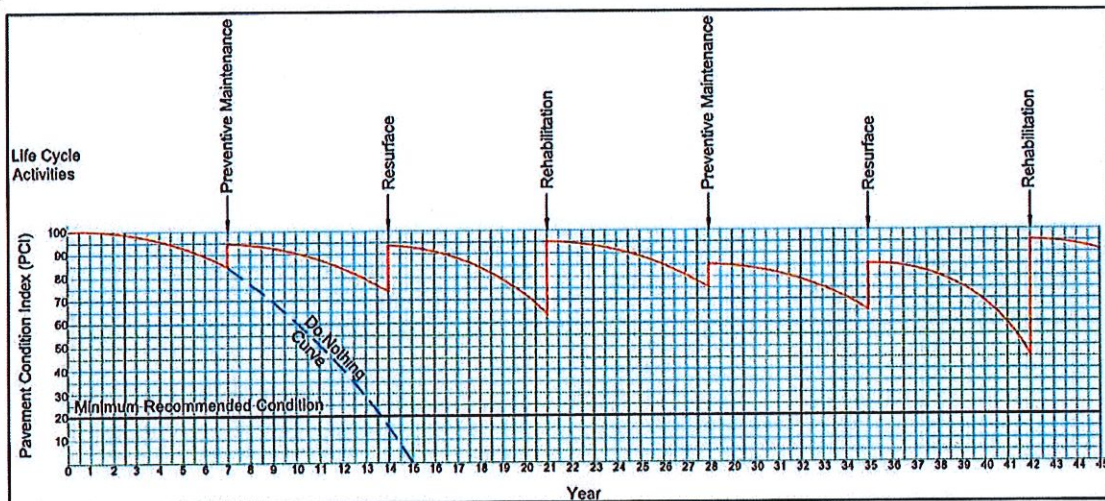
The previous task of determining the state of the Township's local infrastructure establishes the asset inventory and condition, as well as asset management policies and principles to guide the refinement and upkeep of asset infrastructure. The LOS analysis utilizes this information and factors in the impact of asset service level targets. It is important to document an expected LOS that is realistic to the community. It is common to strive for the highest LOS; however, these service levels usually come at a cost. It is also helpful to consider the risk associated with a certain LOS. Therefore, expected LOS should be determined in a way that balances both level of investment and associated risk to the Township.

Burnside received verbal confirmation of maintenance practices that the Township undertakes. We recommend that the Township revisit and update the Road Needs Study every 10 years and continue the biannual bridge inspections and analysis utilizing the most up to date MTO bridge/culvert degradation models. These practices will provide historic condition information as well as information related to any changes to asset maintenance. This will also help better determine the remaining life of the municipality's assets.

This information will help not only identify the current needs but also future requirements due to Levels of Service changes. Ensuring that appropriate levels of service are determined and recorded will help when additional growth occurs across the Township.

Figure 3-1 illustrates an example of a recommended strategy of investing more often in smaller amounts which provides higher levels of service and better asset condition with over all lower total cost over the lifecycle of the asset.

**Figure 3-1: Benefit of Applying Preventative Maintenance – Surface Treatment Road Service Life**



The Township's Road Needs Study recommended that all of the road hard top surface improvements will be completed with the following methodology when they reach a rehabilitation point of their lifecycle requiring pulverization of the current surface and adding some gravel to reinforce the base structure and then adding the surface material. This is a practice that many rural communities are using to maintain their level of service of their hard top roads.

### **3.2 Current Levels of Service versus Expected Levels of Service**

The Township's current LOS has resulted in the current state of infrastructure as discussed in the previous section of the report. The current LOS also relates to the risk assessment discussed in later report sections. Regarding the cost of this LOS, the Township has established an operating and capital budget for the current year that includes the cost of providing this LOS. The Township is doing well with delivering levels of service as only under \$8,000 per year was identified as additional cost to deliver identified expected levels of service.

Table 3-1 outlines broad LOS descriptions (both current and enhanced LOS). This analysis was noted through discussions with the Township's staff and engineering best practices. Based on the information provided there are a few enhanced maintenance related LOS identified. The Levels of Service cost impact analysis was factored into the financial strategy discussed in Section 5 of this report.

Table 3-1: Expected Levels of Service

		Level of Service (LOS) Analysis				
Expected Strategic LOS	Current LOS	Expected LOS	Benchmark (if Applicable)	Current Cost of LOS	Estimated Cost of Expected LOS	Cost Description
Safe Roads	Meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02 and Amendments.	Meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02 and Amendments.	Regulation Standard	\$25,000	\$30,000	Township may want to incorporate a digital system that will assist in proving compliance to the Provincial Regulation. Having an AVL system in the Patrol Truck can be a minimum recording method of Roads Patrolled. Cost represent annual hardtop road maintenance.
Fix Public Identified Issues Quickly	Track complaints and resolve them as quickly as possible	Track complaints by road segment so that history can be recorded.	Respond to Public Inquiry within 24 hours			Township delivers this Level of Service well
Maintain Road System Network Condition for safe use	Road Maintenance is completed regularly and when required	Maintain adequate road network condition index to ensure safe roads	Assess Road Conditions every 10 years with Internal assessment annually	\$45,000	\$45,000	Roads Needs Study every 10 years to include Network Condition analysis (next proposed for 2031). Township completing crack seal, and slurry seal program well.
Asphalt Roads are Clean and Clear	Street sweeping and flushing are completed annually	Roads are swept and flushed to ensure they are clear of debris and safe.		\$5,000	\$5,000	Township has minimal hardtop roads, but is delivering this Level of Service well. Debris is collected as per Minimum Maintenance Standards. Cost is for hardtop road street sweeping.
Follow Best Practice for Asphalt Roads	Completing a regular Crack Seal program.	Completing a regular crack seal program.		\$15,000	\$15,000	Township delivers this Level of Service, via annual crack seal program.
Gravel Roads are well maintained and Dust Inhibited	Gravel roads are smoothed when required, and Calcium Chloride applied to control dust	Gravel roads are smoothed when required, and Calcium Chloride applied to control dust		\$50,000	\$55,000	Township delivers Calcium dust control.
Safe and well maintained Roadsides	Municipality provides brushing, ditching, grass mowing, and shoulder maintenance to ensure roadsides are safe and well maintained	Roadsides are clear of obstructions and well maintained for safe road travel.		\$14,500	\$17,500	Township delivers this Level of Service well. Cost is for annual roadside maintenance to support road base.
Winter Road Maintenance	Winter roads are cleared and safe.	Roads are maintained and meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02 and Amendments.	Regulation Standard	\$72,500	\$75,000	Township delivers this Level of Service well. Cost is annual sand/salt requirement. Approximate breakdown of costs: Asphalt \$10,000; Surface Treated \$30,000; Gravel \$35,000.
Winter Maintenance Staffing	Township has or hires sufficient staff to maintain clear roads	Roads are maintained and meet "Minimum Maintenance Standards" as defined by Ontario Regulation 239/02 and Amendments.	Regulation Standard	\$30,000	\$35,000	Township hires additional staff to ensure Winter Maintenance Standards are met
Weather forecast information Signs can be seen clearly	Municipal staff check weather forecasts minimum 3 times per day in the Winter months (October 1 - April 30) Signs: Visual inspections done in the evening. Replaced when required/needed.	Weather forecasts are reviewed three times per day during the Winter Maintenance months. Signs: Visual inspections. Replace when needed.	Regulation Standard	\$12,500	\$15,000	Township delivers this Level of Service well
Safe Well Ill Semi-Urban Street areas	Maintenance activated by Public Notice for Street Lights	Maintenance activated by Public Notice for Street Lights	Correction of issues within MIMS			Township delivers this Level of Service well

Level of Service (LOS) Analysis						
Expected Strategic LOS	Current LOS	Expected LOS	Benchmark (if Applicable)	Current Cost of LOS	Estimated Cost of Expected LOS	Cost Description
Bridge & Culvert Assets	Safe Bridges	Maintain good condition and no load limits.	Maintain good condition and no load limits.	MTO bridge guides		Municipal staff are completing this LOS
	Bridges Maintained	Follow Bridge Inspection Report recommendations for Bridge and Culvert maintenance.	Proactive Bridge and Culvert maintenance (based on bridge inspection report).			Municipality is completing this LOS
	Proper Bridge Spring Maintenance	Bridge washing is completed in Spring	Blowing out Expansion Joints & Washing of Bridges in Spring			Municipal staff are completing this LOS
	Bridge Inspections	Bridge inspections (i.e. using OSIM forms) required every 2 years.	Bridge inspections (i.e. using current OSIM forms) required every 2 years.	Completed every 2 years	\$9,000 every two years	\$9,000 every two years

Level of Service (LOS) Analysis						
Expected Strategic LOS	Current LOS	Expected LOS	Benchmark (if Applicable)	Current Cost of LOS	Estimated Cost to Move to Expected LOS	Cost Description
Storm Water Assets	Effective Storm Water Management	Investigate and respond based on public complaints/concerns	Proper storm water flows and clear system with little to no inhibitors	No storm water back-up incidents		Township is completing this Level of Service well.
	Cross Road Culverts are Appropriately Sized and Maintained	Cross Road Culverts are replaced when required	Climate Change and/or Extreme Weather events do not cause adverse issues with the Municipal road network		\$3,000	\$3,000



Level of Service (LOS) Analysis						
Expected Strategic LOS	Current LOS	Expected LOS	Benchmark (if Applicable)	Current Cost of LOS	Estimated Cost of Expected LOS	Cost Description
Water Assets	Maintaining appropriate Zoning and Planning to ensure Source Water Protection	Maintaining appropriate Zoning and Planning to ensure Source Water Protection				Township is completing this Level of Service well.
	Source Water is well Protected	Appropriate maintenance is undertaken when required		\$3,000	\$3,000	Township is completing this Level of Service well. Cost is for annual well maintenances.
	Production Wells are well Maintained	Meet all legislative requirements.	Provincial Guidelines	\$2,500	\$2,500	Township is completing this Level of Service, with water testing as required by . Cost is for annual water system maintenance.
Treatment Processes Meet Legislative Requirements						

Level of Service (LOS) Analysis						
Expected Strategic LOS	Current LOS	Expected LOS	Benchmark (if Applicable)	Current Cost of LOS	Estimated Cost of Expected LOS	Cost Description
Wastewater Assets	Ensuring Obstruction and/or Infiltration into Wastewater system	Review of flows to be completed when septic tanks are cleaned out.		staff		No additional costs but good practice staff can perform when septic tanks are cleaned out.
	Wastewater Pipes are clear and well Maintained	Ensuring Obstruction and/or Infiltration into Wastewater system				
	Treatment Processes Meet Legislative Requirements	Meet all legislative requirements.	Provincial Guidelines	\$300	\$300	Township is completing this Level of Service well. Town Hall septic system is inspected twice a year. Annual cost is for septic system inspections.
Safe Treatment Structures (Tanks and Septic Beds)	Meet legislative requirement (Building Code, Fire Code, Health & Safety, etc)	Meet legislative requirement (Building Code, Fire Code, Health & Safety, etc)	Provincial Guidelines	\$3,400	\$3,400	Septic tanks cleaned out as required. Costs breakdown is: Town Hall \$1,000/yr; Public Work Garage \$800/5yr; Fire Hall 1 \$800/10yr; Fire Hall 2 \$800/10yr

## 4.0 Asset Management Strategy

### 4.1 Scope and Process

The asset management strategy provides the recommended course of actions required to maintain (or move towards) a sustainable asset position while delivering the levels of service discussed in the previous section. The course of actions, when combined together, form a long-term operating and capital forecast that includes:

- **Non-infrastructure solutions:** Reduce costs and/or extend expected useful life estimates;
- **Maintenance activities:** Regularly scheduled activities to maintain existing levels of service levels, or repairs needed due to unplanned events;
- **Renewal/Rehabilitation:** Significant repairs or maintenance planned to maintain the levels of service and increase the remaining life of assets; and,
- **Replacement/Disposal:** Complete disposal and replacement of assets when renewal or rehabilitation is no longer an option.

Priority identification becomes a critical process during the development of an asset management strategy. Priorities have been determined based on assessment of the overall risk of asset failure, which is determined by looking at both the probability of an asset failing, as well as the consequences of asset failure. The consequences of the municipality not meeting desired levels of service must also be considered in determining risk. As discussed in Section 3, adding enhanced levels of service results in both operating and capital budget impacts over the 10 year forecast period. This has to be taken into consideration, with the overall objective of reaching sustainable levels while mitigating risk.

### 4.2 Risk Assessment

The risk of an asset failing is defined by the following calculation:

**Risk of Asset Failure = Probability of Failure X Consequence of Failure**

Probability of failure has been linked to the condition assessment for each asset, assuming that an asset in "very good" condition has a "rare" probability of failure. The following table outlines the probability factor tied to each condition rating:

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**Table 4-1: Probability of Failure Matrix**

Condition (Value)	Condition	Probability of Failure
9 – 10	Very Good	Rare
7 – 8	Good	Unlikely
5 – 6	Average	Possible
3 – 4	Poor	Likely
1 – 2	Very Poor	Almost Certain

Consequence of failure has been determined by examining each asset type separately. Consequence refers to the impact on the municipality if a particular asset were to fail.

Types of impacts include the following:

- **Cost impacts:** the cost of failure to the Township (i.e., capital replacement, rehabilitation, fines and penalties, damages, etc.);
- **Social impacts:** potential injury or death to residents/public;
- **Environmental impacts:** the impact of the asset failure on the environment; and,
- **Service delivery impacts:** the impact of the asset failure on the Township's ability to provide services at desired levels.

Each type of impact was reviewed and consequence of failure for each asset type was determined by using the information contained in Table 4-2 as a guide to assess the level of impact. Levels of impact were documented as ranging from "significant" to "insignificant".

**Table 4-2: Consequence of Failure Matrix**

	Cost	Social	Environmental	Service Delivery
Significant	Significant Cost – Difficult to Recover	Death, Serious Injury	Long-term Impact – Permanent	Major Interruptions
Major	Substantial Cost – Multi-year Budget Impacts	Major Injury	Long-term Impact – Fixable	Significant Interruptions
Moderate	Considerable Cost – Requires Revisions to Budget	Moderate Injury	Medium-term Impact – Fixable	Moderate Interruptions
Minor	Small/Minor Cost – within Budget Allocations	Minor Injury	Short-term/Minor Impact – Fixable	Minor Interruptions
Insignificant	Negligible or Insignificant Cost	No Injury	No Impact	No Interruptions

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With both probability of failure and consequence of failure documented, total risk of asset failure was determined using the matrix contained in Table 4-3. Total risk has been classified under the following categories:

- **Extreme Risk (E):** Risk beyond acceptable levels;
- **High Risk (H):** Risk slightly beyond acceptable levels;
- **Medium/Moderate Risk (M):** Risk at acceptable levels, monitoring required to ensure risk does not become high; and,
- **Low Risk (L):** Very little risk.

**Table 4-3: Total Risk of Asset Failure Matrix**

Probability of Failure	Consequence of Failure				
	Significant	Major	Moderate	Minor	Insignificant
Almost Certain	E	E	H	H	M
Likely	E	H	H	M	M
Possible	H	H	M	M	L
Unlikely	H	M	M	L	L
Rare	M	M	L	L	L

Risk levels can be reduced or mitigated through planned maintenance, rehabilitation and/or replacement of an asset. An objective of this asset management plan is to reduce risk levels where they are deemed to be too high, as well as ensure assets are maintained in a way that keeps risk at acceptable levels.

### 4.3 Priority Identification

Through a review of the asset risk of failure assessment, the assets/categories listed below were identified as being priorities of the Township for over the next few years.

#### 4.3.1 Roads

- Lakeshore Road, from Henry Street to 800 m South of Henry Street – Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2022, approximate cost \$145,000).
- The Inn Road, from Camp Road to Fire Route 160 – Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2022, approximate cost \$144,000).

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- Centre Road, from Hollys Road to Stewart Park Road – Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2023, approximate cost \$387,000).
- Centre Road, from Armstrong Street to Balsam Road – Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2024, approximate cost \$18,000).
- Centre Road, from Balsam Road to Veterans Memorial Bridge - Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2024, approximate cost \$144,000).
- Fire Route 305 Road, from Hurdville Road to McDougall Road - Current asphalt road surface pulverized and resurfaced with gravel and asphalt (recommended improvement in 2024, approximate cost \$29,200).

#### 4.3.2 Bridges

All bridges and large culverts (over 3 meter diameter) are a concern to the Township as a failure of this type of asset can result in a major consequence of failure.

- Hurdville Bridge (RS-08 and Bridge 004) – Install approach guiderail (recommended improvement in 2022, approximate cost \$106,000).
- Inholmes Bridge (RS-03 and Bridge 007) – Coating structural steel, partial deck replacement, with railing improvement/replacement. The substructure needs to be rehabilitated as well (recommended improvement in 2023, approximate cost \$347,000).
- Hurdville Bridge (RS-08 and Bridge 004) – Concrete deck soffit repairs, and embankment improvements/rehabilitation as well as substructure and superstructure rehabilitation. There also needs to be some railing improvement/replacement (recommended improvement in 2024, approximate cost \$502,000).

#### 4.3.3 Storm Water

One of the priorities identified with the storm water assets is to obtain the location and attributes (diameter, length, material) of the Township's crossroad culverts. There are approximately \$3,000 of crossroad culverts replaced annually, however there are more extreme weather events which may require some areas to have increased water flow to prevent damage to Township roads.

This list of capital asset improvements/replacements is only for the next few years, and do not limit the needs that the Township requires to become fully sustainable. The Finance Strategy will further outline the needs for investing in assets annually via reserves to ensure that funds are available for future asset replacements.

#### 4.4 Climate Change

Over the past decade there has been increased numbers of extreme weather events which are putting greater stress on municipal infrastructure, and pressure to ensure levels of service are maintained. Climate change poses a real risk management question which needs to be addressed within the context of municipal decision making.

Some climate change projections (Federation of Canadian Municipalities):

- Warmer summer temperatures;
- Warmer winter temperatures;
- More intense storms;
- Longer droughts;
- Increased frequency and amount of ice;
- Summers stretching longer; and,
- Sea level rising.

The Township of McKellar has witnessed some of these climate change projections already causing potential challenges with road washouts from an extreme weather event, or quick winter thaw runoff. Many roads have not been designed for such intense high volume rainstorms.

Identifying areas of concern will help the Township to design road and storm water assets to improve resiliency to extreme weather events. This type of investment will reduce risk of failure of infrastructure and ensure appropriate levels of service are maintained for the public.

Another factor to climate change issues is the materials used in asset construction. The focus is to reduce the total carbon footprint on the construction of infrastructure assets. Investing in infrastructure with a long term view provides both better levels of service as well as reducing the total carbon footprint.

As recommended above for the Township to start collecting crossroad culvert data which will be a start to identifying if the culverts can withstand potential extreme weather. Then focusing on concern areas and upgrading them over a 10 year period will make good progress to becoming a more climate change resilient municipality.

#### 4.5 Long-term Forecast

For many years, lifecycle costing has been used in the field of engineering to evaluate the advantages of using alternative materials in construction or production design. The method has gained wider acceptance and use recently in the management of capital assets. By definition, lifecycle costs are all the costs which are incurred during the lifecycle of a capital asset, from the time it is purchased or constructed, to the time it is taken out of service for disposal.

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In defining the long-term forecast for the Township's asset management strategy, costs incurred through an asset's lifecycle, the asset's condition, expected LOS, and risk were considered and documented. Asset Replacement Analysis in forecasting the Township's asset replacement needs are summarized in Figure 4-1, which we are calling Asset Strategy Scenario based on expected levels of service.

The asset strategy incorporated all of the information discussed above in this report and based on the information provided by the Township, past reports, staff input, and understanding of the asset's reaction in their current environment as well as the expected asset maintenance levels, and the current asset condition, which is expected to produce a reduced asset potential risk of failure. The outcome of this scenario approach was to provide appropriate asset service levels, and the assets were expected to meet or exceed their useful life which reduces expected infrastructure deficits. In total (all assets), \$10.2 million in assets (inflated to appropriate year) are shown as replacement needs in the 10 year forecast. This is the recommended asset strategy for the Township of McKellar.

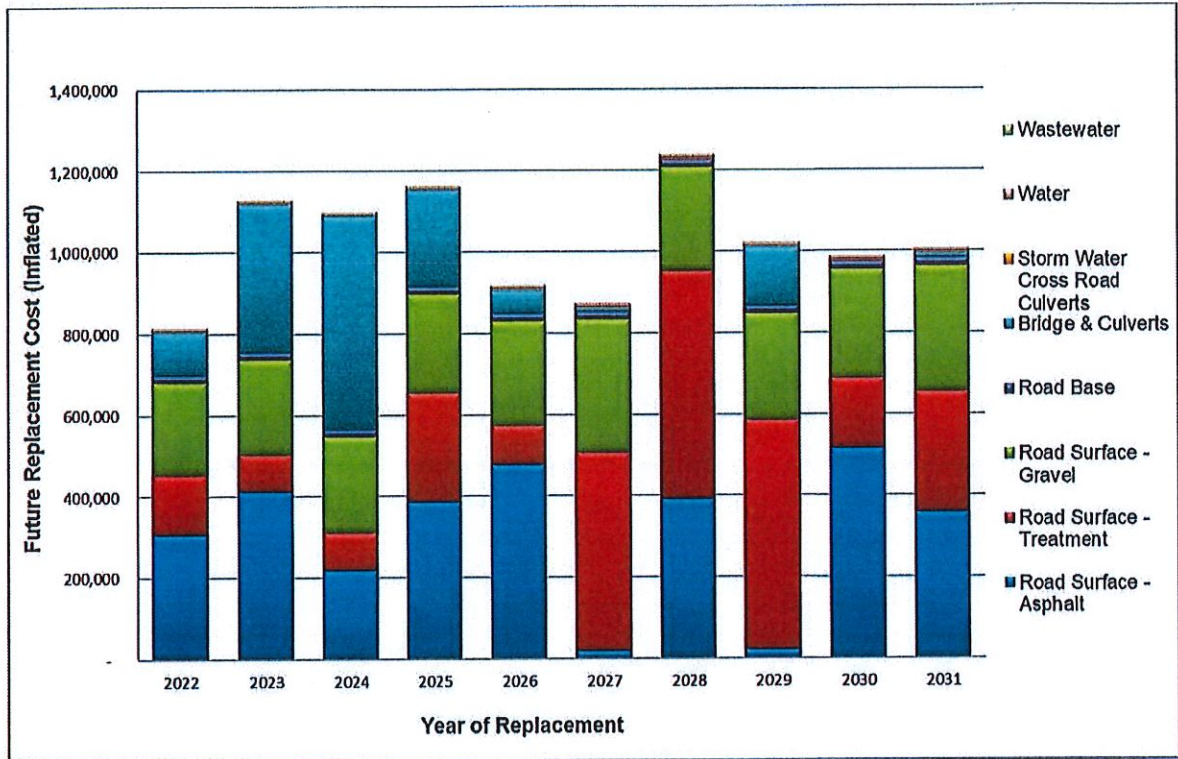
Assets like Bridges, and major culverts, are not expected to be replaced for usually over 50 years. It needs to be stated, to ensure that these assets have reserve funding for their replacement schedule in the future. The Financial Strategy provides the Township with an investment plan into their reserve accounts.

For the recommended scenario to be feasible, the expected level of service adjustments discussed in Section 3 are needed in conjunction with the current level of service amounts in order to effectively maintain and rehabilitate the assets as required.

The financing strategy discussed in the next section will incorporate the level of service adjustments into the recommended financing analysis.

2022 Asset Management Plan (Core Assets)  
 June 29, 2022

**Figure 4-1: Proposed Asset Strategy Based on Expected Levels of Service**





## 5.0 Financing Strategy

### 5.1 Scope and Process

The financing strategy provides the recommended use of various funding sources to finance the asset management strategy and levels of service recommendations discussed in Sections 3 and 4. The financing strategy also provides recommendations to increase annual investments in assets that will be used beyond this report's 10-year forecast period.

### 5.2 Funding Sources

The following funding sources have been used within the financing strategy:

**Grant Funding:** It has been assumed that Gas Tax Funding (now called the Canada Community Building Fund) will continue throughout the forecast period. The Township's allocation is expected to reach \$73,535 by 2023 and it has been assumed that funding will remain constant at this amount moving forward.

It has also been assumed that Ontario Community Infrastructure Fund (OCIF) annual amounts will increase to 2022 levels and remain constant at this amount, \$149,500 per year, over the forecast period. The province is currently reviewing the formula for OCIF funding and has dedicated additional funding to this program.

Through discussions with Township staff, receipt of a Northern Ontario (NORD) grant is also anticipated, totaling \$546,645. This funding has been applied against Centre Road capital requirements in 2024 and 2025.

**Operating Budget:** The Township includes an annual transfer from the operating budget to capital as part of the budget process. It has been assumed that \$400,000 of this funding will be dedicated to core infrastructure annually. This is equivalent to the core infrastructure allocation in 2022.

Given that there are levels of service recommendations that are operating in nature, it has been assumed that these costs will be funded from the annual operating budget. This could be through existing funding or proposed increases each year.

2022 Asset Management Plan (Core Assets)  
June 29, 2022

**Reserves:** Existing "roads capital construction" and "investment in infrastructure" reserves have been consolidated for the purposes of this financing strategy into a consolidated "infrastructure capital" reserve. This reserve becomes the primary source of capital funding over the forecast period. It is recommended that increases in annual asset investment be allocated to this reserve for capital use.

**Debt:** If all other funding sources fall short in funding recommended lifecycle needs each year, debt financing would be recommended. Debt financing is not anticipated within the forecast period for core infrastructure. This may change when the Township adds other non-core assets to the asset management plan.

### 5.3 Historic Asset Investment

The following table outlines the Township's historic capital investment in assets. As shown, the annual investment has fluctuated over the last two years. In 2021 the Township received an additional one-time allocation of Gas Tax Funds; however, this has been removed from the total investment as it is a one-time investment that does not continue moving forward. In 2022, the Township received a top-up on OCIF funding which is anticipated to continue going forward.

**Table 5-1: Historic Asset Investment - Capital**

Funding Type	2021	2022
Canada Community Building Fund (Gas Tax)	138,217	70,471
OCIF Funding	54,514	149,500
Transfer from Operating (Core Infrastructure)	-	422,879
Contribution to Roads Reserve	100,000	-
Contribution to Infrastructure Reserve	14,971	14,624
<b>Total Annual Asset Investment - Capital</b>	<b>307,702</b>	<b>657,474</b>
Less: One-time top-up of the Canada Community Building Fund (Gas Tax)	(67,746)	
<b>Total 2021 Asset Investment - Capital (Sustainable)</b>	<b>239,956</b>	<b>657,474</b>

\* Excludes the Safe Restart and OMPF grants as they are operating in nature. Excludes ICIP grants as they are one-time contributions.

\*\* OCIF Funding Formula for 2023 is under review, however a province wide sustainable increase in funding has been announced.

Therefore, a capital asset investment in 2022 of \$657,474 becomes the starting point for recommending increases in annual asset investments over the forecast period.

2022 Asset Management Plan (Core Assets)  
June 29, 2022

## 5.1 Optimal Asset Investment

Based on an analysis of the Township's capital assets in terms of replacement cost and useful life, the following summary of optimal annual asset investment has been created.

**Table 5-2: Optimal Asset Investment Summary**

Core Infrastructure	Replacement Cost (2021 \$)	Weighted Average Useful Life	Annual Replacement Investment (2021 \$)
Road Surface	10,073,712	15	671,600
Road Base	21,592,368	75	20,000
Bridge & Culverts	13,805,194	57	242,200
Water	77,500	40	1,900
Wastewater	100,000	50	2,000
<b>Total</b>	<b>45,648,774</b>		<b>937,700</b>

\* excludes non-core infrastructure assets

\*\* Road Base annual investment for maintenance/rehabilitation only

In summary, an annual asset investment of \$937,700 is needed to fund long-term asset management planning needs for core infrastructure. This does not include other non-core assets that have been excluded from this asset management plan. In addition, annual asset investments for road base assets are based on level of service costs identified in this asset management plan and not full replacement.

This \$937,700 annual asset investment becomes the funding target over the forecast period. However, this target increases over time as inflation increases this amount annually. Assuming 2% annual inflation, the target annual capital asset investment amount becomes \$1,165,900 by the year 2032.

## 5.2 Financing Strategy

The detailed 10-year financing strategy is provided in Appendix C to this report.

As the 2022 Budget has already been developed and passed by the Township, all recommendations provided in Section 4 have been shifted by one year. For example, all 2022 recommendations from Section 4 are shown as 2023 funding requirements in this section. Also, like Section 4, a 2% inflation factor has been applied annually to all costs.

2022 Asset Management Plan (Core Assets)  
June 29, 2022

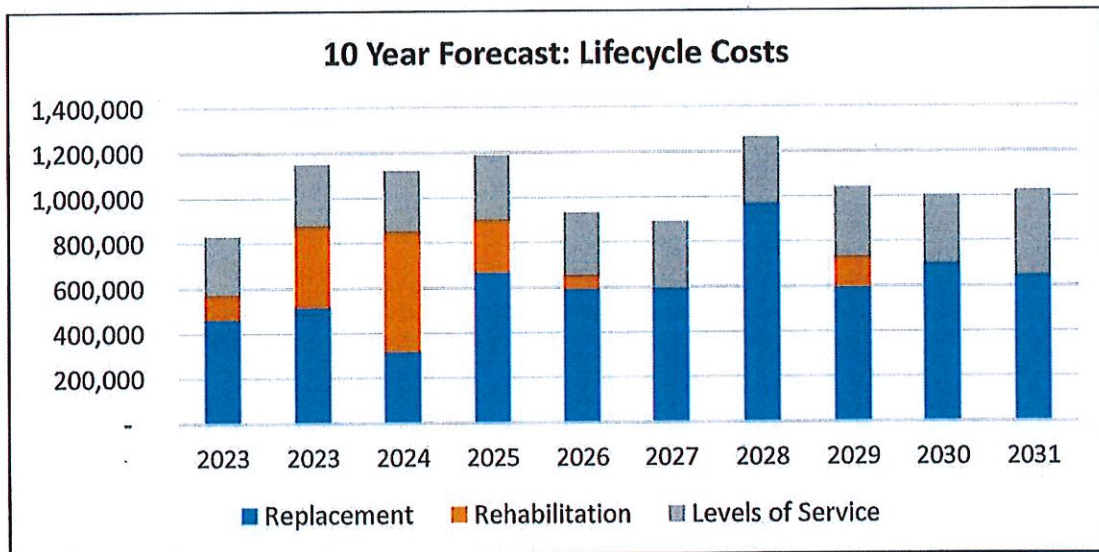
The following table provides a high-level summary of the 10-year forecast by cost type (i.e., asset replacement needs, asset rehabilitation needs, and levels of service recommendations).

**Table 5-3: Forecast Summary**

Forecast	2023	2023	2024	2025	2026	2027	2028	2029	2030	2031
Replacement	460,020	511,877	314,330	665,696	591,787	590,732	967,544	595,138	697,934	646,066
Rehabilitation	108,120	361,019	532,726	231,640	57,412	-	-	133,569	-	-
Levels of Service	263,262	277,059	273,051	289,117	284,078	300,797	295,556	312,013	307,497	379,472
<b>Total</b>	<b>831,402</b>	<b>1,149,955</b>	<b>1,120,107</b>	<b>1,186,453</b>	<b>933,277</b>	<b>891,529</b>	<b>1,263,100</b>	<b>1,040,720</b>	<b>1,005,431</b>	<b>1,025,538</b>

Figure 5-1 shows the same forecast in graph form. As illustrated, there are minor fluctuations in annual lifecycle needs throughout the forecast.

**Figure 5-1: Forecast Summary**



As shown in Appendix C, the 10-year forecast has a recommended funding plan as follows:

2022 Asset Management Plan (Core Assets)  
June 29, 2022

**Table 5-4: Capital Forecast with Funding Sources**

Asset Class	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
<b>Totals by Asset Class (Replacement, Rehabilitation and Levels of Service)</b>											
Road Surface - Asphalt	313,140	421,362	222,005	394,006	485,795	20,271	399,742	21,090	525,841	365,454	3,168,706
Road Surface - Treatment	148,920	92,596	94,448	273,855	98,263	497,260	570,099	576,392	174,483	301,701	2,828,017
Road Surface - Gravel	232,560	237,211	241,956	246,794	261,667	332,218	261,900	267,138	272,481	314,134	2,668,059
Road Base	17,850	18,207	18,571	18,943	19,321	19,708	20,102	20,504	20,914	21,332	195,452
Bridge & Culverts	108,120	370,383	532,726	241,382	57,412	10,135	-	144,114	-	10,971	1,475,243
Storm Water Cross Road Culverts	3,060	3,121	3,184	3,247	3,312	3,378	3,446	3,515	3,585	3,657	33,505
Water	5,610	5,722	5,837	5,953	6,072	6,194	6,318	6,444	6,573	6,704	61,427
Wastewater	2,142	1,353	1,380	2,273	1,435	2,365	1,493	1,523	1,554	1,585	17,103
<b>Total</b>	<b>831,402</b>	<b>1,149,955</b>	<b>1,120,107</b>	<b>1,186,453</b>	<b>933,277</b>	<b>891,529</b>	<b>1,263,100</b>	<b>1,040,720</b>	<b>1,005,431</b>	<b>1,025,538</b>	<b>10,447,512</b>
<b>Funding Analysis</b>											
Canada Community Building Fund (Gas Tax)	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	735,350
OCIF Funding (estimate)	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	1,495,000
NORD Grant (Centre Road)	-	402,635	144,010	-	-	-	-	-	-	-	546,645
Transfer from Operations (Core Infrastructure)	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	4,000,000
Transfer from/(to) Capital Reserves:											
Infrastructure Capital Reserve (Consolidated)	(54,895)	(143,410)	80,011	284,043	26,164	(22,168)	344,509	116,217	74,899	89,954	795,324
Operating Funding (LOS Impacts)	263,262	267,695	273,051	279,375	284,078	290,662	295,556	301,468	307,497	312,549	2,875,193
Debt Funding (see section 2)	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>831,402</b>	<b>1,149,955</b>	<b>1,120,107</b>	<b>1,186,453</b>	<b>933,277</b>	<b>891,529</b>	<b>1,263,100</b>	<b>1,040,720</b>	<b>1,005,431</b>	<b>1,025,538</b>	<b>10,447,512</b>

As noted in Section 5.2 above, Gas Tax and OCIF funding is shown as a funding source in each year of the forecast period, NORD grant funding is shown in 2024 and 2025, reserves are used as the primary funding source, operating budget funding is used for a fixed \$400,000 in capital funding annually as well as for levels of service recommendations that are considered operating in nature, and debt funding is used to finance the remaining funding needs each year, if applicable.

**Debt Funding**

Debt funding is not anticipated within the forecast period for core infrastructure. This assessment should be reviewed when other assets are added to the asset management plan. Given that the Township's ability to use debt funding is restricted based on the Province's debt capacity (annual repayment limit) calculations, an analysis of all current and proposed debt was completed.

**Figure 5-2: Summary of Current and Proposed Debt Payments**

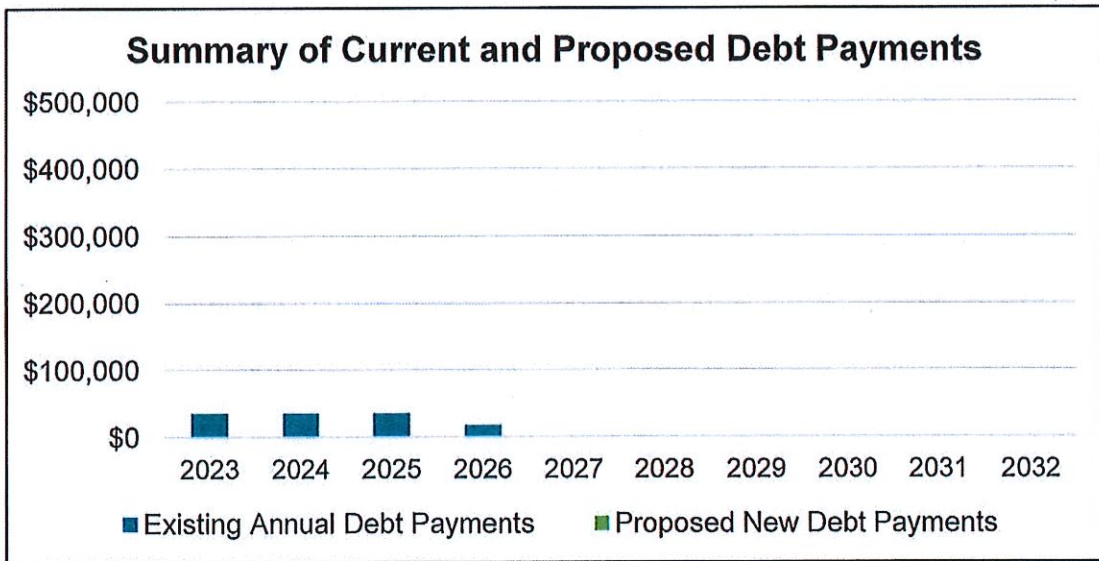
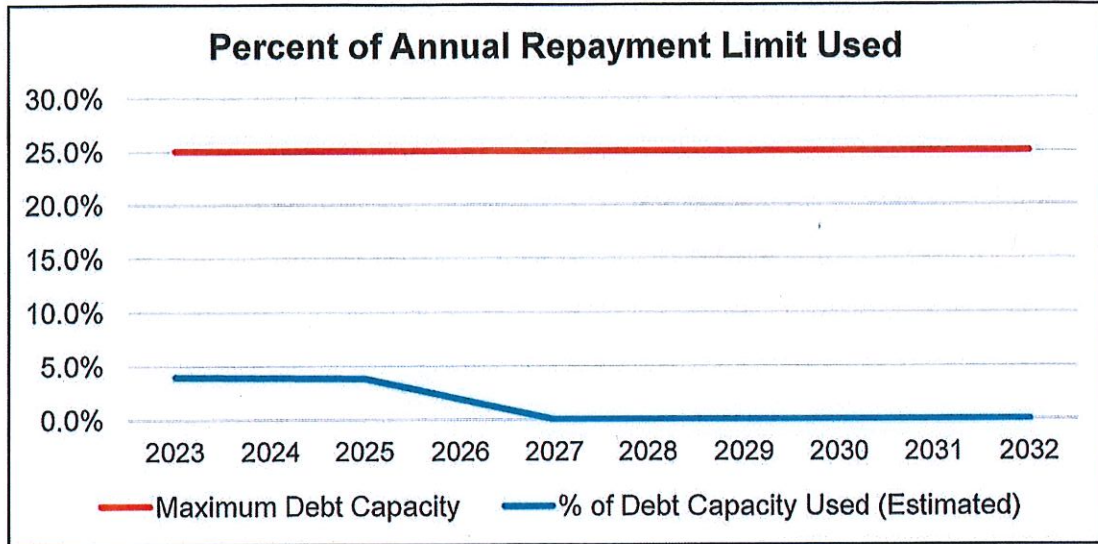


Figure 5-3: Percent of Annual Repayment Limit Used



Figures 5-2 and 5-3 above show that current and projected debt requirements are well within the annual debt capacity limits of 25% of Township revenues, reaching a maximum level of 4% of revenues in 2023 to 2025.

**Reserve Funding (Core Infrastructure Only)**

With reserve funding becoming a primary source of funding within this financing strategy, a recommended phased-in approach to increasing contributions to these reserves is provided. Table 5-5 below outlines the actual transfer amounts for 2022 (totalling \$14,624) with a recommended plan to increase those transfers to reach \$542,912 by 2032. This combined with anticipated grant funding and transfers from operations allows the Township to reach an annual asset investment amount of \$1,165,947 by 2032. This represents 100% of the optimal annual asset investment amount in 2032.

Table 5-5: Contributions to Reserves

Funding Type	Actual	Forecast									
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Contribution to Infrastructure Reserve	14,624	60,000	105,853	152,623	218,145	284,620	334,253	384,879	436,517	489,188	542,912
<b>Total</b>	<b>14,624</b>	<b>60,000</b>	<b>105,853</b>	<b>152,623</b>	<b>218,145</b>	<b>284,620</b>	<b>334,253</b>	<b>384,879</b>	<b>436,517</b>	<b>489,188</b>	<b>542,912</b>
Transfer from Operations (Core Infrast.)	422,879	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Gas Tax Funding	70,471	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535
OCIF Funding	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500
NORD Grant	-	-	402,635	144,010	-	-	-	-	-	-	-
<b>Total Asset Investment</b>	<b>657,474</b>	<b>683,035</b>	<b>1,131,923</b>	<b>919,668</b>	<b>841,180</b>	<b>907,655</b>	<b>957,288</b>	<b>1,007,914</b>	<b>1,059,552</b>	<b>1,112,223</b>	<b>1,165,947</b>

2022 Asset Management Plan (Core Assets)  
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This analysis will have to be updated once other non-core assets have been included in this asset management plan.

It is recommended that existing "roads capital construction" and "investment in infrastructure" reserves be consolidated into a "infrastructure capital" reserve, to be used to fund core infrastructure capital needs.

### ***Operating Budget Funding***

As discussed earlier in this section, the recommended financing strategy assumes that \$400,000 will be available annually from the operating budget to fund core infrastructure capital needs.

From a levels of service perspective, many recommendations outlined in Section 3 are already implemented by the Township. Section 4 of Appendix C to this report outlines that minor adjustments are needed to the Township's operating budget to account for any further levels of service impacts that are not currently funded.

If debt financing was needed to fund the recommended financing strategy, this would also have an impact on the Township's operating budget going forward. It has also been assumed that when existing debt payments are complete, the budget space created will be used to either fund new debt or to increase transfers to reserves. This is outlined in Appendix C and summarized below in Table 5-6.

**Table 5-6: Increase in Funding Summary**

Increase in Funding	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Increase (Decrease) in Transfers to Reserves	22,497	45,853	46,770	65,522	66,476	49,633	50,626	51,638	52,671	53,724
Increase (Decrease) in Operating - LOS	28,162	4,433	5,356	6,324	4,703	6,584	4,894	5,912	6,029	5,052
Increase (Decrease) in Operating - Debt	-	-	-	(17,816)	(17,816)	-	-	-	-	-
<b>Total Impact on Annual Tax Supported Budget</b>	<b>50,659</b>	<b>50,286</b>	<b>52,126</b>	<b>54,030</b>	<b>53,363</b>	<b>56,217</b>	<b>55,520</b>	<b>57,550</b>	<b>58,700</b>	<b>58,776</b>
Estimated Taxation Impact (1% In 2023 = \$36,400)	1.39%	1.35%	1.38%	1.40%	1.35%	1.40%	1.35%	1.38%	1.38%	1.35%

Table 5-6 above outlines the total annual increase in funding recommended from 2023 to 2032. These increases can be incorporated through:

- Finding efficiencies in the annual budget.
- Increase in external funding (i.e., grants or third party contributions).
- Allocations of annual surpluses to capital reserves (if available).
- Recommending budget (taxation) increases.

As shown in Table 5-6, if taxation increases are required each year to allow for the total recommended increases in funding (i.e., Items a, b, and c above are not available), a 1.35% to 1.40% increase in taxation would be required.



**Funding Gap**

Figure 5-4 below provides an overall summary of the recommended annual investment levels (shown in orange and gray) as well as the funding gap (shown in yellow). The funding recommendations outlined in this section ensure the funding gap is eliminated (for core infrastructure only) by 2032. The funding gap is temporarily eliminated in 2024 due to the receipt and usage of the NORD grant.

**Figure 5-4: Annual Asset Investment & Funding Gap**

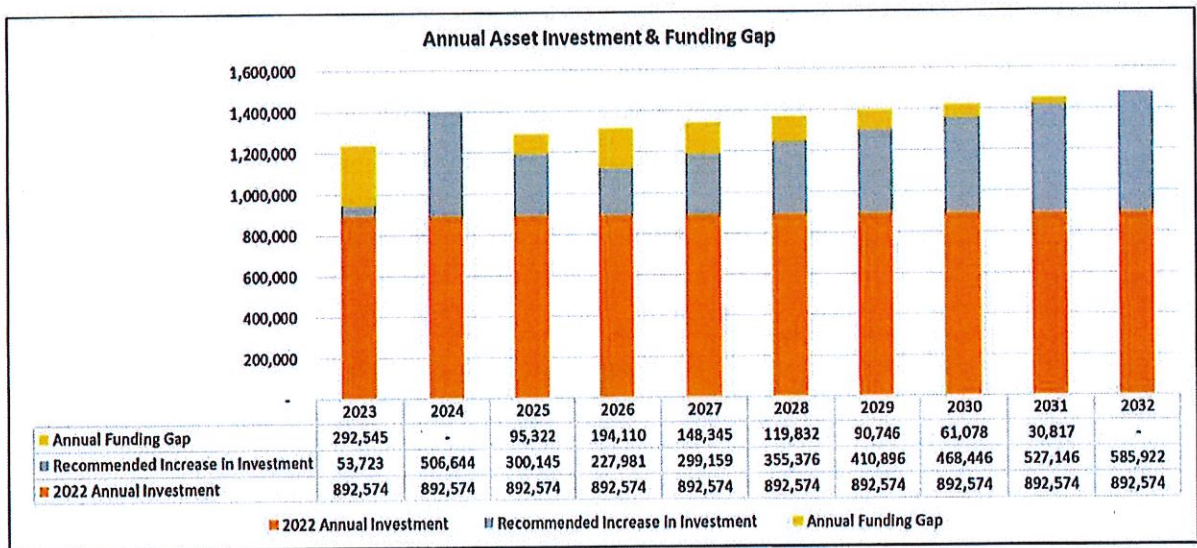


Figure 5-4 is also provided in Appendix C to this report, along with detailed figures to support the graph.

**5.3 Summary of Financing Strategy Recommendations**

The following represents a list of financing strategy recommendations:

- i. Consolidate existing “roads capital construction” and “investment in infrastructure” reserves into a “infrastructure capital” reserve, to be used to fund core infrastructure capital needs.
- ii. Use capital reserves as the primary source of asset investment annually. Funds should flow from the operating budget to these reserves, which are then used to fund capital projects.
- iii. Ensure a minimum of \$400,000 is available from the annual operating budget to fund core-infrastructure capital needs.

2022 Asset Management Plan (Core Assets)  
June 29, 2022

- iv. Increase asset management funding annually as outlined in Table 5-6.
- v. Transfer any annual Township surpluses to capital reserves annually.
- vi. Dedicate any budget savings from the elimination of debt payments to funding asset management needs (i.e., either new debt or transfers to reserves).
- vii. Update this financing strategy to account for other non-core infrastructure assets.

## 6.0 Recommendations

The following recommendations have been provided for the Township of McKellar's consideration:

- that this Asset Management Plan be received and approved by the Township of McKellar Council; and,
- that consideration of this Asset Management Plan be given as part of the annual budgeting process to ensure sufficient capital funds are available to fund capital requirements over the 10-year period.

The current level of funding for asset replacement and renewal at the Township will not sufficiently fund required capital needs or close the infrastructure funding gap. As such, it is recommended that the following be considered:

- That the "levels of service" strategies discussed in this report be approved;
- The Township consolidate existing "roads capital construction" and "investment in infrastructure" reserves into a "infrastructure capital" reserve, to be used to fund core infrastructure capital needs;
- The Township use capital reserves as the primary source of asset investment annually. Funds should flow from the operating budget to these reserves, which are then used to fund capital projects;
- The Township Ensure a minimum of \$400,000 is available from the annual operating budget to fund core-infrastructure capital needs;
- The Township increase asset management funding as outlined in Table 5-6;
- The Township transfer annual surpluses to capital reserves;
- The Township dedicate any budget savings from the elimination of debt payments to funding asset management needs (i.e., Either new debt or transfers to reserves);
- The Township update the financing strategy to account for other non-core as well as any road base replacement needs in the future;
- That this Asset Management Plan be updated as per the Municipality's Asset Management Strategy Policy; and,
- The Township consider the capital priorities identified within this report when applying for future grants or deciding on how to utilize Gas Tax, OCIF funding, and/or other funding that becomes available.

2022 Asset Management Plan (Core Assets)  
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Substantial investment in asset capital needs will be required over the 10 year forecast period and beyond. Through the recommendations provided above, proactive steps will be made to increase capital investment, as well as reduce the annual infrastructure funding gap for the Township's core assets. Enhanced maintenance plans will assist in maintaining adequate asset conditions, mitigate asset risk as well as potentially defer capital needs within the forecast period. In addition, the Township of McKellar is recommended to pursue all available capital grants wherever possible to further reduce the infrastructure funding gap.

Through the creation of this plan, the Township has been provided with Excel spreadsheets in which amendments and revisions can be made as needed by the Township. It is anticipated that this plan adopted by the Township of McKellar Council will be monitored and updated frequently as part of the budget process, with refinements and specific recommendations being provided with respect to the priority of each individual project.



**BURNSIDE**

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**Appendix A**

**Municipality Asset Inventory &  
Asset Management Plan Assumptions**

## **APPENDIX A: Asset Management Plan Assumptions**

The following assumptions were made and applied during the creation of the Township of McKellar's asset management plan.

### **1. State of Local Infrastructure**

- a) All replacement costs were estimates based on current 2020/21 pricing.
- b) Historic Costs of assets that were added to the Township's asset inventory and did not have a historic cost identified made use of deflation tables from estimated current 2021 costs back to the installation date of the asset. Indexes were using Non-Residential Building Construction Price Index (NRBCPI).
- c) Amortization of assets was using the Township's PSAB 1350 data tables where possible but assets that were added to the Township's asset inventory a straight line amortization was used.
- d) Useful life of an asset was provided by the Township, or reports provided to the Township by engineering consultants. Staff provided some adjustments to useful lives.
- e) Condition was extracted from Township reports, from staff's understanding of the asset's relative condition, and finally via estimation from the asset's age. Bridge condition values were estimated from the Township's bridge inspection report.
- f) Condition values were used to provide estimated remaining life to the assets.

### **2. Asset Management Strategy**

- a) Capital inflation rate was assumed to be 2.0% annually.
- b) Operating budget inflation rate was assumed to be 2.0% annually.
- c) Regarding operating expenses included in the Township's current budget, it is assumed that they will increase at an operating inflation rate annually.

### **3. Financing Strategy**

- a) Gas Tax and OCIF Formula Based Funding revenue have been identified as a funding source for the purposes of this analysis (i.e., for asset replacement purposes), and has been assumed to continue throughout the forecast period.
- b) Interest rate earned on a Capital Replacement Reserve Funds will be 1.0% annually.

McKellar  
Water Systems (Tax Funded)

FIXED ASSET ID	Asset Name	Description	Install Year	Useful Life	Remaining Useful Life	Age	Historic Cost	2020 Accumulated Amortization	2020 Net Book Value	Replacement Cost (2021)	Condition Based On Useful Life	Staff Assessed Condition	Condition Used for Analysis	Asset Condition (As per Priority Rating)	Probability of Failure (Based on Condition or Expected Condition)	Consequence of Failure
				40	33	7	\$ 64,692	\$ 14,597	\$ 50,095	\$ 77,500			8.5			
RC-14	Water System - Town Hall / Community Centre	Water source is lake, Purification via UV and chlorine	2011	20	11	9	\$12,776	\$8,069	\$6,707	\$16,000	6	8	8	Good	Unlikely	Major
	Water Pipe - 1.5in PVC - Town Hall / Community Centre	80 m length	2011	50	41	9	\$11,179	\$2,124	\$9,055	\$14,000	8	8	8	Good	Unlikely	Major
	Well - Public Works Garage	Well - 400 feet - granite - 6.25 in pipe 20it deep - pump depth 375ft - chlorine 100 ppm	2017	50	47	3	\$13,460	\$942	\$12,518	\$15,000	9	9	9	Very Good	Rare	Major
	Well - Fire Hall 1	Well - 400 feet - granite - 6.25 in pipe 20it deep - pump depth 300ft - chlorine 90 ppm	2017	50	47	3	\$13,460	\$942	\$12,518	\$15,000	9	9	9	Very Good	Rare	Major
	Water Purification System - Fire Hall 1	UV treatment with Tannin Filter	2017	20	17	3	\$4,487	\$785	\$3,702	\$5,000	9	9	9	Very Good	Rare	Major
	Well - Fire Hall 2	Well - 205 ft - granite - 6 in pipe 20it deep - pump depth 145ft	2009	50	39	11	\$5,758	\$1,324	\$4,434	\$7,500	8	8	8	Good	Unlikely	Major
	Water Purification System - Fire Hall 2	UV treatment with Tannin Filter	2007	20	7	13	\$3,572	\$2,411	\$1,161	\$5,000	4	9	9	Very Good	Rare	Major

Current Levels of Service  
Replacement/Improvement  
Year Based on Current Levels  
Service

Expected Levels of Service  
Replacement/Improvement Year Based on  
Expected Levels Service

FIXED ASSET ID	Asset Name	Risk of Failure	Numerical Value of Risk of Failure	Year Replacement due to minimal maintenance practices	Current Levels of Service % benefit	Revised Levels Service Replacement Year	Year Replacement Applying Risk Score	Proposed Rehabilitation Cost (2021 \$)	Year for Rehabilitation	Extended Life (Years) due to Betterment	Expected Levels of Service % benefit over Current + Condition better then expected for age	Revised Levels Service Replacement Year	Year Replacement Applying Risk Score - or Staff Override	Revised Remaining Useful Life
			2					\$						
RC-14	Water System - Town Hall / Community Centre	M	2	2029	10	2031	2031				10	2033	2033	12
	Water Pipe - 1.5in PVC - Town Hall / Community Centre	M	2	2055	10	2061	2061				0	2061	2061	40
	Well - Public Works Garage	M	2	2062	10	2067	2067				0	2067	2067	46
	Well - Fire Hall 1	M	2	2062	10	2067	2067				0	2067	2067	46
	Water Purification System - Fire Hall 1	M	2	2035	10	2037	2037				0	2037	2037	16
	Well - Fire Hall 2	M	2	2054	10	2059	2059				0	2059	2059	38
	Water Purification System - Fire Hall 2	M	2	2025	10	2027	2027				40	2035	2035	14



McKellar  
Wastewater Systems (Tax Funded)

FIXED ASSET ID	Asset Type	Asset Name	Tank Size	Install Year	Useful Life	Remaining Useful Life 2020	Age	Historic Cost	2020 Accumulated Amortization	2020 Net Book Value	Replacement Cost (2021)	Condition Based On Useful Life	Staff Assessed Condition	Condition Used for Analysis	Asset Condition (As per Priority Rating)	Probability of Failure (Based on Condition or Expected Condition)	Consequence of Failure	Risk of Failure	Numerical Value of Risk of Failure	Year Replaced due to minimal maintenance practices
		Septic System - Town Hall / Community Centre Water System		2011	50	39	11	\$ 74,013	\$ 16,120	\$ 57,893	\$ 100,000			7.5	Good	Unlikely			2	
	Septic System	Septic System - Fire Hall 1	3600	2017	50	41	9	\$27,948	\$5,310	\$22,638	\$35,000	8		8	Very Good	Unlikely	Major	M	2	2056
	Septic System	Septic System - Public Works Garage	3600	2000	50	47	3	\$13,460	\$942	\$12,518	\$15,000	9		9	Average	Possible	Moderate	L	1	2052
	Septic System	Septic System - Fire Hall 2	3600	2007	50	30	20	\$7,695	\$3,118	\$4,487	\$15,000	6		6	Good	Unlikely	Moderate	M	2	2045
	Septic System	Septic System - Fire Hall 2	9000	2007	50	37	13	\$25,000	\$6,750	\$18,250	\$35,000	7		7	Good	Unlikely	Minor	L	1	2052

McKellar  
Wastewater Systems (Tax Funded)

Current Levels of Service  
Replacement/Improvement  
Year Based on Current Levels  
Service

Expected Levels of Service  
Replacement/Improvement Year Based on  
Expected Levels Service

FIXED ASSET ID	Asset Type	Asset Name	Current Levels of Service % benefit	Revised Levels Service Replacement Year	Year Replacement Applying Risk Score	Proposed Rehabilitation Cost (2021 \$)	Year for Rehabilitation	Extended Life (Years) due to Betterment	Expected Levels of Service % benefit over Current + Condition better than	Revised Levels Service Replacement Year	Year Replacement Applying Risk Score - or Staff Override	Revised Remaining Useful Life
		Septic System - Town Hall / Community Centre Water System	10	2061	2061	\$			0	2061	2061	40
	Septic System	Septic System - Fire Hall 1	10	2067	2067				0	2067	2067	46
	Septic System	Septic System - Public Works Garage	10	2050	2050				0	2050	2050	29
	Septic System	Septic System - Fire Hall 2	10	2057	2057				0	2057	2057	35

Needs Update

McKellar  
Roads - Road Section Inventory

Road Needs ID	Agency ID	Road Name	From	To	Seasonal Rd.	Surface Material	Boundary Rd	Length (m)	Width (m)	Road Area (m2)	Install Year	Useful Life TCA	Remaining Useful Life TCA	Useful Life Public Works	Remaining Useful Life (Public Works)	Age	Historic Cost	2020 Provided Accumulated Amortization	2020 Provided Net Book Value	2021 Replacement Cost/Section	Cost per Linear m
42	180	Catherine Street	Centre Road	Louisa Street	VR	asphalt		164339	7.5	638389	2004	16	4	16	6	13	565729	1033197	1007313	50	
43	185	Catherine Street	William Street	Louisa Street	VR	asphalt		94	7.5	712	2004	20	3	20	3	18	5362	848	848	20000	21
44	190	Catherine Street	Henry Street	Louisa Street	VR	asphalt		95	7.5	712	2004	20	3	20	3	18	5362	848	848	20000	21
45	200	Centre Road	Hwy 124	Catharine Street	VR	asphalt		35	7.0	2012	2012	11	11	11	11	8	25291	10749	14543	7000	200
46	200	Centre Road	Hwy 124	Catharine Street	VR	asphalt		35	7.0	2012	2012	11	11	11	11	8	25291	10749	14543	7000	200
47	210	Centre Road	Major Street	Major Street	VR	asphalt		68	7.0	4760	2012	20	2	20	2	15	85271	34221	34221	14000	200
48	215	Centre Road	Armstrong Street	Armstrong Street	VR	asphalt		93	7.0	649	2012	20	2	20	2	15	85271	34221	34221	14000	200
49	220	Centre Road	Armstrong Street	Armstrong Street	VR	asphalt		749	7.0	5244	2013	20	12	20	12	17	18098	70120	118568	144000	192
50	225	Centre Road	Veterans Memorial Bridge	Veterans Memorial Bridge	VR	asphalt		25	8.0	200	2003	20	2	20	2	17	96360	38360	38360	5200	200
51	230	Centre Road	Veterans Memorial Bridge	Veterans Memorial Bridge	VR	asphalt		25	8.0	200	2003	20	2	20	2	17	96360	38360	38360	5200	200
52	240	Centre Road	Laureate Drive	Laureate Drive	VR	asphalt		1570	7.0	10987	2013	20	12	20	12	17	30422	12033	12033	50000	192
53	245	Centre Road	Browley Drive	Browley Drive	VR	asphalt		769	7.0	5468	2013	20	12	20	12	17	46390	17203	29187	15000	193
54	250	Centre Road	Camp Road	Camp Road	VR	asphalt		781	7.0	5468	2013	20	12	20	12	17	46390	17203	29187	15000	193
55	255	Centre Road	Camp Road	Camp Road	VR	asphalt		781	7.0	5468	2013	20	12	20	12	17	46390	17203	29187	15000	193
56	260	Centre Road	Hobbs Road	Hobbs Road	VR	asphalt		2062	7.0	14625	2015	20	14	20	14	19	87854	34037	34037	39000	185
57	265	Centre Road	Stewart Park Road	Stewart Park Road	VR	asphalt		909	7.0	6371	2011	20	10	20	10	15	2122	14293	14293	10000	200
58	270	Centre Road	Manitowishong River Bridge	Manitowishong River Bridge	VR	asphalt		1595	7.0	9074	2011	20	10	20	10	15	2122	14293	14293	10000	200
59	275	Centre Road	Manitowishong River Bridge	Manitowishong River Bridge	VR	asphalt		1595	7.0	9074	2011	20	10	20	10	15	2122	14293	14293	10000	200
60	280	Centre Road	Manitowishong River Bridge	Manitowishong River Bridge	VR	asphalt		1595	7.0	9074	2011	20	10	20	10	15	2122	14293	14293	10000	200
61	285	Centre Road	Manitowishong River Bridge	Manitowishong River Bridge	VR	asphalt		1595	7.0	9074	2011	20	10	20	10	15	2122	14293	14293	10000	200
62	290	Centre Road	Manitowishong River Bridge	Manitowishong River Bridge	VR	asphalt		1595	7.0	9074	2011	20	10	20	10	15	2122	14293	14293	10000	200
63	315	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		1652	8.0	13175	2004	20	7	20	7	18	5600	5600	5600	45000	200
64	320	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
65	325	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
66	330	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
67	335	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
68	340	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
69	345	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
70	350	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
71	355	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
72	360	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
73	365	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
74	370	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
75	375	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
76	380	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
77	385	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
78	390	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
79	395	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
80	400	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
81	405	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
82	410	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
83	415	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
84	420	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
85	425	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
86	430	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
87	435	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
88	440	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
89	445	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
90	450	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
91	455	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
92	460	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
93	465	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
94	470	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
95	475	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
96	480	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
97	485	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
98	490	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
99	495	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
100	500	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
101	505	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20	7	20	7	18	5600	5600	5600	45000	200
102	510	Hurville Road	Hurville Road	Hurville Road	VR	asphalt		225	8.0	1817	2004	20									

Road Needs ID	Agency ID	Road Name	From	To	Seasonal Rd.	Surface Material	Boundary Rd	Length (m)	Width (m)	Road Area (m2)	Install Year	Useful Life TCA	Remaining Useful Life Public Works	Age	Historic Cost	2020 Provided Amortization	2020 Prevail Net Book Value	2021 Replacement Cost/Section	Cost per Linear m
79	305	Henry Street	Catherine Street	end	YR	gravel		103	6.0	708	2003	0	0	17	16,462 \$	16,462 \$	-	2,121 \$	16
80	405	Johns Road	Reins Way	end	YR	gravel		439	6.0	2,634	2003	10	0	17	16,462 \$	16,462 \$	-	13,522 \$	16
81	405	Johns Road	Reins Way	end	YR	gravel		849	6.0	5,077	2003	10	0	17	16,462 \$	16,462 \$	-	13,522 \$	16
82	415	Johns Road	415 Johns Road	end	YR	gravel		209	6.0	1,254	2003	10	0	17	9,386 \$	9,386 \$	-	3,807 \$	16
83	485	Johns Road	415 Johns Road	end	YR	gravel		639	6.0	3,834	2003	10	0	17	22,252 \$	22,252 \$	-	10,027 \$	16
84	490	Johns Road	415 Johns Road	end	YR	gravel		627	5.5	3,450	2003	10	0	17	33,581 \$	33,581 \$	-	10,112 \$	16
87a	487	Lakeshore Road	800m South of Henry Street	Fire Farm Road	YR	gravel		500	5.0	2,500	2003	10	0	17	20,132 \$	20,132 \$	-	8,000 \$	16
102a	532	Lakeshore Road	Lakeshore Road	end	YR	gravel		87	5.0	435	2003	10	0	17	3,247 \$	3,247 \$	-	3,000 \$	105
102b	532	Lakeshore Road	Lakeshore Road	end	YR	gravel		87	5.0	435	2003	10	0	17	3,247 \$	3,247 \$	-	3,000 \$	105
110	540	Lakeshore Road	Amidstone Street	Henry Street	YR	gravel		513	6.0	3,078	2003	10	0	17	52,225 \$	52,225 \$	-	67,000 \$	51
113	575	Manitou Drive	Y to Manitou Drive	N Point Drive	YR	gravel		717	6.0	4,302	2003	10	0	17	21,813 \$	21,813 \$	-	8,681 \$	16
114	575	Manitou Drive	Y to Manitou Drive	N Point Drive	YR	gravel		513	6.0	3,078	2003	10	0	17	21,813 \$	21,813 \$	-	8,681 \$	16
115	575	Manitou Drive	Y to Manitou Drive	N Point Drive	YR	gravel		513	6.0	3,078	2003	10	0	17	21,813 \$	21,813 \$	-	8,681 \$	16
116	580	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
117	595	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
121	615	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
122	620	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
123	620	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
124	650	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
125	650	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
126	650	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
127	650	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
128	650	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
129	650	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
130	700	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
131	700	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
132	710	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
133	715	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
134	720	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
135	725	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
136	730	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
137	740	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
138	745	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
139	750	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
140	755	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
141	760	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
142	765	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
143	770	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
144	775	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
145	780	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
146	785	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
147	790	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
148	795	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
149	800	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
150	805	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
151	810	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
152	815	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
153	820	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
154	825	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
155	830	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
156	835	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
157	840	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
158	845	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
159	850	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
160	855	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
161	860	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
162	865	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
163	870	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
164	875	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
165	880	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
166	885	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
167	890	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
168	895	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
169	900	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
170	905	Manitou Drive	Manitou Drive	end	YR	gravel		277	6.0	1,662	2003	10	0	17	20,887 \$	20,887 \$	-	11,420 \$	16
171	910	Manitou Drive	Manitou Drive	end															

Road Needs ID	Agency ID	Road Name	From	To	Seasonal Rd.	Surface Material	Boundary Rd	Length (m)	Width (m)	Road Area (m2)	Install Year	Useful Life TCA	Remaining Useful Life TCA	Useful Life Public Works	Remaining Useful Life (Public Works)	Age	Historic Cost	2020 Provided Amortization	2020 Provided Net Book Value	2025 Replacement Credit Section	Cost per Linear m
108	550	Hanilton Drive	Park Drive	Genesis Crt	Y/R	surface treated		59	7.0	413	2003	8	0	7	0	17	\$ 2,378	\$ 2,378	\$ -	\$ 8,260	\$ 140
109	555	Hanilton Drive	Y in Mainlow Drive	Mainlow Drive	Y/R	surface treated		57	7.0	400	2003	8	0	7	0	17	\$ 2,305	\$ 2,305	\$ -	\$ 8,000	\$ 140
111	565	Hanilton Drive	Y in Mainlow Drive	Y in Mainlow Drive	Y/R	surface treated		238	7.0	1685	2003	8	0	7	0	17	\$ 9,564	\$ 9,564	\$ -	\$ 33,259	\$ 140
112	570	Hanilton Drive	Genesis Drive	S Point Dr	Y/R	surface treated		485	7.0	3400	2003	8	0	7	0	17	\$ 19,571	\$ 19,571	\$ -	\$ 67,951	\$ 140
113	585	Montenapensie Estates	Burnetts Road	end	Y/R	surface treated		444	6.0	2762	2003	8	0	6	0	17	\$ 18,871	\$ 18,871	\$ 40,113	\$ 13,765	\$ 140
114	590	Montenapensie Estates	Burnetts Road	end	Y/R	surface treated		444	6.0	2762	2003	8	0	6	0	17	\$ 18,871	\$ 18,871	\$ 40,113	\$ 13,765	\$ 140
138	720	Scott Way	Holly Road	end	Y/R	surface treated		1586	6.0	9516	2004	8	0	7	0	16	\$ 60,767	\$ 60,634	\$ 14,134	\$ 222,051	\$ 140
142	760	Smith Pine Crescent	Burnetts Road	Burnetts Road	Y/R	surface treated		855	7.0	6025	2003	8	0	7	0	17	\$ 34,829	\$ 34,829	\$ -	\$ 121,094	\$ 140
146	780	Sparrow Lane	Camp Road	Fire Res 183	Y/R	surface treated		251	6.0	1508	2003	8	0	7	0	17	\$ 17,858	\$ 17,858	\$ -	\$ 62,260	\$ 140
151	810	Smith Pine Crescent	Burnetts Road	end	Y/R	surface treated		302	7.0	2114	2003	8	0	7	0	17	\$ 12,164	\$ 12,164	\$ -	\$ 42,260	\$ 140
153	815	Smith Pine Crescent	Burnetts Road	end	Y/R	surface treated		302	7.0	2114	2003	8	0	7	0	17	\$ 12,164	\$ 12,164	\$ -	\$ 42,260	\$ 140
158	840	Texas Island Road	Hwy 124	Moabit Road	Y/R	surface treated		655	7.0	4584	2003	8	0	7	0	17	\$ 20,958	\$ 20,958	\$ -	\$ 73,513	\$ 142
158a	845	Texas Island Road	Hwy 124	Moabit Road	Y/R	surface treated		300	7.0	2100	2003	8	0	7	0	17	\$ 14,548	\$ 14,548	\$ -	\$ 50,000	\$ 143
158b	847	Texas Island Road	Fire Road 151	Moabit Road	Y/R	surface treated		246	7.0	1722	2003	8	0	7	0	17	\$ 11,854	\$ 11,854	\$ -	\$ 40,000	\$ 140
159	855	Texas Island Road	Fire Road 151	Moabit Road	Y/R	surface treated		246	7.0	1722	2003	8	0	7	0	17	\$ 11,854	\$ 11,854	\$ -	\$ 40,000	\$ 140
161	865	Wardens Lane	Stanley Pines Road	end	Y/R	surface treated		1129	7.0	7904	2004	8	0	7	0	18	\$ 57,490	\$ 57,265	\$ 10,045	\$ 190,097	\$ 140

Changed Range To match out of 100

From Roadless

McKeeley  
Roads - Road Section Inventory  
RNS - RNS

Road ID	Agency ID	Road Name	Condition Based On Install Year	Condition Used for Analysis	Asset Condition (As per Priority Rating)	Probability of Failure (Expected or Exceeded Condition)	Consequences of Failure	Risk of Failure	Numerical Value of Risk of Failure	Year Replacement due to minimal maintenance practices	Current Level of Service % benefit	Proposed Level of Service Replacement Year	Year Replacement Applying Risk Score	Road Study Priority	Rehabilitation Year	Rehabilitation Cost	Extended Life (Years) due to Betterment	Year Replacement From Road Study	Subsequent Replacement Year from Road Study	Revised Remaining Useful Life
42	103	Cherokee Street	4	8	Good	Unlikely	Moderate	M	2	2043	10	2046	2046	16				2046	2056	24
43	103	Cherokee Street	4	7	Good	Unlikely	Moderate	M	2	2041	10	2044	2044	16				2044	2054	8
44	150	Cherokee Street	4	8	Good	Unlikely	Moderate	M	2	2041	10	2044	2044	19				2044	2054	8
45	200	Centre Road	6	8	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
51	200	Centre Road	6	8	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
52	200	Centre Road	6	8	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
46	211	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	21				2044	2054	2
53	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	25				2044	2054	2
47	200	Centre Road	6	8	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
48	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	18				2044	2054	8
49	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	18				2044	2054	8
50	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	18				2044	2054	8
54	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	3
55	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	21				2044	2054	3
56	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	21				2044	2054	3
57	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	28				2044	2054	1
58	200	Centre Road	6	8	Very Good	Rare	Moderate	L	1	2044	10	2046	2046	28				2046	2056	24
59	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	20				2044	2054	4
60	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
61	200	Centre Road	6	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
62	300	Fire Route 305 Road	0	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
63	300	Fire Route 305 Road	0	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
64	300	Fire Route 305 Road	0	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
65	300	Fire Route 305 Road	0	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
66	300	Fire Route 305 Road	0	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
67	300	Fire Route 305 Road	0	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
68	300	Fire Route 305 Road	0	8	Very Good	Unlikely	Moderate	M	2	2041	10	2044	2044	22				2044	2054	2
69	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
70	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
71	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
72	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
73	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
74	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
75	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
76	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
77	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
78	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
79	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
80	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
81	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
82	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
83	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
84	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
85	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
86	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
87	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
88	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
89	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
90	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
91	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
92	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
93	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
94	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
95	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
96	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
97	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
98	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
99	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
100	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
101	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
102	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
103	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
104	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
105	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
106	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
107	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
108	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
109	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
110	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
111	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
112	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
113	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
114	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
115	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
116	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
117	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
118	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
119	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
120	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
121	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
122	425	Hurville Road	4	9	Very Good	Rare	Moderate	L	1	2044	10	2046	2046					2046	2056	24
123	425	Hurville Road																		







Mckellar  
Road Base Inventory

Road Needs ID	Agency ID	Road Name	From	To	Seasonal Road	Surface Material	Boundary	Length (m)	Width (m)	Road Area (m2)	Install Year	Useful Life TCA	Remaining Useful Life TCA	Age	Historic Cost	2020 Accumulated Amortization System	2020 Net Book Value System	2020 Replacement Cost/Section
								1187/15.50				75	8	121	8511857	5570583	2941273	21592368
RUP-01.0		ARMSTRONG ST				unpaved		90		0	1873	75	0	147	\$2,386	\$2,386	\$0	\$16,650
RUP-03.0		BALSAM RD				unpaved		6820		0	1873	75	0	147	\$172,835	\$172,835	\$0	\$1,224,700
RUP-07.0		BELL'S RD				unpaved		446		0	1873	75	0	147	\$11,823	\$11,823	\$0	\$82,510
RUP-9.1.0		BLACKWATER RD				unpaved		0		0	2018	75	73	2	\$33,325	\$1,111	\$32,214	\$0
RUP-09.0		BLACKWATER RD				unpaved		2720		0	1873	75	0	147	\$72,103	\$72,103	\$0	\$503,200
RUP-11.0		BOUNDARY RD				unpaved		1910		0	1873	75	0	147	\$50,631	\$50,631	\$0	\$353,350
RUP-15.0		BROADBENT RD				unpaved		10660		0	1873	75	0	147	\$282,580	\$282,580	\$0	\$1,972,100
RUP-17.0		BROWNLEY RD				unpaved		3440		0	1873	75	0	147	\$91,189	\$91,189	\$0	\$836,400
RUP-19.0		BURNETT'S RD				unpaved		4870		0	1866	75	21	54	\$375,604	\$341,174	\$34,430	\$900,950
RUP-21.0		CAMP MAJALA RD				unpaved		184		0	1920	75	0	100	\$9,229	\$9,229	\$0	\$34,040
RUP-147.0		CAMP RD				unpaved		589		0	1900	75	0	120	\$15,613	\$15,613	\$0	\$108,965
RUP-23.0		CEMETERY RD				unpaved		298		0	1873	75	0	147	\$7,900	\$7,900	\$0	\$55,130
RUP-31.0		DICKINSON RD				unpaved		1067		0	1873	75	0	147	\$26,284	\$26,284	\$0	\$197,395
RUP-35.0		FIRE ROUTE 200				unpaved		571		0	1873	75	0	147	\$15,136	\$15,136	\$0	\$105,655
RUP-37.0		FISHER'S RD				unpaved		512		0	1873	75	0	147	\$13,572	\$13,572	\$0	\$94,720
RUP-39.0		FORD RD				unpaved		1863		0	1873	75	0	147	\$49,385	\$49,385	\$0	\$344,655
RUP-41.0		FOX FARM RD				unpaved		1132		0	1873	75	0	147	\$30,008	\$30,008	\$0	\$209,420
RUP-43.0		FRONTENAC DR				unpaved		531		0	1987	75	42	33	\$160,474	\$89,598	\$70,876	\$98,235
RUP-45.0		GARDENVIEW RD				unpaved		538		0	1873	75	0	147	\$14,262	\$14,262	\$0	\$99,530
RUP-47.0		GENE'S COURT				unpaved		156		0	1969	75	24	51	\$13,559	\$11,638	\$1,921	\$28,860
RUP-49.0		GREY OWL RD				unpaved		3256		0	1873	75	0	147	\$86,311	\$86,311	\$0	\$602,360
RUP-51.0		HARDIES RD				unpaved		1988		0	1873	75	0	147	\$52,689	\$52,689	\$0	\$367,780
RUP-51.1.0		#VALUE!				unpaved		0		0	2018	75	73	2	\$31,447	\$1,048	\$30,399	\$0
RUP-53.0		HARRIET ST				unpaved		206		0	1873	75	0	147	\$5,461	\$5,461	\$0	\$38,110
RUP-55.0		HARRIS RD				unpaved		165		0	1873	75	0	147	\$4,374	\$4,374	\$0	\$30,525
RUP-57.0		HENRY ST				unpaved		135		0	1873	75	0	147	\$3,579	\$3,579	\$0	\$24,975
RUP-59.0		HOLLYS RD				unpaved		989		0	1873	75	0	147	\$26,217	\$26,217	\$0	\$182,965
RUP-61.0		INN RD				unpaved		410		0	1873	75	0	147	\$29,495	\$29,495	\$0	\$75,850
RUP-65.0		JONES RD				unpaved		2552		0	1873	75	0	147	\$67,649	\$67,649	\$0	\$472,120
RUP-68.0		LAKESIDE CRES				unpaved		450.8		0	1873	75	0	147	\$18,172	\$18,172	\$0	\$83,398
RUP-71.0		LAKESIDE DR				unpaved		1828		0	1963	75	18	57	\$130,355	\$124,924	\$5,432	\$938,180
RUP-75.0		LAUK'S RD				unpaved		139		0	1873	75	0	147	\$3,685	\$3,685	\$0	\$25,715
RUP-77.0		LEES RD				unpaved		842		0	1873	75	0	147	\$22,320	\$22,320	\$0	\$155,770
RUP-79.0		LOCH ERNE RD				unpaved		5691.7		0	1873	75	0	147	\$150,878	\$150,878	\$0	\$1,062,965

Road Needs ID	Agency ID	Road Name	From	To	Seasonal Road	Surface Material	Boundary	Length (m)	Width (m)	Road Area (m2)	Install Year	Useful Life TCA	Remaining Useful Life TCA	Age	Historic Cost	2020 Accumulated Amortization System	2020 Net Book Value System	2020 Replacement Cost/Section
	RUP-81.0	LOUISA ST				unpaved		185		0	1873	75	0	147	\$4,904	\$4,904	\$0	\$34,225
	RUP-83.0	MANITOU DR				unpaved		3410		0	1969	75	24	51	\$296,395	\$254,406	\$41,989	\$630,850
	RUP-85.0	MAPLEWOOD DR				unpaved		631		0	1974	75	29	46	\$72,857	\$56,464	\$16,393	\$116,735
	RUP-87.0	MARINE DR				unpaved		268		0	1969	75	24	51	\$23,294	\$19,994	\$3,300	\$49,590
	RUP-89.0	MARY ST				unpaved		269		0	1873	75	0	147	\$7,131	\$7,131	\$0	\$49,765
	RUP-91.0	MCCORDS RD				unpaved		547		0	1873	75	0	147	\$14,500	\$14,500	\$0	\$101,195
	RUP-93.0	MCKELLAR LAKE RD				unpaved		1858		0	1873	75	0	147	\$49,253	\$49,253	\$0	\$343,730
	RUP-95.0	MCKOWEN RD				unpaved		324		0	1873	75	0	147	\$8,589	\$8,589	\$0	\$59,940
	RUP-97.0	MEHARG DR				unpaved		655		0	1873	75	0	147	\$17,363	\$17,363	\$0	\$121,175
	RUP-99.0	MIDDLE RIVER DR				unpaved		495		0	1963	75	18	57	\$35,299	\$33,828	\$1,471	\$91,575
	RUP-103.0	MORE AVE				unpaved		211		0	1967	75	42	33	\$63,767	\$35,603	\$28,164	\$39,035
	RUP-105.0	NORTH POINT DR				unpaved		132		0	1969	75	24	51	\$11,473	\$9,848	\$1,625	\$24,420
	RUP-107.0	PARK DR				unpaved		278		0	1969	75	24	51	\$24,184	\$20,740	\$3,423	\$51,430
	RUP-108.0	PATTERSON LANE				unpaved		104		0	1873	75	0	147	\$2,757	\$2,757	\$0	\$19,240
	RUP-111.0	PAWLETT RD				unpaved		171		0	1988	75	43	32	\$63,771	\$29,126	\$24,645	\$31,635
	RUP-117.0	PINE POINT TRAIL				unpaved		120		0	1975	75	30	45	\$15,352	\$11,642	\$3,710	\$22,200
	RUP-119.0	RIVERVIEW DR				unpaved		883		0	1975	75	30	45	\$112,963	\$65,663	\$27,299	\$163,355
	RUP-121.0	SHARON PARK DR				unpaved		705		0	1975	75	31	44	\$96,988	\$71,933	\$25,055	\$130,425
	RUP-123.0	SILVER BIRCH CIRCLE				unpaved		467		0	1975	75	30	45	\$69,744	\$45,306	\$14,438	\$86,395
	RUP-125.0	SMITHPIE CRES				unpaved		864		0	1975	75	30	45	\$110,532	\$83,920	\$26,712	\$159,840
	RUP-127.0	SMITHS RD				unpaved		503		0	1873	75	0	147	\$13,334	\$13,334	\$0	\$93,055
	RUP-129.0	SOUTH POINT RD				unpaved		298		0	1969	75	24	51	\$25,902	\$22,233	\$3,669	\$55,130
	RUP-131.0	SPARROW LANE				unpaved		368		0	2003	75	58	17	\$166,890	\$48,676	\$118,214	\$68,080
	RUP-133.0	SPRING HILL RD				unpaved		974		0	1873	75	0	147	\$25,819	\$25,819	\$0	\$180,190
	RUP-135.0	SQUAW LAKE RD				unpaved		640		0	1967	75	22	53	\$51,135	\$45,596	\$5,540	\$118,400
	RUP-137.0	STEWART PARK RD				unpaved		378		0	1963	75	18	57	\$10,020	\$9,603	\$418	\$69,930
	RUP-139.0	STORMY POINT RD				unpaved		746		0	1975	75	30	45	\$95,436	\$72,372	\$23,064	\$138,010
	RUP-141.0	SUNNYSHORE PARK DR				unpaved		2188		0	1974	75	29	46	\$252,633	\$195,791	\$56,842	\$404,780
	RUP-145.0	TAITS ISLAND RD				unpaved		1707		0	1920	75	0	100	\$85,616	\$85,616	\$0	\$315,795
	RUP-149.0	WEST POINT DR				unpaved		634		0	1873	75	0	147	\$81,108	\$81,108	\$0	\$117,290
	RUP-151.0	WEST RD				unpaved		747		0	1873	75	0	147	\$19,802	\$19,802	\$0	\$138,195
	RUP-153.0	WILLIAM ST				unpaved		92		0	1873	75	0	147	\$2,439	\$2,439	\$0	\$17,020
	RP-09.0	CATHERINE ST - BASE 0.29KM				asphalt		290		0	1873	75	0	147	\$8,371	\$8,371	\$0	\$53,650
	RP-11.0	CENTRE RD - BASE 11.85KM				asphalt		11850		0	1873	75	0	147	\$342,047	\$342,047	\$0	\$2,192,250
	RP-13.0	CENTRE RD - MIDDLE RIVER BRIDGE APPROACHES-Base				asphalt		0		0	2010	75	65	10	\$478,513	\$63,740	\$394,773	\$0
	RP-13.1	CENTRE ROAD APPROACH -Base				asphalt		0		0	2011	75	66	9	\$456,400	\$72,145	\$384,255	\$0
	RP-14.0	FIRE ROUTE 305 - BASE 0.146KM				asphalt		146		0	1873	75	0	147	\$4,214	\$4,214	\$0	\$27,010

Road Needs ID	Agency ID	Road Name	From	To	Seasonal Road	Surface Material	Boundary	Length (m)	Width (m)	Road Area (m2)	Install Year	Useful Life TCA	Remaining Useful Life TCA	Age	Historic Cost	2020 Accumulated Amortization System	2020 Net Book Value System	2020 Replacement Cost/Section
	RP-16.0	HURDVILLE RD - BASE 8.18KM				asphalt		8160	0	0	1873	75	0	147	\$235,536	\$235,536	\$0	\$1,509,600
	RP-01.0	INN RD - BASE 1.28KM				asphalt		1280	0	0	1873	75	0	147	\$21,937	\$21,937	\$0	\$236,800
	RP-01.1	INN RD - BASE UPGRADES 1.28KM				asphalt		1280	0	0	2009	75	64	11	\$24,702	\$4,735	\$19,968	\$236,800
	RP-03.0	LAKESHORE RD - BASE 1.429KM				asphalt		1429	0	0	1873	75	0	147	\$41,248	\$41,248	\$0	\$264,365
	RP-05.0	LIZZIE'S LANE - BASE 0.52KM				asphalt		520	0	0	1993	75	48	27	\$213,743	\$97,965	\$115,777	\$96,200
	RP-07.0	LYNDEY LANE - BASE 1.5KM				asphalt		1500	0	0	1998	75	53	22	\$657,751	\$246,657	\$411,094	\$277,500
	RP-18.0	MANITOUWABING ESTATES - BASE 0.96KM				asphalt		960	0	0	1995	75	50	25	\$403,904	\$171,659	\$232,245	\$177,600
	RP-20.0	MARTHA DRIVE - BASE 0.729KM				asphalt		729	0	0	1992	75	47	28	\$294,351	\$139,817	\$154,534	\$134,865
	RP-22.0	MCDUGALL RD - BASE 6.23KM				asphalt		6230	0	0	1873	75	0	147	\$179,827	\$179,827	\$0	\$1,152,550
	RP-26.0	REIN'S WAY - BASE 1.59KM				asphalt		1590	0	0	1993	75	48	27	\$653,560	\$299,548	\$354,012	\$294,150
	RP-28.0	THE CAMP RD - BASE 0.92KM				asphalt		920	0	0	1873	75	0	147	\$26,556	\$26,556	\$0	\$170,200
	RP-30.0	WENDY'S LANE - BASE 1.13KM				asphalt		1130	0	0	1995	75	50	25	\$475,429	\$202,057	\$273,371	\$209,050







McKellar  
Bridge Inventory - last funded

FIXED ASSET ID	OSIM Bridge No	Subtype	Asset Name	Location	Structure Type	No of Spans	Deck Length (m)	Deck Width (m)	Install Year	TCA Useful Life	OSIM Schedule Proposed Useful Life	OSIM Remaining Useful Life (OSIM)	Age	Historic Cost	2020 Accumulated Amortization	2020 Net Book Value	Replacement Cost 2021	Condition Based On OSIM Useful Life	Estimated Condition from Inspection Data	Condition User for Analysis	Asset Condition (As per Agency Rating)	Probability of Failure (Based on Condition or Expected Condition)	Consequence of Failure	Risk of Failure	Numerical Value of Risk of Failure
RS-04	0001	Bridge	Veterans Memorial Bridge (Middle River)	Centre Road (north end)	Concrete Deck on Steel Girders	1	22	8.5	2010	60	57	22	30	\$3,353,123	\$ 1,222,865	\$ 2,108,937	\$ 15,805,194	7	9	9	Very Good	Rate	Major	M	2
RS-07	0002	Culvert	Southern Lake Culvert (Balsam Road)	Balsam Road	CSPI Arch Culvert	1	13.8	6.1	1982	50	50	12	29	\$1,229,886	\$203,024	\$1,012,922	\$3,029,916	7	7	7	Good	Rate	Major	M	2
RS-08	0003	Bridge	Grey Owl Bridge	Grey Owl Road	Timber Deck on Steel Girders	1	7	5.1	1984	60	50	14	37	\$2,082,374	\$109,265	\$1,973,109	\$1,109,617	7	5	5	Average	Possible	Major	H	3
RS-09	0004	Bridge	Grey Owl Bridge	Grey Owl Road	Timber Deck on Steel Girders	1	26.2	5.1	1984	60	50	14	37	\$2,082,374	\$109,265	\$1,973,109	\$1,109,617	7	5	5	Average	Possible	Major	H	3
RS-26	0005	Bridge	Stewart Park Bridge	Stewart Park	Steel Deck on Steel Girders	1	21	9.4	1992	60	50	22	28	1,071,768	\$487,450	\$584,318	\$2,342,660	7	8	8	Good	Rate	Major	M	2
RS-27	0006	Bridge	Brookport Bridge	Brookport Road (south end)	Steel Deck on Steel Girders	1	17.3	4.1	1910	60	50	0	111	133,625	\$35,073	\$101,182	\$1,250,252	7	5	5	Average	Possible	Major	H	3
RS-28	0007	Bridge	Brookport Bridge	Brookport Road (west crossing)	Timber Deck on Steel Girders	2	18.9	4.3	1929	60	50	0	101	192,065	\$37,354	\$155,711	\$1,377,204	7	3	3	Poor	Rate	Major	H	3
RS-29	0008	Bridge	Brookport Bridge	Brookport Road (east crossing)	Timber Deck on Steel Girders	1	13.1	4.3	1929	60	50	0	101	192,065	\$37,354	\$155,711	\$1,377,204	7	3	3	Poor	Rate	Major	H	3
RS-24E1	0010	Culvert	Brookport Road Culvert	Brookport Road	CSPI Arch Culvert	1	13	4.37	2010	60	50	72	4	123,801	\$10,144	\$103,727	\$1,013,724	10	10	10	Very Good	Rate	Major	M	2

McKellar  
Bridge Inventory - tax funded

FRED ASSET ID	OSM Bridge No	Subtype	Asset Name	Current Levels of Service Replacement/Improvement				Expected Levels of Service Replacement/Improvement									
				Year Replacement due to minimal maintenance practices	Current Levels of Service % Service % benefit	Revised Levels of Service % Replacement Year	Year Applying Risk Score	Proposed First Rehabilitation Cost (2021 \$)	Priority (based on OSM Inspections)	Year for First Rehabilitation	Extended Life Benefit	Proposed Second Rehabilitation Cost (2021 \$)	Year for Second Rehabilitation	Extended Life Benefit	Capex Levels of Service % benefit over current Condition	Revised Levels of Service % Replacement Year	Revised Remaining Useful Life
RS-04	0001	Bridge	Victoria Memorial Bridge (Mistic River Bridge)	2078	10	2096	2096	3	833,000	7	2025	0	\$502,000		10	2094	73
RS-07	0002	Culvert	Stuart's Creek Culvert (Baltam Road)	2059	10	2052	2052		\$21,000		2025	0			10	2034	13
RS-08	0004	Bridge	Marble Bridge	1979	10	1980	2021		\$114,000	5	2025	0	\$502,000	30	30	2094	33
RS-05	0005	Bridge	Stewart Park Bridge	2037	10	2042	2042		\$29,000	5	2025	0			30	2097	36
RS-06	0008	Bridge	Broadbent Bridge	1985	10	1985	2021		\$136,000	4	2025	0			40	2021	20
RS-20	0009	Bridge	Foot Bridge	1975	10	1980	2021		\$19,000	3	2025	0			40	2041	30
RS-02.1	0010	Culvert	Blackwater Road Culvert	2085	10	2093	2093			3	2025	0			0	2093	72





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**Appendix B**

**Draft Data Verification and  
Condition Assessment Policy**

Appendix B

## **APPENDIX B: Draft Data Verification and Condition Assessment Policy**

### **Data Verification**

1. The main source of asset data updating, and editing will be through the Township of McKellar's asset inventory that aligns with PSAB 3150 compliance procedures and/or annual reporting process.
2. Asset additions, disposals, betterments, and write-offs will be recorded based on the Municipality's PSAB 3150 Compliance Policies and/or general updates to the Asset Management Spreadsheets.
3. Verification of the correct treatment of asset revisions will be completed through frequent annual reviews by the Township's staff, as well as an annual review by the Township's auditor.
4. During years which condition assessments are not being performed, asset replacement cost will be determined based on a combination of inflating previous values or through the use of the current year's historical invoice data. Where indices are being used, the Non-Residential Building Construction Price Index (NRBCP) shall be used for construction related assets (i.e., infrastructure) and Consumer Price Index (CPI) shall be used for all other assets (i.e., furniture, interior finishes, appliances, etc.).

### **Condition Assessment**

1. Condition assessments shall be performed as outlined in Table B-1 below.
2. Condition assessments shall be performed by qualified individuals (or companies) and shall include a review of the following:
  - a. Current asset condition (consistent with the rating format used within this report, unless the Township stipulates a new format, or regulatory body required format);
    - i. Identify any unusual wear from asset use that may hinder asset performance and eventually reduce useful life.
    - ii. Assess asset performance and identify (if any) capital improvements that can be applied to extend the asset's useful life and/or bring the asset back to appropriate service levels.
  - b. Current asset replacement cost. This is to be based on replacing the asset under current legislation/requirements using the Township's specification; and
  - c. Remaining service life, assuming current identified maintenance and usage levels.

**Table B-1: Condition Assessment Timetable**

<b>Asset Type</b>	<b>Frequency of Condition Assessment</b>	<b>Comments</b>
<b>Bridges</b>	Every two years	As per Provincial Regulation using OSIM Inspection format
<b>Equipment (Office, Other)</b>		As identified by Staff, so Equipment is safe and in good working order
<b>Facilities</b>	Every ten - fifteen years	Complete detailed assessment every ten years but annual staff and specialized inspection/cleaning of some components (e.g., HVAC, Fans, Pumps, etc.)
<b>Land Improvements (Playing Surfaces, Parking Lots, Parks, Landscaping)</b>	Annually	Staff assessment annually
<b>Roads</b>	Every five - ten years	Complete Roads Needs study every five years but internal staff review annually
<b>Road Signs</b>		As per Regulation 239 Minimum Maintenance Standards
<b>Sidewalks</b>		As per Regulation 239 Minimum Maintenance Standards
<b>Software &amp; Hardware</b>		As identified by Staff, so software and hardware operating well
<b>Storm Water Mains</b>	Every fifteen years	CCTV scans and review of Storm Water system
<b>Storm Water (Catch Basins, Manholes, Stormceptors)</b>	Annually	To be assessed while doing a clean out
<b>Vehicles</b>		As per Manufacturer's Warranty and Maintenance Program
<b>Generators</b>	Every season	Minimum four times per year



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## Appendix C

### 10 Year Detailed Asset Management Strategy & Financing Strategy

Table of Contents:

Section 1: Capital Forecast and Funding Analysis

Section 2: Future Debt

Section 3: Reserve Schedules

Section 4: Budget Impacts & Funding Gap

**Section 1 - Capital Forecast and Funding Analysis**

Asset Class	2023	2024	2025	2025	2025	2026	2027	2028	2029	2030	2031	2032	Total
<b>Capital Replacement</b>													
Road Surface - Asphalt	294,780	402,635	202,903	374,522	465,922	-	379,066	-	-	-	504,329	341,318	2,965,475
Road Surface - Treatment	58,140	-	-	177,519	-	397,032	467,866	472,114	68,120	176,754	1,817,545	176,754	1,817,545
Road Surface - Gravel	107,100	109,242	111,427	113,655	125,865	193,700	120,612	123,024	125,485	127,994	125,485	127,994	1,258,104
Road Base	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge & Culverts	-	-	-	-	-	-	-	-	-	-	-	-	-
Storm Water Cross Road Culverts	-	-	-	-	-	-	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal - Capital Replacement</b>	<b>460,020</b>	<b>511,877</b>	<b>314,330</b>	<b>665,696</b>	<b>591,787</b>	<b>590,732</b>	<b>967,544</b>	<b>595,138</b>	<b>697,934</b>	<b>646,066</b>	<b>6,041,124</b>	<b>6,041,124</b>	
<b>Capital Rehabilitation</b>													
Road Surface - Asphalt	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Surface - Treatment	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Surface - Gravel	-	-	-	-	-	-	-	-	-	-	-	-	-
Road Base	-	-	-	-	-	-	-	-	-	-	-	-	-
Bridge & Culverts	108,120	361,019	532,726	231,640	57,412	-	-	133,569	-	-	-	-	1,424,486
Storm Water Cross Road Culverts	-	-	-	-	-	-	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-	-	-	-	-	-	-
Wastewater	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Subtotal - Capital Rehabilitation</b>	<b>108,120</b>	<b>361,019</b>	<b>532,726</b>	<b>231,640</b>	<b>57,412</b>	<b>-</b>	<b>133,569</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>1,424,486</b>
<b>Levels of Service Costs</b>													
Road Surface - Asphalt	18,360	18,727	19,102	19,484	19,873	20,271	20,676	21,090	21,512	21,512	21,512	24,136	205,231
Road Surface - Treatment	90,780	92,596	94,448	96,336	98,263	100,228	102,233	104,278	106,363	106,363	106,363	124,947	1,010,472
Road Surface - Gravel	125,460	127,969	130,529	133,139	135,802	138,518	141,288	144,114	146,996	146,996	146,996	186,140	1,409,955
Road Base	17,850	18,207	18,571	18,943	19,321	19,708	20,102	20,504	20,914	20,914	20,914	21,332	195,452
Bridge & Culverts	-	9,364	-	9,742	-	10,135	-	10,545	-	10,971	-	10,971	50,757
Storm Water Cross Road Culverts	3,060	3,121	3,184	3,247	3,312	3,378	3,446	3,515	3,585	3,585	3,585	3,657	33,505
Water	5,610	5,722	5,837	5,953	6,072	6,194	6,318	6,444	6,573	6,573	6,573	6,704	61,427
Wastewater	2,142	1,353	1,380	2,273	1,435	2,365	1,493	1,523	1,554	1,554	1,554	1,585	17,103
<b>Subtotal - Levels of Service</b>	<b>263,262</b>	<b>277,059</b>	<b>273,051</b>	<b>289,117</b>	<b>284,078</b>	<b>300,797</b>	<b>295,556</b>	<b>312,013</b>	<b>307,497</b>	<b>307,497</b>	<b>307,497</b>	<b>379,472</b>	<b>2,981,902</b>

Asset Class	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
<b>Totals by Asset Class (Replacement, Rehabilitation and Levels of Service)</b>											
Road Surface - Asphalt	313,140	421,362	222,005	394,006	485,795	20,271	399,742	21,090	525,841	365,454	3,168,706
Road Surface - Treatment	148,920	92,596	94,448	273,855	98,263	497,260	570,099	576,392	174,483	301,701	2,828,017
Road Surface - Gravel	232,560	237,211	241,956	246,794	261,667	332,218	261,900	267,138	272,481	314,134	2,668,059
Road Base	17,850	18,207	18,571	18,943	19,321	19,708	20,102	20,504	20,914	21,332	195,452
Bridge & Culverts	108,120	370,383	532,726	241,382	57,412	10,135	-	144,114	-	10,971	1,475,243
Storm Water Cross Road Culverts	3,060	3,121	3,184	3,247	3,312	3,378	3,446	3,515	3,585	3,657	33,505
Water	5,610	5,722	5,837	5,953	6,072	6,194	6,318	6,444	6,573	6,704	61,427
Wastewater	2,142	1,353	1,380	2,273	1,435	2,365	1,493	1,523	1,554	1,585	17,103
<b>Total</b>	<b>831,402</b>	<b>1,149,955</b>	<b>1,120,107</b>	<b>1,186,453</b>	<b>933,277</b>	<b>891,529</b>	<b>1,263,100</b>	<b>1,040,720</b>	<b>1,005,431</b>	<b>1,025,538</b>	<b>10,447,512</b>

Funding Analysis	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
<b>Total Funding by Source</b>											
Canada Community Building Fund (Gas Tax)	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	735,350
OCIF Funding (estimate)	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	1,495,000
NORD Grant (Centre Road)	-	402,635	144,010	-	-	-	-	-	-	-	546,645
Transfer from Operations (for Core Infrastructure capital)	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	4,000,000
Transfer from/(to) Capital Reserves:											
Infrastructure Capital Reserve (Consolidated)	(54,895)	(143,410)	80,011	284,043	26,164	(22,168)	344,509	116,217	74,899	89,954	795,324
Operating Funding (LOS Impacts)	263,262	267,695	273,051	279,375	284,078	290,662	295,556	301,468	307,497	312,549	2,875,193
Debt Funding (see section 2)	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>831,402</b>	<b>1,149,955</b>	<b>1,120,107</b>	<b>1,186,453</b>	<b>933,277</b>	<b>891,529</b>	<b>1,263,100</b>	<b>1,040,720</b>	<b>1,005,431</b>	<b>1,025,538</b>	<b>10,447,512</b>
<b>Total Cost less Funding</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

**Section 2: Future Debt**

Year	Principal Amount	New Annual Payments																					
		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032												
2023	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2025	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2026	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2027	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2028	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2029	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2031	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2032	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Total</b>																							

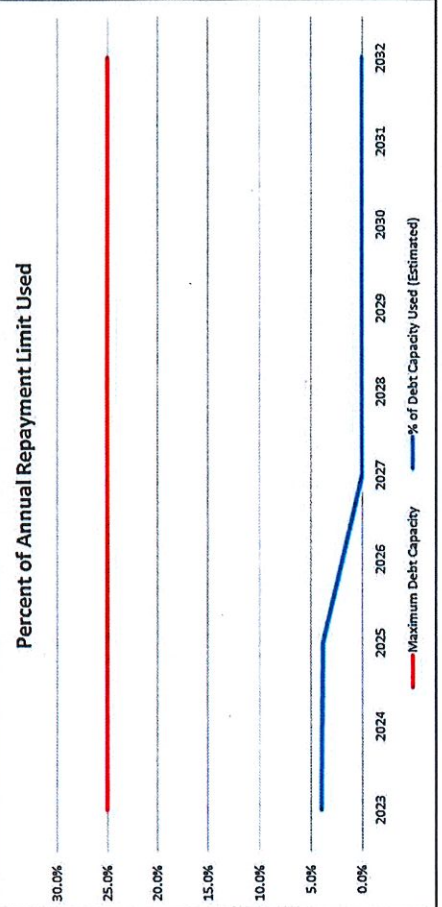
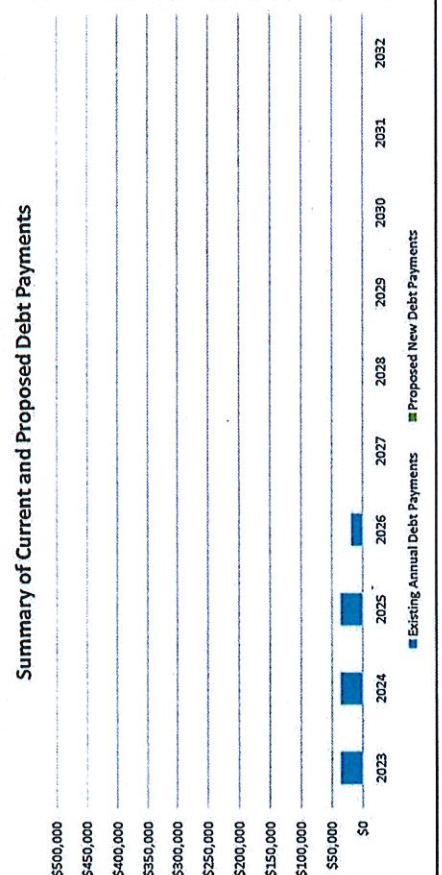
Assumptions:  
 Term: 20 years  
 Rate: 4% per year  
 Timing: Debt is incurred at the end of the given year, with principal & interest payments starting in the following year.

**Debt Capacity Analysis**

\* Ontario municipalities must maintain annual debt principal and interest payments below the equivalent of 25% of revenues.

Debt Analysis	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Existing Annual Debt Payments	35,632	35,632	35,632	17,816	-	-	-	-	-	-
Proposed New Debt Payments	-	-	-	-	-	-	-	-	-	-
<b>Total Anticipated Debt Payments</b>	<b>35,632</b>	<b>35,632</b>	<b>35,632</b>	<b>17,816</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
Estimated 25% of Revenues*	896,583	914,515	932,805	951,461	970,490	989,900	1,009,698	1,029,892	1,050,490	1,071,500
Maximum Debt Capacity	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
% of Debt Capacity Used (Estimated)	4.0%	3.9%	3.8%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

\* Annual revenue estimate assumes inflation of 2% annually.



**Section 3: Reserve Schedules**

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<b>Infrastructure Capital Reserve (Consolidated)</b>										
Opening Balance	126,088	240,983	490,246	562,858	496,960	755,416	1,111,838	1,152,208	1,472,507	1,886,796
Add: Contributions from Operating	60,000	105,853	152,623	218,145	284,620	334,253	384,879	436,517	489,188	542,912
Less: Contributions to/(from) Capital	54,895	143,410	(80,011)	(284,043)	(26,164)	22,168	(344,509)	(116,217)	(74,899)	(89,954)
Interest Earned (if applicable)	-	-	-	-	-	-	-	-	-	-
<b>Ending Balance</b>	<b>240,983</b>	<b>490,246</b>	<b>562,858</b>	<b>496,960</b>	<b>755,416</b>	<b>1,111,838</b>	<b>1,152,208</b>	<b>1,472,507</b>	<b>1,886,796</b>	<b>2,339,754</b>

**Section 4: Budget Impacts & Funding Gap**

Impact Analysis	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<b>Replacement, Rehabilitation &amp; LOS Impacts (Capital)</b>										
Optimal Investment - Capital	975,580	995,090	1,014,990	1,035,290	1,056,000	1,077,120	1,098,660	1,120,630	1,143,040	1,165,900
Optimal Investment - Operating LOS	263,262	267,695	273,051	279,375	284,078	290,662	295,556	301,468	307,497	312,549
<b>Total Optimal Investment</b>	<b>1,238,842</b>	<b>1,262,785</b>	<b>1,288,041</b>	<b>1,314,665</b>	<b>1,340,078</b>	<b>1,367,782</b>	<b>1,394,216</b>	<b>1,422,098</b>	<b>1,450,537</b>	<b>1,478,449</b>
<b>Recommended Investment - Capital</b>										
Canada Community Building Fund (Gas Tax)	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535	73,535
OCIF Funding (estimate)	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500	149,500
NORD Grant	-	402,635	144,010	-	-	-	-	-	-	-
Transfer from Operations (for Core Infrastructure capital)	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000	400,000
Transfer from/(to) Capital Reserves:										
Infrastructure Capital Reserve (Consolidated)	60,000	105,853	152,623	218,145	284,620	334,253	384,879	436,517	489,188	542,912
<b>Total Recommended Investment - Capital</b>	<b>683,035</b>	<b>1,131,523</b>	<b>919,668</b>	<b>841,180</b>	<b>907,655</b>	<b>957,288</b>	<b>1,007,914</b>	<b>1,059,552</b>	<b>1,112,223</b>	<b>1,165,947</b>
<b>% of Optimal Investment (Capital) Reached</b>	<b>70%</b>	<b>114%</b>	<b>91%</b>	<b>81%</b>	<b>86%</b>	<b>89%</b>	<b>92%</b>	<b>95%</b>	<b>97%</b>	<b>100%</b>
<b>LOS Impacts - Operating</b>										
Recommended Investment	263,262	267,695	273,051	279,375	284,078	290,662	295,556	301,468	307,497	312,549
<b>Total Recommended Investment - LOS Operating</b>	<b>263,262</b>	<b>267,695</b>	<b>273,051</b>	<b>279,375</b>	<b>284,078</b>	<b>290,662</b>	<b>295,556</b>	<b>301,468</b>	<b>307,497</b>	<b>312,549</b>
<b>Total Recommended Investment - Capital &amp; Operating</b>	<b>946,297</b>	<b>1,399,218</b>	<b>1,192,719</b>	<b>1,120,555</b>	<b>1,191,733</b>	<b>1,247,950</b>	<b>1,303,470</b>	<b>1,361,020</b>	<b>1,419,720</b>	<b>1,478,496</b>
<b>% of Optimal Investment (Operating &amp; Capital) Reached</b>	<b>76%</b>	<b>111%</b>	<b>93%</b>	<b>85%</b>	<b>89%</b>	<b>91%</b>	<b>93%</b>	<b>96%</b>	<b>98%</b>	<b>100%</b>
<b>Funding Gap</b>	<b>(292,545)</b>	<b>156,453</b>	<b>(95,322)</b>	<b>(194,110)</b>	<b>(148,345)</b>	<b>(119,832)</b>	<b>(90,746)</b>	<b>(61,078)</b>	<b>(30,817)</b>	<b>47</b>



	2022
Investment in Capital	70,471
Canada Community Building Fund (Gas Tax)	149,500
OCIF Funding (estimate)	422,879
Transfer from Operating (Core Infrastructure)	14,624
Transfer to Reserves	657,474
<b>Total Investment</b>	<b>1,131,954</b>

Investment in capital "starting point" for the capital forecast.

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
<b>Impact on Funding</b>										
<b>Total Recommended Investment - Capital</b>	683,035	1,131,523	919,668	841,180	907,655	957,288	1,007,914	1,059,552	1,112,223	1,165,947
<b>Previous Year's Investment</b>	657,474	683,035	1,131,523	919,668	841,180	907,655	957,288	1,007,914	1,059,552	1,112,223
<b>Annual Increase in Capital Investment</b>										
Grants	3,064	402,635	(258,625)	(144,010)	-	-	-	-	-	-
Tax Supported	22,497	45,853	46,770	65,522	66,476	49,633	50,626	51,638	52,671	53,724
<b>Total Change</b>	25,561	448,488	(211,855)	(78,488)	66,476	49,633	50,626	51,638	52,671	53,724
<b>Total Recommended Investment - Operating LOS</b>	263,262	267,695	273,051	279,375	284,078	290,662	295,556	301,468	307,497	312,549
<b>Previous Year's Investment</b>	235,100	263,262	267,695	273,051	279,375	284,078	290,662	295,556	301,468	307,497

**Annual Increase/(Decrease) in Capital Investment**

Tax Supported	28,162	4,433	5,356	6,324	4,703	6,584	4,894	5,912	6,029	5,052
<b>Total Change</b>	28,162	4,433	5,356	6,324	4,703	6,584	4,894	5,912	6,029	5,052
<b>A</b> Total Change - Capital & LOS (excluding Grant Increase)	50,659	50,286	52,126	71,846	71,179	56,217	55,520	57,550	58,700	58,776
<b>B</b> Net Increase (Decrease) in Debt Payments	-	-	-	(17,816)	(17,816)	-	-	-	-	-
<b>A + B</b> Total Impact on Annual Tax Supported Budget	50,659	50,286	52,126	54,030	53,363	56,217	55,520	57,550	58,700	58,776
Estimated Taxation Impact (1% in 2023 = \$36,400)	1.39%	1.35%	1.38%	1.40%	1.35%	1.40%	1.35%	1.38%	1.38%	1.35%

**Annual Asset Investment & Funding Gap**

