ASSET MANAGEMENT PLAN

Town of Kearney

JANUARY 2022

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Executive Summary

Tangible capital assets play a key role in the provision of municipal services, both directly by providing infrastructure for public use and indirectly by enabling staff to efficiently carry out their day-to-day responsibilities. It is therefore a primary responsibility of municipal Council and management to prudently manage these assets and ensure the Town can provide municipal services in a fiscally responsible and sustainable manner.

The Town of Kearney's (the Town) Asset Management Plan (the Plan) documents information relevant to the management of the Town's capital assets. The overarching purpose of an asset management plan is to aid municipalities in making cost effective decisions with respect to operating, maintaining, renewing, replacing, and disposing of their assets. This Plan is part of an ongoing effort to improve the Town's decision-making process by incorporating a longer-term view in resource allocation decisions and using performance-based analysis to determine if desired goals and objectives are being met.

In November of 2003, the National Guide to Sustainable Municipal Infrastructure published a *Best Practice for Municipal Infrastructure Asset Management*. This guide provided a series of questions which serve as the framework by which this asset management plan was developed:

- What do we have and where is it?
- What is it worth?
- What is its condition and expected remaining service life?
- What is the service level expectation and what needs to be done to achieve that level?
- When do we need to do it?
- How much will it cost and what is the acceptable level of risk?
- How do we make it sustainable?

With the exception of land, all assets meeting the capitalization threshold detailed in the Town's *Tangible Capital Asset Policy* are included in the Plan, including those of the fully-controlled Library board. The historical cost of the Town's assets is approximately $25.6 million. The replacement cost of the Town's asset portfolio is estimated to be $117.1 million. More detailed information on the quantity and quality of assets can be found in the State of Local Infrastructure section of the Plan.

The Plan includes discussions of best management practices related to each asset class as well as the "preservation management" approach to asset management that has been adopted in principle by the Town. Although this approach has been shown to result in the lowest overall costs of ownership in the long-term, it represents a significant shift from the "worst first" philosophy followed in the past. In the near-term, a gradual shift from one approach to the other will likely prove necessary.

In this version of the Plan, the current levels of service and their related costs for all asset classes have been identified. Future versions of the Plan will incorporate target levels of service for a ten-year planning period.

In order for the Plan to be effective, it must be integrated with financial planning and long-term budgeting. The financing section of the Plan includes a discussion of the current estimated infrastructure deficit, and presents a 10-year capital budget that reflects, to a large extent, the adoption of the preservation management approach. For the 10 years covered by the Plan, the projected total cost to replace, operate and maintain existing assets is $22.8 million, and the total operating and capital net funding requirements is $24.9 million.

To finance these expenditures, the Town will employ debt financing, as required, to supplement municipal funds derived from property taxation and grant funding, but will limit borrowing to a "low risk level" as defined by the Ministry of Municipal Affairs. The financial strategy also incorporates an increase in net operating income available to finance capital--driven largely by the tax levy—at 1% higher than the anticipated rate of inflation.

This financial strategy is expected to produce the funds necessary to finance all of the capital expenditures budgeted for the 10-year term of the Plan, and to begin to reduce the annual infrastructure deficit.

The Plan has been prepared by an external consultant, with input from Town staff and Council, and builds on a previous version of the Plan prepared by D.M. Willis Associates Limited. It follows the guidelines set forth by the *Ministry of Infrastructure- Building Together: Guide for Municipal Asset Management Plans* and has been endorsed by Council as an evolving approach to asset management within the Town.

The Plan will be subject to ongoing revision as the Town works within its limitations and identifies specific challenges and/or opportunities for improvement. A comprehensive review will be undertaken every five years, at a minimum, to comply with the current Provincial requirements.

The Ontario Government has begun regulating asset management planning as part of a holistic approach to infrastructure management. Through the creation of O. Reg. 588/17 under the *Infrastructure for Jobs and Prosperity Act*, the Province has established a series of dates by which the Plan is to be updated and integrated into municipal planning. The known requirements, and their proposed timelines as of the time of writing, are listed in **Table 1**.

Table 1- O.Reg. 588/17 Requirements

Completion Date	Requirements
July 1, 2019	• Adopt a Strategic Asset Management Policy
July 1, 2022	• Update the Plan for core infrastructure assets (roads, bridges, culverts, stormwater, water and wastewater), including: o Current levels of service; o Inventory analysis; and o Ten-year estimate of expenditures required to maintain the current levels of service
July 1, 2024	• Update the Plan for all infrastructure assets, incorporating the same information as above for the core assets • Meet Provincial reporting requirements regarding levels of service and capital financing sources
July 1, 2025	• Incorporate the following for all infrastructure assets: o Proposed levels of service for a 10-year period; o Updated inventory analysis; o Lifecycle management strategy; o Financial strategy; and o Plan for addressing funding shortfalls
Ongoing	• Review, and update as necessary, the Strategic Asset Management Policy every five years commencing July 1, 2019 • Update the Asset Management Plan every five years • By May 31, report to the Province any time the Plan is updated • Council conducts an annual review of asset management progress, commencing the year after the July 1, 2025 requirements have been incorporated into the Plan. This review is to include: o Progress in implementing the Plan; o Factors impeding the Town's ability to implement the Plan; and o A strategy to address any factors identified

As the first step in complying with O. Reg. 588/17, Council adopted its *Strategic Asset Management Policy* in 2019, and subsequently updated it in December 2021. This policy serves as a high-level overview of the principles governing asset management planning, the roles of Council and staff in developing, implementing, and managing Plan targets, and the alignment of the Plan with other Town policies and by-laws. A copy of the policy that was in effect at the time of writing has been attached as **Appendix G**.

With this version of the Plan, the Town expects to have met the Provincial requirements established for July 1, 2022. Additionally, by building on its previous Plan rather than

starting anew, and by incorporating all infrastructure assets into this version of the Plan, the Town has made significant progress towards meeting the additional Provincial requirements of July 1, 2024 and July 1, 2025.

Approved prior to Council adoption by:

Brenda Fraser
CAO/Clerk/Treasurer

The preparation of this project was carried out with assistance from the Government of Canada and the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them.

1.0 Introduction

1.1 About Kearney

Kearney, Ontario is located just north of Huntsville in the District of Parry Sound. The Town is largely rural, covering a territory of 532 km², with a relatively small area of semi-urban development on the Town site. It is estimated that within the municipal boundaries, there are more than 300 km² of Crown land, and in excess of 1,700 small lakes and rivers. The most recently published census data (2016) reports 1,155 private dwellings and a population of 882, a population increase of 4.9% over the 5-year census period. Approximately 65% of the households are seasonal residences. Over the 10-year planning period the Town is not expected to grow significantly. As a result, the only expansion of its capital asset base that is currently anticipated relates to its building asset class.

The Town does not provide water or wastewater services, and offers library services through the Kearney and Area Public Library.

1.2 Purpose of an Asset Management Plan

The quality of life residents enjoy is directly related to the condition of municipal infrastructure and the assets used to deliver municipal services. Asset management planning allows municipalities to plan for the long-term maintenance and replacement of their assets, so that desired service levels can be met at the lowest overall cost in the long-run. Through O. Reg. 588/17, the provincial government has mandated the preparation of an asset management plan. This Plan will aid the Town in making appropriate financial decisions and investments as part of its annual municipal budget deliberations. A carefully prepared, effectively utilized Plan should aid in moving from an ad-hoc, informal approach to the management of assets to a data-driven approach that formally recognizes the connection between levels of service, cost and risk.

This Plan is to serve as a guidance document for the Town's use in developing its annual budgets and long-range financing plans as well as in the development of tax levies and other related revenue generators. This Plan is not intended to replace normal budgeting procedures, but rather, to support budgeting decisions and assist in ensuring the long-term viability and financing of the Town's most costly assets.

Well-maintained infrastructure is important to the growth and development of the Town as set out in the goals of the Town's *Official Plan*. The *Official Plan* states that "The Town will strive to be recognized as a leader in managing its resources for their continued use and enjoyment while maintaining or enhancing the quality of life for all."[1] It is the intent of the *Official Plan* to encourage development that is compatible with the character, role, and permitted uses of agricultural, rural, and the Town site areas, as well as to promote the continued functioning of natural systems. It is essential that the natural

[1] *Town of Kearney Official Plan* (2006), p. 3.

beauty and environmental resources, considered key factors in the growth of the tourism sector, are not damaged by future development.

Good roads and bridges facilitate the movement of goods, the provision of services- notably protection services- and the transport of people to work, school, recreation, and other facilities. They are essential to attracting economic development through the transport of commodities to market and by providing access to tourism and other amenities offered in the Town.

The state of local infrastructure also impacts the image that residents, visitors and potential investors have of the Town. If services do not align with public expectations, ratepayers may question the value for money they receive. Poorly maintained infrastructure could result in a negative image and detract from potential investment in the Town.

Consequently, the development of a sustainable Asset Management Plan will facilitate the achievement of the vision outlined in the Official Plan.

1.3 Evaluation and Improvement of the Plan

An asset management plan that is not adhered to--or is updated infrequently--will quickly become obsolete and be of little or no value to the Town. With the introduction of the O. Reg. 588/17 requirements, Plan updates can no longer be viewed as an end in themselves, but rather, as one piece of continuous tangible capital asset management.

Under the current O.Reg. 588/17 requirements, an update to the Plan will be required by July 1. 2024, a significant upgrade will be required by July 1, 2025, and a comprehensive review will be required, at minimum, every five years thereafter.

A key part of all these reviews will be to revisit the actual and planned levels of service. In this Plan, current levels of service have been reported for each of the primary asset groups, and a ten-year capital expenditure budget has been developed based on maintaining existing and/or moving towards desired levels of service. The related performance measurements provide a measuring stick against which the Town can assess the relative success of their management practices, financial investment levels, and the overall suitability of the Plan. The formal Plan updates will provide an opportunity for Council to re-evaluate the level of service, cost and risk trade-offs that have been made.

Based on a review of the processes used to prepare this and previous versions of the Plan, a significant area for improvement would be to implement practices which facilitate ongoing data collection, the maintenance of such data in an asset management database, and the reporting of the data to Council. Appropriate asset management decisions cannot be made without the availability of timely, accurate, and relevant data.

To this end, significant changes have been made to the asset database used for financial statement reporting purposes, so that data relevant to ongoing asset management and future Plan updates can be tracked. It is expected that the database will be updated by the Treasurer as new data is received by way of in-house evaluations, the bi-annual OSIM inspections and periodic road needs studies and minimally, will be updated as part of the annual maintenance required for financial reporting purposes.

Going forward, the need for additional improvements has been identified:

1. **Involvement of management across all departments**. This Plan update was driven largely by an external consultant. Staff should be responsible for reviewing the mechanisms by which the Plan is updated and providing relevant information to administration staff on an ongoing basis as part of the goal to continuously improve the accuracy of Plan data and the efficacy of the Plan itself. As new and better mechanisms for asset preservation are discovered, these should be incorporated into capital and maintenance activities. The ability of the Town to leverage its knowledge of infrastructure will greatly enhance its ability to meet the needs of residents in a sustainable manner.
2. **Condition data**. Actual up-to-date field condition data is the most meaningful when assessing and planning for future requirements, and having such information is critical to the successful implementation of a "preservation management" approach to asset management. An ongoing effort to maintain the actual field condition data incorporated in this Plan, and to collect field condition data for all assets where practical is required.
3. **Current Construction/Replacement Costs**. Estimated construction/replacement values play a key role in the Plan; they form the basis for the financial forecasts by establishing future investment requirements. A variety of methods have been used to estimate replacement cost, including engineering estimates, current market values, recent purchase data, and in the absence of more reliable data, inflating historical cost based on an inflation index table. In the current economic climate of supply chain disruptions and significant inflation, it is unlikely that any of these methods can accurately predict future costs. Consequently, up-to-date market values should be used wherever feasible in future iterations of the Plan.

2.0 State of Local Infrastructure

A useful Asset Management Plan cannot be created without first developing an understanding of the assets owned by the Town, the condition of those assets, and the funds required to achieve long-term sustainability. This section begins by providing a brief overview of the state of the Town's infrastructure portfolio using high-level asset and financial indicators. A more detailed review of each asset class is subsequently provided.

2.1 Replacement Value and Future Construction Cost by Asset Category

Table 2 provides a summary of the replacement costs of the Town's tangible capital assets. The estimated cost of purchasing or reconstructing all of the assets owned by the Town as at December 31, 2020 was approximately $117.1 million.

Table 2- Asset Replacement Value

Asset Category	Replacement Value (2021 $)
Roads	$93,892,703
Stormwater – included in roads above	$ -
Bridges and Culverts	$12,661,153
Buildings	$3,625,388
Rolling Stock	$3,672,804
Equipment and Furniture	$1,315,404
Land Improvements	$1,923,724
TOTAL	**$117,091,176**

Not all of the Town's assets are expected to be reconstructed or replaced at the full replacement value. For example, with proper maintenance, once a road has been constructed, a significant portion of the road base will never have to be reconstructed. Furthermore, the Town currently owns assets that it doesn't intend to replace once they reach the end of their useful service lives, or intends to replace with a significantly different asset. That portion of the replacement value that is expected to be replaced has been coined "future construction costs" in this Plan. Future construction costs, rather than replacement value, form the basis of future expenditure estimates and performance indicators in this Plan.

Table 3 summarizes the estimated future construction costs of the Town's assets.

Table 3- Asset Future Construction Costs

Asset Category	Future Construction Costs (2021 $)
Roads	$12,135,818
Stormwater – included in roads above	$ -
Bridges and Culverts	$13,246,029
Buildings	$3,892,788
Rolling Stock	$3,069,781
Equipment and Furniture	$1,067,687
Land Improvements	$1,885,289
TOTAL	**$35,297,392**

2.2 Overall Asset Condition

As mentioned previously, there are many methods that may be used to assess the condition of assets, with field condition data providing the most relevant information and age-based estimates providing a simple, but less useful, approximation. Although field data is generally superior, the staff time involved to assess and report the condition of every asset is prohibitive. Consequently, an age-based approach has been used in certain circumstances.

O. Reg. 588/17 requires that municipalities use recognized and generally accepted engineering practices, where appropriate, to assess the condition of assets. These practices are well defined for roads and bridges, and measures such as pavement condition index[1] and bridge condition index[2] are expected deliverables from professional engineering studies. For other assets, where industry standards for condition assessments do not exist, techniques needed to be developed to determine an accurate approximation of condition. Changes to these assessment methods may be required as interpretation of the regulation continues to evolve.

[1]Pavement Condition Index (PCI) rates the severity and density of 15 specific distresses in pavement
[2]Bridge Condition Index (BCI) is calculated based on the condition of elements of the bridge and represents a ratio of the bridge's current value to its replacement value.

The rating scale used to determine asset conditions in this Plan is outlined in the following tables. **Table 4** provides a summary of the range of values that define each tier in the condition rating scale. **Table 5** indicates the source of condition data used for each asset class.

Table 4- Condition Rating Criteria

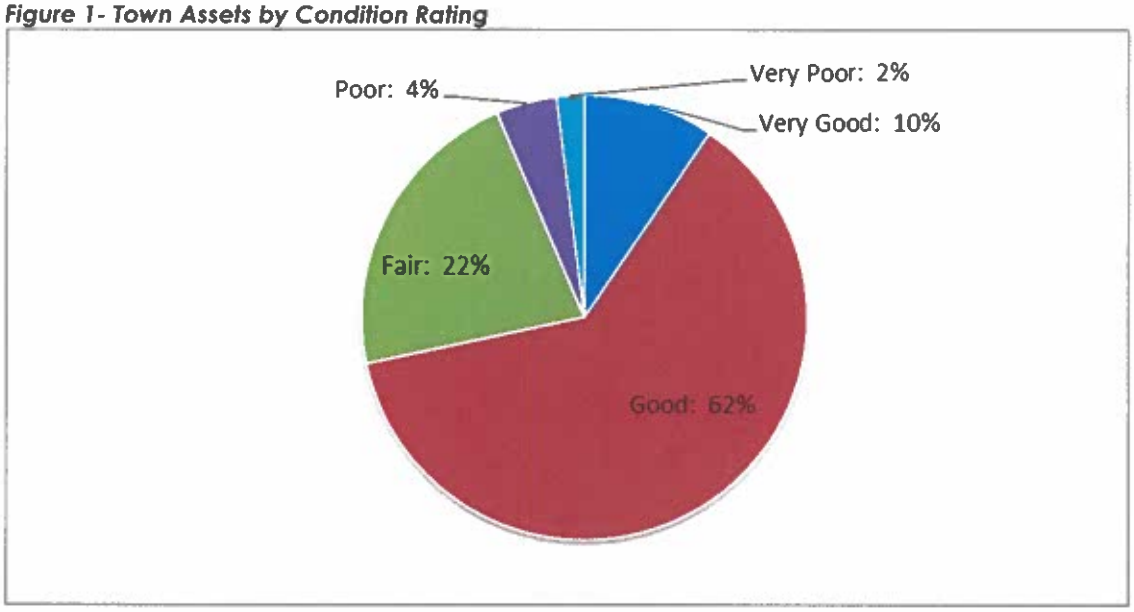
Condition Rating	Condition Description – General	Index/Age Based Measure	Action Required
Very Good	No noticeable defects/new or recently rehabilitated	Age - <10% of lifespan Index-based – 9 to 10 (90 to 100) Fleet - <50,000 km or 2,000 hours BCI- range of 80-100	No action required other than normal maintenance
Good	Only minor deterioration or defects	Age – 10% to 49% of lifespan Index-based – 6.5 to 8.9 (65-89) Fleet - <100,000 km or 5,000 hours BCI – range of 70-79	Normal and preventative maintenance required Nothing major anticipated within the next 5 years
Fair	Some deterioration evident but function not significantly affected	Age – 50% to 74% of lifespan Index-based – 4.5 to 6.4 (45-64) Fleet - <200,000 km or 10,000 hours BCI – range of 60-69	Minor rehabilitation expected within the next 5 years
Poor	Serious deterioration in at least some components, function is inadequate	Age – 75% to 100% of lifespan Index-based – 3.0 to 4.4 (30-44) Fleet - <400,000 km or 15,000 hours BCI – range of 40-59	Major/Minor rehabilitation or replacement
Very Poor	Failed asset, no longer suitable for intended use	Age - > life expectancy Index-based – 0 to 2.9 (0-29) Fleet - > 400,000 km or 15,000 hours BCI- range of 0-39	Replace

Table 5- Sources of Condition Data by Asset Class

Asset Class	Component	Source of Condition Data
Roads	Paved Roads	2020 Road Needs Study
	Gravel Roads	2020 Road Needs Study
Stormwater	All	Age
Bridges and Culverts	Bridges	BCI - 2019 OSIM Report
	Culverts	BCI – 2019 OSIM Report
Buildings	All	General Condition Description
Rolling Stock	All	Age supplemented by General Condition Description for specific assets
Equipment and Furniture	All	Age supplemented by General Condition Description for major assets
Land Improvements	All	Age

Using these evaluation criteria, the following chart illustrates the proportion of Town assets, based on replacement value, in each condition rating tier. Approximately 72% of all assets are in good to very good condition, whereas 6% of assets are in poor or very poor condition.

Figure 1- Town Assets by Condition Rating



2.3 Annual Replacement Funding Requirements (Sustainable Annual Investment)

The replacement funding requirement presented below is an approximation of the amount—based on future construction costs and life expectancies—that the Town should allocate each year so that assets can be replaced when they reach the end of their useful lives. Throughout this Plan, this is referred to as "sustainable annual investment". **Table 6** illustrates the sustainable annual investment by asset category for assets owned by the Town as of December 31, 2020. Using 2021 estimated future construction costs, the Town should allocate approximately $1.7 million each year to replace assets when they reach their full life expectancy.

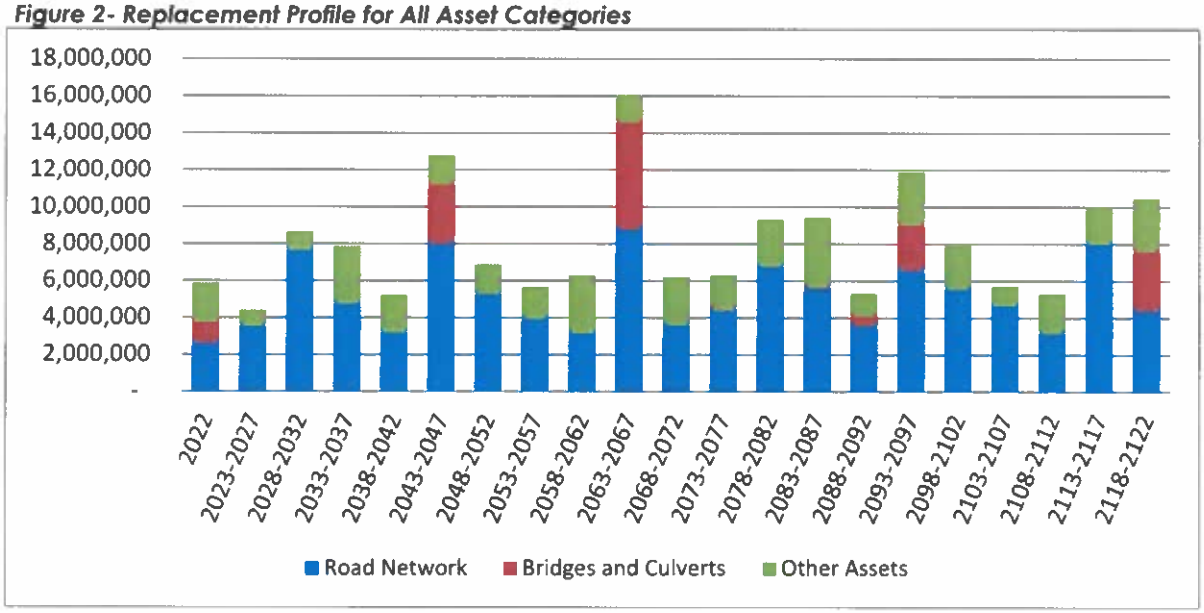
Table 6- Sustainable Annual Investment by Asset Category

Asset Category	Annual Funding Requirement (Sustainable Annual Investment)
Roads	$1,036,670
Stormwater (included in roads)	$0
Bridges and Culverts	$176,613
Buildings	$81,546
Rolling Stock	$210,057
Equipment and Furniture	$112,145
Land Improvements	$64,682
TOTAL	**$1,681,713**

2.4 Asset Replacement Requirements

The following graph provides a high-level approximation of the Town's asset replacement needs—based on future construction costs and life expectancies—in the next 100 years.

Figure 2- Replacement Profile for All Asset Categories



All of the reported requirements are stated in 2021 $ (costs are not inflated over time). At present, 95 years is the longest estimated lifespan of any of the Town's assets, so within the depicted timeframe, every asset currently owned by the Town would reach the end of its service life at least once. The reported one-year requirement in the first year of the graph includes the replacement of any asset that had already reached the end of its service life in a prior year (representing assets that remained in operation beyond their defined useful lives).

The following sections provide a more detailed overview of the assets in each class.

2.5 Roads

In 2020, the Town undertook a Road Needs Study to inventory and assess the condition of its road infrastructure. The Town's road network spans a total of 124.6 kilometres and 234.1 lane-kilometres, primarily within a rural setting. Per the standards prescribed in O. Reg. 239/02 Minimum Maintenance Standards for Municipal Highways, there are no roads in the higher maintenance Classes (1, 2, and 3) and 25% of the road network is considered Class 6 and therefore not subject to the standards imposed in the regulation. The majority of the road network is categorized as Class 4. Additional information about the roads is presented in **Table 7** below.

Table 7 - Road System Summary

Road Type	AADT	Length (km)	Lane-km	Average Overall Condition Rating (out of 100)	Average Surface Condition Rating (out of 100)	Historical Cost/ Net Book Value (Dec 2020)	Estimated Replacement Value (2020)	Estimated Future Construction Cost (2021)
Gravel (Loose Top Gravel/Earth)	**All**	**63.26**	**111.41**	**66.4**	**59.2**	**2,217,668/137,136**	**42,180,309**	**1,452,990**
	0-49	29.57	44.03	55.1	60.7	1,409,755/105,376	16,806,100	483,030
	50-199	33.69	67.38	73.9	58.4	807,914/31,760	25,374,209	969,960
Low Class Bituminous (LCB)	**All**	**33.60**	**67.20**	**73.2**	**68.5**	**3,541,066/1,036,276**	**24,681,262**	**2,411,946**
	0-49	0.85	1.70	61.7	62.0	67,243/634	553,508	52,622
	50-199	32.75	65.50	73.5	68.7	3,473,823/1,035,641	24,127,754	2,359,325
High Class Bituminous (HCB)	**All**	**27.76**	**55.52**	**83.6**	**80.0**	**7,506,833/4,104,359**	**27,031,132**	**8,270,881**
	0-49	0.60	1.20	48.7	70.0	37,682/413	431,809	122,580
	50-199	9.85	19.70	85.2	81.7	2,118,979/1,452,306	8,915,251	2,669,792
	200-399	14.41	28.82	83.3	80.3	4,404,264/2,328,130	14,714,466	4,530,557
	400+	2.90	5.80	85.2	75.5	945,909/323,510	2,969,606	947,952
Total		**124.62**	**234.13**	**73.2**	**67.7**	**13,265,567/5,277,771**	**93,892,703**	**12,135,818**

As demonstrated in **Table 7**, the average overall road condition per the 2020 Road Needs Study is 73.2/100. This overall rating condition reflects the physical state of the roads with respect to a number of different road elements, such as horizontal and vertical alignment, structural adequacy, width, drainage and surface condition. Unless a road is reconstructed, the assessed value of many of these elements will not change over time.

The average surface condition per the 2020 Road Needs Study is 67.7/100, with HCB roads currently having the highest rating and gravel roads having the lowest rating. A large proportion of HCB roads were resurfaced in the 2009-2015 period under G8 and BCF grants, and continue to have surface ratings of 80+.

The above-noted ratings represent a weighted average of the conditions of all Town roads (weighted by replacement value) as at November 18, 2020 (when the road inspections were completed for the 2020 Road Needs Study). The Town will undertake a formal Road Needs Study every five years, with the results used to update the relevant sections of this Plan.

2.6 Stormwater

The Town's stormwater system is concentrated in the downtown area, in 1.61 kilometres of the Town's 124.6 kilometres of roads: sections of Sand Lake Road (also known as Highway 518), Main Street, Esther Street, King William Street, Rain Lake Road and Regent Street. The system is comprised of 23 single catchbasins, 7 double catchbasins and several manholes, connected by concrete and PVC storm pipes, draining to adjacent water bodies.

Under the Town's *Capital Asset Policy*, the stormwater system is included as part of the road base, so the historical cost and accumulated amortization is not separately identified in the asset ledger. Similarly, the current estimated replacement value of the stormwater system was included in the valuation of the related road sections in the 2020 Road Needs Study, and a separate replacement value was not identified.

The stormwater system has not been visually inspected, but is currently thought to be in good condition. Most of the road sections that have stormwater drainage were reconstructed or rehabilitated in 2009-2010. At that time, some new catchbasins and manholes were installed, sections of the storm pipe were rehabilitated, and sections of the storm pipe were relocated.

In future years, the underlying stormwater system will be formally assessed when work on the related road sections is undertaken.

2.7 Bridges and Culverts

The Town's bridge and culvert inventory consists of seven bridges and four structural culverts, where a structural culvert is defined as any culvert with a span of more than three metres. The structures were most recently inspected by D.M. Wills Associates in 2021, but updated summary condition ratings were not requested as part of this engagement. Consequently, the condition ratings below are based on the 2019 OSIM inspections performed by Tulloch Engineering Inc. Summary information is provided in **Table 8** below.

Table 8- Bridge and Culvert Inventory Summary

Structure Type	Quantity	Average Condition Rating (out of 100)	Historical Cost/ Net Book Value (Dec 2020)	Average Age/ Useful Service Life	Estimated Replacement Value (2021 based on current unit replacement rates)	Estimated Future Construction Cost (2021)
Bridges	7	72.9	6,477,673/4,957,910	49%	11,055,861	11,640,737
Culverts	4	80.4	498,994/209,734	16%	1,605,292	1,605,292
Total	**11**	**73.9**	**6,976,667/5,167,644**	**45%**	**12,661,153**	**13,246,029**

The above-noted condition ratings represent the arithmetic average, and the average age ratings represent a weighted average of the Town's structures (weighted by replacement value).

A detailed condition assessment of each structure is included in the 2021 *OSIM Bridge and Culvert Inspection Program*. In the OSIM report, $1.5 million to $2.0 million of required rehabilitation within the next five years was identified. The Town generally relies on the recommendations provided in the OSIM report to establish a rehabilitation work plan.

The results of the biennial structure inspections will be used on an ongoing basis to update the bridge and culvert inventory. The next inspection is scheduled to be completed in 2023.

2.8 Buildings

Information regarding the Town's building inventory is provided in **Table 9** below. It should be noted that under the Town's Capital Asset Policy, the Lion's Park Pavilion and transfer station shelters are not classified as buildings, but rather, fall into the land improvements asset category.

Table 9 - Buildings Inventory

Building	Average Condition Rating	Year of Construction/ Last Major Renovation	Average Age/Useful Service Life	Historical Cost/Net Book Value (Dec 2020)	Estimated Replacement Value (2021 insurance)	Estimated Future Construction Cost (2021)
Community Centre	FAIR	1989	49%	879,930/334,816	2,316,800	2,316,800
2 Storage Containers – 8 Main St.	GOOD	2010	55%	11,402/5,416	20,000	20,000
Fire Hall	FAIR	1973	138%	79,074/43,526	732,600	1,000,000
Public Works Garage	FAIR	1994	86%	128,733/27,663	384,288	384,288
Public Works Storage Building	VERY GOOD	2018	4%	128,597/124,726	168,000	168,000
Ball Park Storage Building	VERY GOOD	2017	4%	0/0	3,700	3,700
Total				**1,227,736/536,147**	**3,625,388**	**3,892,788**

The above-noted average age and condition ratings represent a weighted average of each building's components (weighted by replacement value).

In 2020 the Town's insurance provider conducted a review of the fire and public works buildings and did not note any significant deficiencies. Minor deficiencies noted in the report were addressed in 2021.

A detailed assessment of the community centre--performed by Larocque Elder Architects Inc. in conjunction with A2S Consulting Engineers and JAIN Consultants--was completed in 2020. The overall conclusion of the report was that many of the building components are showing obvious signs of deterioration and have reached or exceeded their life expectancy. The structural elements of the building are generally considered to be in good condition, and no significant deterioration was noted. Other components, such as the mechanical and electrical systems and roof, are considered to be in poor condition.

The report also concluded that each user group has insufficient space. A working group has been established by the Town to investigate alternatives and to make recommendations to address the issues identified.

2.9 Rolling Stock

The Town's rolling stock, which includes such assets as vehicles, graders and similar mobile machinery, trailers, skidoos and ATVs, is generally dedicated to the provision of transportation services, protection services, and recreation services. A summary of these assets is provided in **Table 10** below.

Table 10 – Rolling Stock Inventory

Functional Service Area	Number of Units	Average Condition Rating	Average Age/Useful Service Life	Historical Cost/Net Book Value (Dec 2020)	Estimated Replacement Value (2021)	Estimated Future Construction Cost (2021)
Fire	9	FAIR	67%	619,551/280,442	1,162,734	1,086,068
Building Services	1	VERY GOOD	10%	40,535/38,508	48,000	48,000
Public Works	11	FAIR	61%	1,666,746/1,006,255	2,197,168	1,887,713
Waste Disposal	1	POOR	80%	94,900/40,332	169,000	--
Parks	3	POOR	108%	47,954/9,099	76,500	48,000
Recreation Programs	2	FAIR	73%	16,739/5,967	19,402	--
Total	**27**	**FAIR**	**64%**	**2,486,425/1,380,603**	**3,672,804**	**3,069,781**

The above-noted average age and condition ratings represent a weighted average of the Town's rolling stock (weighted by replacement value).

The condition of rolling stock has been established based on general condition descriptions provided by fire department and public works staff. In the absence of general condition descriptions, condition scores have been assigned based on age.

Rolling stock will be evaluated on an annual basis to assess their condition and residual lifespan. Results of the evaluation will be used to update the Plan as part of its ongoing review.

2.10 Equipment and Furniture

The provision of services to the Town's ratepayers is dependent on an inventory of computers, equipment and furniture used in daily administrative, public works, fire, recreation, and other services. A summary of the Town's equipment and furniture inventory is provided in **Table 11** below.

Table 11 –Equipment and Furniture Inventory

Functional Service Area	Average Condition Rating	Average Age/Useful Service Life	Historical Cost (Dec 2020)	Net Book Value (Dec 2020)	Estimated Replacement Value (2021)	Estimated Future Construction Cost (2021)
General Government (e.g., photocopier, computers, electronic sign)	FAIR	59%	94,603	28,565	102,112	74,686
Fire (e.g., SCBA, bunker gear, communication equipment, meeting room furniture)	POOR	87%	312,629	103,162	494,092	389,953
Emergency Measures (e.g., generator, projector)	POOR	87%	42,685	6,846	52,225	52,225
Building Services (e.g., computers)	POOR	71%	5,162	1,549	5,693	15,944
Public Works (e.g., computers, brush hog, sander, communication equipment, GPS units)	FAIR	53%	169,461	89,602	343,242	327,521
Waste Management (e.g., waste disposal bins)	POOR	93%	29,589	3,073	38,336	36,836
Assistance to Aged (e.g., kitchen equipment, meeting room furniture, arts and crafts equipment)	GOOD	29%	51,087	38,901	54,907	18,333
Recreation (e.g., computers, lawn tractors, kitchen equipment, stage cover)	POOR	114%	126,134	53,920	151,177	78,570
Library Board (e.g., computers, collections)	POOR	132%	65,407	22,621	73,619	73,619
Total	**FAIR**	**79%**	**896,757**	**348,239**	**1,315,404**	**1,067,687**

The above-noted average age and condition ratings represent a weighted average of the Town's equipment and furniture (weighted by replacement value). The reported condition values are very low in comparison to the other asset classes of the Town. This reflects the fact that many assets in this category, in particular furniture, are retained by the Town for much longer than their defined useful lives.

At this time, due to the low dollar value of most individual assets in the equipment and furniture inventory and the staff time involved in performing actual field condition assessments, asset conditions have been established using an age-based formula for most equipment and furniture assets. As best practices for assessing the condition of these assets continue to emerge, the condition rating will be updated and monitored as part of the regular Plan review.

2.11 Land Improvements

This asset category currently encompasses assets classified as land improvements in the Town's asset ledger as well as streetlights, traffic lights and sidewalks. These assets are predominantly used by the public, largely in the delivery of recreation services, and as a consequence, often pose a health and safety liability. For example, poorly maintained docks and boat ramps present a significant risk of critical injury to residents and tourists. The category also includes hidden assets related to the Town's buildings, such as wells and septic systems.

A summary of the Town's land improvements is presented in **Table 12** below.

Table 12 – Land Improvements Summary

Asset Type	Average Condition Rating	Average Age/Useful Service Life	Historical Cost (Dec 2020)	Net Book Value (Dec 2020)	Estimated Replacement Value (2021)	Estimated Future Construction Cost (2021)
Land Improvements (e.g., pavilion, parking lots, dry hydrants, wells, fences, docks, and boat ramps)	FAIR	43%	900,990	619,343	1,533,874	1,495,439
Streetlights, traffic lights and sidewalks	GOOD	26%	189,695	65,426	389,850	389,850
Total	GOOD	40%	1,090,685	684,769	1,923,724	1,885,289

The above-noted average age and condition ratings represent a weighted average of the assets in the category (weighted by replacement value). Due to the relatively low value of these other assets to the Town condition assessments have primarily been estimated using each asset's age, with field condition data used for specific assets. These assets shall be evaluated on an annual basis for signs of impairment that would impact their residual lifespan. Results of the evaluation shall be used to update the Plan as part of the ongoing review.

3.0 Levels of Service

The overarching purpose of a municipality is to provide services to its community. These services are normally discussed in terms of eight functional areas including, for example, General Government, Protection to Persons and Property and Transportation. However, since this Plan is specifically related to the management of capital assets, levels of service in this Plan are being defined on the basis of services provided by asset types rather than by services provided by functional areas.

Levels of service are statements describing the degree to which all of the services will be provided. Levels of service can be defined based on any number of asset attributes, such as, how much are we going to provide, what level of safety are we providing, what aesthetic standards will be maintained, what condition will be maintained, etc. O. Reg. 588/17 requires the Town to identify levels of service on both a customer and technical basis.

A customer (i.e., strategic) level of service is essentially a high-level description of the provided service from the perspective of the community. These typically include descriptions of the function and condition of the available assets.

In contrast, a technical level of service is a statement about what actions (programs, procedures and activities) the municipality needs to undertake in order to provide services at the identified customer level. Briefly, the focus is on what the municipality can do as opposed to what the community is going to receive. In order to be measurable and useful, the technical levels of service are often linked to a performance metric that can be tracked and evaluated over time.

The levels of service provided by a municipality should be established according to five main factors: the community's expectations, the community's ability to pay, the strategic goals of the Municipality, legislative requirements (e.g., Minimum Maintenance Standards for Municipal Highways, O. Reg 239/02), and what the Municipality can be reasonably expected to provide with its available staff resources.

Ultimately, it is Council that defines the levels of service, and in so doing, they must balance three key factors: cost, risk, and performance. Typically, an increase in the level of service (performance) will present less risk but at a higher cost. It must also be noted that the attainment of levels of service is critically dependent on staffing levels. Due to the finite number of working hours for existing staff, and difficulty in recruiting and retaining qualified staff in any capacity, an increase in the level of service in one area is often only possible by decreasing that in another area.

3.1 Customer and Technical Levels of Service

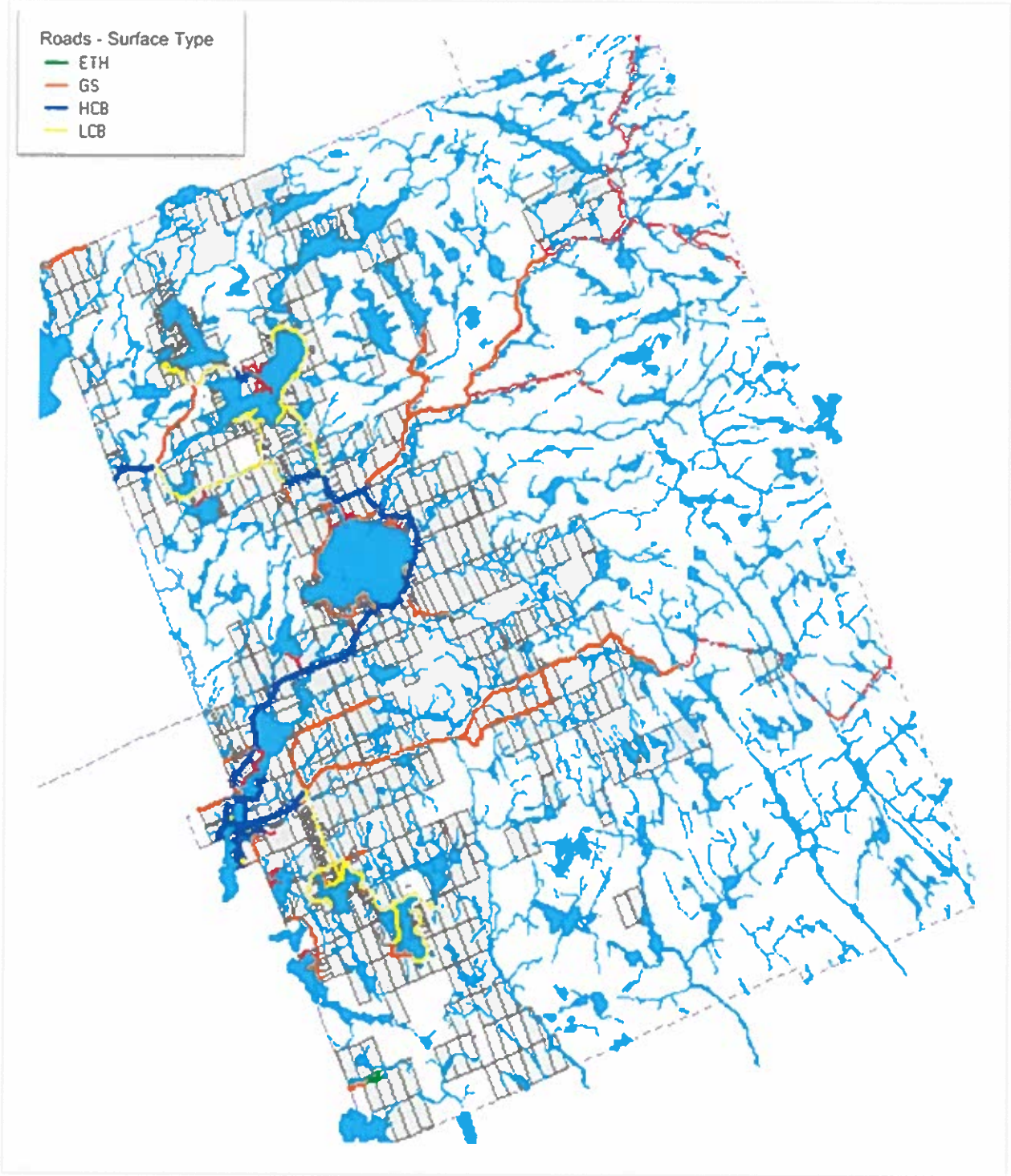
The following sections outline the Town's current levels of service (customer and technical), and related performance indicators for the technical levels of service. Of the infinite number of performance indicators available, those used here have been selected based on the current availability of related data and the relevance to Town staff and Council. These may evolve in future iterations of the Plan.

Through discussions surrounding current levels of service, Council and staff have identified areas in which changes to the service level are desired. These proposed changes, in conjunction with actual current levels of service, form the basis of the projected expenditures later in this Plan. All levels of service indicators marked with an asterisk (*) have been mandated in O. Reg. 588/17.

3.1.1 Roads

Objective: to provide a safe and reliable road network that takes people where they want to go at the lowest possible cost for current and future users.

Description	Customer Level of Service
* Description, which may include maps, of the road network and its level of connectivity	The Town's road network spans a total of 124.6 km (234.1 lane-km), which is comprised of 83.1 km of local roads and 41.5 km of collector roads. The Town is connected on the west to Provincial Highway 518, on the north-west to the neighbouring Township of Armour by way of Chetwynd Road and on the south-west to the Township of Perry by way of Main Street and Emsdale Lake Road. Algonquin Park, located to the east of the Town, can be accessed via Rain Lake Road. The following maps provide an overview of the Town's existing road network, colour-coded by road surface type. The first provides a closer look at the roads in the downtown area. The second is an overview of the Town's road system as a whole. 


Roads - Surface Type
ETH
GS
HCB
LCB

Description	Customer Levels of Service				
* Descriptions or images which illustrate the different levels of road conditions (PCI and gravel)	CR	CONDITION	GENERAL COMMENTS	SURFACE CONDITION PROPERTIES	
				Hard Surface	Gravel Surface
	90 to 100	Very Good	Possible to maintain posted speed with no or slight amount of sway, vibration or steering effort.	Like new or isolated minor cracks or surface deformations	Like new or isolated minor potholes or wash-boarding
	65 to 89	Good	Possible to maintain posted speed with some amount of sway, vibration or steering effort.	Minor cracks, surface deformations, potholes, loss of aggregate throughout	Minor wash-boarding and potholes throughout.
	45 to 64	Fair	Possible to maintain posted speed with moderate amount of sway, vibration or steering effort.	Moderate cracks, surface deformations, potholes, loss of aggregate throughout.	Moderate wash-boarding, ruts, soft surface, potholes, dusty, loose gravel throughout.
	30 to 44	Poor	Not possible to maintain posted speed without significant amount of sway, vibration or steering effort.	Severe cracks, culvert or utility trench heaves, surface deformations, potholes, loss of aggregate throughout.	Severe wash-boarding, ruts, very soft surface, reverse crown, potholes, dusty, loose gravel throughout.
	0 to 29	Very Poor	Not possible to maintain posted speed without causing damage to the vehicle. Impassable for normal passenger vehicles.	Pavement surface failed. Severe road deformation, erosion or rutting.	Severe ruts or erosion, flooded.

In general, the Town is not growing at a sufficient rate to warrant the expansion of its road network. Therefore, roads will generally be left as is (i.e., no new roads will be constructed, no currently gravelled roads will be paved, and no currently seasonal roads will be maintained year-round).

Attribute	Technical Level of Service Description	Current Level of Service
Scope	* Number of lane-kilometres of each of arterial roads, collector roads, and local roads as a proportion of square kilometres of land area in the municipality	Arterial Roads: 0 lane-km, 0% of land area Collector Roads: 83 lane-km, 16% of land area Local: 151 lane-km, 28% of land area
Quality	* For paved roads, the average pavement condition index value (maximum100)	Hot Mix – 80 LCB – 68.5 All hard top – 74.5 (GOOD)
	For paved roads, the % in good to very good condition per overall condition rating (based on weighted replacement cost)	94.8%
	For unpaved roads, the average surface condition* (maximum 100)	Gravel and Earth – 59.2 (FAIR)
	For unpaved roads, the % of roads in good to very good condition per overall condition rating (based on weighted replacement cost)	61.8%
	Kilometres of single-lane roads as a % of total road kilometres	12.2%
	Lane-kilometres of roads with no or summer maintenance only as a % of total lane-kilometres	10.0%
Affordability and Sustainability	For paved roads, the 5-year average net capital expenditure[1] as a % of the sustainable annual investment *1 – capital acquisitions + debt repayment +/- net transfers to reserve (2016 to 2020)*	36.4%
	For unpaved roads, the 5-year average net capital expenditure[1] as a % of the sustainable annual investment *1 – capital acquisitions + debt repayment +/- net transfers to reserve (2016 to 2020*	19.8%

3.1.2 Stormwater

Objective: to provide an effective and reliable stormwater management system that protects the downtown core from flooding at the lowest possible cost for current and future users.

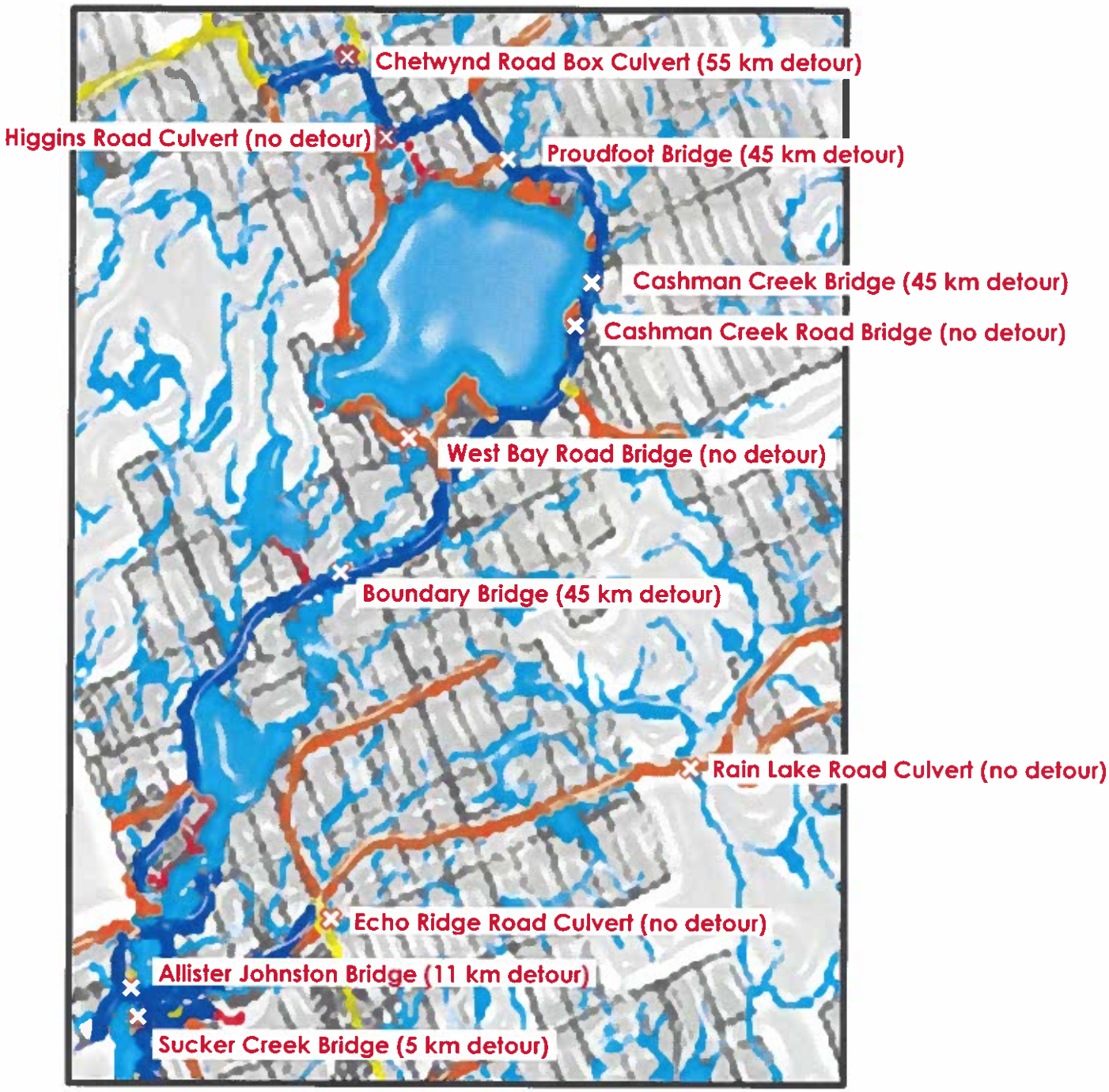
Description	Customer Level of Service
* Description, which may include maps, of the user groups or areas of the municipality that are protected from flooding, including the extent of the protection provided by the municipal stormwater management system	1.61 kilometres of roads in the Town's downtown area are protected by a stormwater system (approximately 82 (4%) of the Town's roll numbers). In addition, catchbasins are located in two adjacent parking lots, including the Kearney Community Centre parking lot. The balance of the Town's road system is protected by open ditches. The stormwater system is comprised of 23 single catchbasins, 7 double catchbasins and several manholes, connected by concrete and PVC storm pipes, draining to adjacent water bodies. Roads that are protected by the stormwater system are highlighted in pink on the following map. 

Attribute	Technical Level of Service Description	Current Level of Service
Scope	* Percentage of properties in the municipality resilient to a 100-year storm	0%
	* Percentage of the municipal stormwater management system resilient[1] to a 5-year storm *1-age of system as a percentage of useful life used as a proxy: < 75% = resilient*	100%
Quality	% of stormwater system in good to very good condition (based on age)	100%
Affordability and Sustainability	The 5-year average net capital expenditure[1] as a % of the sustainable annual investment *1 – capital acquisitions + debt repayment +/- net transfers to reserve (2016 to 2020)*	Not available. Per the Town's *Tangible Capital Asset Policy*, stormwater systems are considered part of the paved road bases.

3.1.3 Bridges and Culverts

Objective: to provide a safe and reliable bridge and culvert network that takes people where they want to go at the lowest possible cost for current and future users.

Description	Customer Level of Service
* Description of the traffic that is supported by the municipal bridges (e.g., heavy transport vehicles, motor vehicles, emergency vehicles, pedestrians, cyclists)	All of the Town's bridges and culverts predominantly support motor vehicles. Allister Johnston and Sucker Creek (Main St.) bridges, located in the downtown area of the Town, have pedestrian sidewalks. Heavy transport traffic is largely related to work performed by the Public Works staff, with additional traffic resulting from logging trucks. Emergency vehicles are an infrequent source of traffic on the Town's bridges and culverts. Five structures are located on collector roads, with the balance on local roads, and all have an AADT ranging from 20-375 (as per the 2020 Road Needs Study). The following map provides an overview of the Town's bridge and culvert locations, and related detour lengths.11


Chetwynd Road Box Culvert (55 km detour)
Higgins Road Culvert (no detour)
Proudfoot Bridge (45 km detour)
Cashman Creek Bridge (45 km detour)
Cashman Creek Road Bridge (no detour)
West Bay Road Bridge (no detour)
Boundary Bridge (45 km detour)
Rain Lake Road Culvert (no detour)
Echo Ridge Road Culvert (no detour)
Allister Johnston Bridge (11 km detour)
Sucker Creek Bridge (5 km detour)

Description	Customer Level of Service
* Description or images of the condition of bridges and how this would affect the use of the bridges	In the most recent OSIM inspection five of the seven Town bridges had significant (> $100,000) identified rehabilitation needs. Of the estimated total cost, approximately 39% relates to such things as guide rail replacement, deck top paving and traffic control and contingencies which do not reflect the structural integrity of the bridges themselves. Of the identified cost, 26% related to structural repairs such as replacing/repairing expansion joints and abutment/ ballast walls on four of the bridges. In all but one case, the overall bridge condition was considered FAIR or better, and no loading restrictions were recommended. The remaining 35% of identified deficiencies relate to the Sucker Creek (Main St.) bridge, which has a condition rating of POOR. Although there is currently no load restriction on this bridge, a structural evaluation to determine load posting and to determine the need for replacement rather than rehabilitation has been recommended.
* Description or images of the condition of culverts and how this would affect the use of the culverts	Three of the Town's four structural culverts are in GOOD to VERY GOOD condition and have no identified rehabilitation requirements. The fourth, Chetwynd Road box culvert, is rated in FAIR condition, with the need for deck paving, concrete repairs, guide rail replacement and erosion control identified. None of the identified rehabilitation needs would restrict the use of this culvert.

Attribute	Technical Level of Service Description	Current Level of Service
Scope	Proportion of bridges not suitable for all traffic, meaning they have loading or dimensional restrictions	No loading restrictions 29% single-lane bridges (2 of 7 bridges)
Quality	* For bridges, the average bridge condition index value	71.1% (GOOD)
	* For structural culverts, the average bridge condition index value	80.3 (VERY GOOD)
Affordability and Sustainability	The 5-year average bridge and culvert net capital expenditure[1] as a % of the sustainable annual investment *1 – capital acquisitions + debt repayment +/- net transfers to reserve (2016 to 2020)*	170.4%
	% of OSIM- recommended maintenance ("now" requirements) completed by the subsequent OSIM inspection (as a % of # of issues)	14% (4 of 28 issues)

3.1.4 Buildings

Objective: to have facilities suitable for their intended use that provide for a safe user environment at the lowest possible cost for current and future taxpayers.

Description	Customer Level of Service
Description of the municipal buildings by function	The following Town structures are classified as buildings under the Town's *Tangible Capital Asset Policy*: 1. **Kearney Community Centre** –  The community centre is a 10,651 sq. ft. building that underwent its last major renovation in 1989. It houses the administration offices, library, gymnasium, community kitchen, Senior's Centre and a Provincial Park office. The building also serves as the Town's emergency operations centre. The Senior's Centre doubles as the Council chamber, and is used to host a variety of community functions. 2. **Storage Units** – adjacent to the community centre are two 8' X 45' storage containers, installed in 2010, which are used primarily for administration department storage. 3. **Fire Hall** -  The fire hall, constructed in 1973, is a 3,500 sq. ft. building that houses the department's vehicles and equipment and provides office and meeting room space for fire staff and volunteers. 4. **Public Works Garage** – the two-bay garage, built in 1994, houses some of the department's rolling stock and provides office space for public works staff. 5. **Public Works Storage Building** – the storage building, constructed in 2018, provides 2,400 sq. ft. of unheated storage space. It is used primarily for storage of overflow public works equipment, but is also used by the fire and recreation departments. 6. **Ball Park Storage Shed** – the small 8' x 4' concrete storage shed was erected at the ball park in 2017 and is used to house baseball equipment.

Description	Customer Level of Service
Description of the condition of the buildings and their suitability for intended use	The Kearney Community Centre and adjacent storage units underwent a detailed professional assessment in 2020. The overall condition rating of the community centre is FAIR, with the structural elements generally considered to be in good condition, and other components, such as the mechanical/electrical systems and roof assessed in POOR condition. The storage units are considered to be in GOOD condition. The report concluded that each user group had insufficient space, and that the building does not meet all accessibility standards. For example, there are insufficient washrooms for the occupancy load of the community hall and Senior's Centre and items stored in the hallway are impeding the required width. The fire hall was assessed by staff to be in FAIR condition, and in recent years work has been undertaken to address identified issues such as ventilation work and floor repairs. The building is not large enough to house all of the firefighter rolling stock and equipment, so overflow is stored in the Public Works storage building. In addition, the low height of the bay doors limits options when fire pumpers are being sourced. The public works garage was internally-assessed to be in FAIR condition. However, the building is not large enough to house all of the rolling stock, so some are stored outside. Additionally, a health & safety inspection identified that the building length is inadequate for staff to safely maintain the Town's tandem trucks. The public works storage building is relatively new, and is in VERY GOOD condition. However, the building does not provide adequate storage space, and is currently full. The Town also has no indoor winter sand storage capability, so the winter sand supply must be maintained throughout the winter. The ball park storage building is also in VERY GOOD condition, and not capacity issues have been identified.

Attribute	Technical Level of Service Description	Current Level of Service
Scope	Square feet of buildings by function[1] *1 – KCC common areas allocated to functional areas. Administration includes all community centre office space/storage))*	Administration - 3,565 Fire - 3,500 Public Works - 6,560 Social and Family - 955 Recreation - 5,990 Library Board - 893
Quality	Weighted average building condition	FAIR
	% of buildings with identified capacity or suitability issues	57% (4 of 7 buildings)
Affordability and Sustainability	The 5-year average building net capital expenditure[1] as a % of the sustainable annual investment *1 – capital acquisitions + debt repayment +/- net transfers to reserve (2016 to 2020)*	109.4%
	Capital cost[1] of community centre per annual public usage[2] *1 – capital cost defined as sustainable annual investment* *2 - annual public usage defined as previous two-year average of: sum of: #of events * event duration * number of participants*	Community Centre has been closed to the public since March 2019, so measure not currently relevant

3.1.5 Rolling Stock

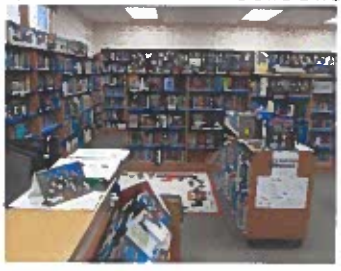
Objective: to have safe and reliable rolling stock (vehicles and machinery) that facilitates the provision of municipal services at the lowest possible cost for current and future taxpayers.

Description	Customer Level of Service
Description of rolling stock by functional area	The Town's general approach to the acquisition of rolling stock is—on the recommendation of the related department manager—to acquire critical assets in new condition when the reliability or condition of an existing asset makes it unfit for purpose. Non-critical assets are sometimes received by way of donation, or are transferred from another department when they are no longer considered adequate for their original use. The rolling stock inventory as of December 31, 2020 is described below by functional area. **Fire** – The department has 9 distinct assets including the following critical assets: -2 tanker/pumper trucks -1 pickup truck -1 UTV -1 UTV trailer In addition, the department has a shared interest in 2 ice/water rescue boats and has a first response van and an SUV received by way of donation from Parry Sound. All assets are used for first response and firefighting purposes for both accessible and remote properties. **Building** – The building department has a newly-acquired pickup, used primarily to perform site inspections. **Public Works** – The department has 11 distinct assets as follows: -4 tandems (1 replaced in 2020 and declared surplus in 2021) -1 pickup truck -1 dump truck -2 trailers (float and storage) -1 excavator -1 backhoe/loader -1 grader The equipment is used year-round to perform summer and winter maintenance, as well as in-house road construction work. **Environment** – A John Deere backhoe, retired from Public Works, is used at the transfer station for waste compaction. **Parks and Recreation** - There are 5 distinct items in the asset inventory, including a pickup truck, an ATV and an ATV trailer (transferred from the fire department) used to perform park maintenance and 2 Scandic Skidoos (1 donated) used by the Kearney Dog Sled committee.

Attribute	Technical Level of Service Description	Current Level of Service
Scope	Number of rolling stock per functional area	Fire - 9 Building Services - 1 Public Works – 11 Environment - 1 Parks - 3 Recreation Programs - 2
Quality	Average rolling stock condition	FAIR
	% of fleet assets where the condition is rated POOR or VERY POOR	33.3% (9 of 27 units)
	% of fire pumper/tankers that meet NFPA recommendations as front-line vehicles	100%
Affordability and Sustainability	The 5-year average rolling stock net capital expenditure[1] as a % of the sustainable annual investment *1 – capital acquisitions + debt repayment +/- net transfers to reserve (2016 to 2020)*	89.7%

3.1.6 Equipment and Furniture

Objective: to have safe and reliable equipment and furniture that facilitates the provision of municipal services at the lowest possible cost for current and future taxpayers.

Customer Level of Service	Description
Description of the types of equipment and furniture and their intended use	The Town employs a wide variety of equipment and furniture in the provision of municipal services. Many of these assets are used internally by Town staff and the volunteer firefighters in the exercise of their duties or are equipment necessary for the functioning of the Town's buildings. Other assets in this category are provided for use by the public. Significant items--in terms of historical cost—in the two categories include: **Internal Use –** **Administration** - computers and related hardware, photocopier, rolling shelving unit, telephone system, electronic sign **Fire** - air bank, generators, pumps, defibrillators, extrication equipment, digital radios, SCBAs, bunker gear, meeting room furniture, shelving, water filtration system **Building** - multi-function printer **Emergency Measures** – generator **Public Works** - brush hog, sweeper, trackless, slip-in tank, steamer, water filtration system **Parks** - pavilion water filtration system, lawn tractors **Library** – computer, photocopier, shelving **Public Use –** **Environment** - 20' and 40' waste/recycling bins **Social and Family Services** – Senior's kitchen equipment, indoor and outdoor furniture **Parks** - picnic tables and benches, recycling/waste bins **Recreation Facilities** - kitchen equipment (ranges, refrigerators, coolers, dishwashers), tables, chairs **Recreation Programs** - stage cover **Library** – computers, book and DVD collections 

Attribute	Technical Level of Service Description	Current Level of Service
Quality	Average equipment and furniture condition (out of 10)	4.8 (FAIR)
	% of equipment and furniture where the condition is rated POOR or VERY POOR	51.5%
Affordability and Sustainability	The 5-year average equipment and furniture net capital expenditure[1] as a % of the sustainable annual investment *1 – capital acquisitions + debt repayment +/- net transfers to reserve (2016 to 2020)*	70.3%

3.1.7 Land Improvements

Objective: to have safe and functional boat ramps, docks, and other land improvements with the appropriate quality and quantity of amenities at the lowest possible cost for current and future taxpayers.

Customer Level of Service	Description
Description of the types of land improvements and their intended use  	The Town's inventory of land improvements can generally be classified in two distinct categories. First, there are a variety of assets that are part of a larger integrated system, such as a road system or a building system, that are separately identified in the asset ledger. Assets in this category include such things as wells, septic systems, dry hydrants, landscaping, fencing and streetlights. These assets are sometimes not seen, or directly used, by the public. The second category of land improvements relates to assets that are specifically installed for public use. Falling into this category are boat ramps and docks, pavilions and gazebos, trail signage and sidewalks. The Town has four wells and septic systems, located at the community centre, fire hall, public works building and Lion's Park pavilion. There is one flashing traffic light, and a total of 59 streetlights concentrated in the downtown core. Sidewalks are also limited to the downtown area, with the majority located along Main Street. Five dry hydrants have been installed in widespread locations throughout the Town. One shelter is located at each of the Town's transfer station sites. Assets used more directly by the public include the following: **Lion's Park Pavilion** **Lion's Park Gazebo** **Ball Diamond** **Boat Ramps** – 3, located at Perry Lake, Beaver Lake, Sand Lake **Docks** – 4: Town Dock, Mirror Bay, McManus beach, Island Lake

Attribute	Technical Level of Service Description	Current Level of Service
Scope	Number of water bodies with municipal amenities	Boat ramps – 3 Docks - 4
Quality	Average land improvement condition	GOOD
	% of land improvements where the condition is rated POOR or VERY POOR	14.3%
	Percentage of public land improvements inspected on a routine schedule	100% in the summer months, amenities in the downtown area are inspected daily and those in outlying areas are inspected weekly
Affordability and Sustainability	The 5-year average land improvement net capital expenditure[1] as a % of the sustainable annual investment *1 – capital acquisitions + debt repayment +/- net transfers to reserve (2016 to 2020)*	211.6%

3.2 Cost to Maintain Current Levels of Service

The volunteer fire department and all Town staff members are involved—to a greater or lesser extent—in the operation, maintenance and management of capital assets. For some employees, notably public works, facilities and parks staff, asset-related activities are a significant part of their day-to-day functions. For 2021, the total budgeted payroll costs for those employees whose primary role is asset-related was $657,640, and the average budgeted cost per worked hour was approximately $42. The annual cost can vary significantly from year to year based on the number and duration of position vacancies.

The cost of providing the current levels of service is included in **Appendix A** in the "Actual" and current year "Budget" columns. The payroll costs noted above are excluded from **Appendix A** and therefore, to get a complete picture of the cost of providing these levels of service, the total salaries of the employees whose primary role is asset-related should be added.

In **Appendix A**, costs to maintain the current levels of service are shown under the general categories of "Non-infrastructure Solutions", "Operating and Maintenance Activities", "Renewal/Rehabilitation and Replacement Activities", "Expansion Activities" and "Long-term Debt Repayment". Disposal costs are not outlined in this appendix, as per the Town's *Tangible Capital Asset Policy*, asset disposal costs are included in the

cost of any newly-constructed replacement assets, and for purchased assets, no significant disposal expenditures are anticipated.

In the most recent completed fiscal years, the total, combined expenditures were $1,260,151 in 2019, $1,964,291 in 2020, and budgeted to be $2,531,952 for 2021. With the net transfers to reserves for future capital purchases added to these numbers, the combined funding was $2,357,953 (2019), $2,303,278 (2020) and $2,628,167 (2021 budget). Additional detail of some of the components of these expenditures is provided In **Table 13** below.

Table 13 – Cost to Maintain Current Levels of Service

Expenditure Category	2019 Actual	2020 Actual	2021 Budget
Non-infrastructure Solutions	$ 92,575	$ 166,049	$ 149,355
Operating and Maintenance Activities	432,416	409,425	487,521
Capital Acquisitions:			
Hardtop Roads	-	99,432	616,200
Loosetop Roads	24,341	-	-
Bridges and Culverts	16,916	634,125	918,000
Buildings	6,533	19,121	100,000
Rolling Stock	381,304	201,214	39,929
Equipment and Furniture	119,368	64,246	102,828
Land Improvements	158,547	342,528	89,968
Debt Repayment	28,151	28,151	28,151
Total Expenditures	$ 1,260,151	$ 1,964,291	$ 2,531,952

3.3 Issues and External Trends Affecting Levels of Service

There are a variety of internal and external factors which may impact the Town's desired levels of service and ability to meet these service levels in the years to come. The following is a summary of the more significant external trends and factors which could impact the provision of sustainable services to the public.

Impacts of COVID-19: Since December 2019, the spread of COVID-19 has severely impacted economies around the globe. Businesses have been forced to cease or limit operations for long periods of time, or have had to restructure their operations in order to continue doing business. Measures taken to contain the spread of the virus, including travel bans, quarantines, social distancing, and mask and vaccine mandates have triggered significant disruptions to businesses worldwide. While governments and central banks have introduced monetary and fiscal interventions designed to stabilize economic conditions, the duration and impact of the COVID-19 pandemic, as well as the ultimate effect of government and central bank responses, remains unclear at this time. It is quite possible that in the coming years, planned capital expenditures may not be possible due to labour and commodity shortages, or that the cost of capital items, when available, will escalate more rapidly than projected in this Plan.

Weather Events and Climate Change: Broad environmental and weather patterns have a direct impact on municipal infrastructure. Although the future impact of climate change is uncertain, it is widely believed that climate change will lead to more extreme weather events. As a result, the impact of weather events on the Town's infrastructure will need to be considered in defining the levels of service. Examples of specific impacts on Town's assets include the washout of gravel roads due to intense rainstorms, damage to roads and bridges from melt-water flooding, and a decrease in machinery lifespans resulting from increased usage.

The planned actions of government to combat climate change could also directly impact the Town's ability to provide services in the future. Notably, recent drives against the use of fossil fuels and proposals to eliminate gas-powered vehicles in the foreseeable future will undoubtedly impact the way the Town provides services in the coming years.

Fiscal Capacity: Municipalities have historically been heavily reliant on senior-level government funding to provide services at their current levels. In recent years, and not insignificantly in response to the COVID-19 pandemic, senior-government spending and debt has increased dramatically. Given this, it is not clear that municipalities can expect to see the same level of senior-level government support in the years to come.

Mining Development Pressures: The development/opening of the graphite mine within the Town of Kearney could potentially put pressure on the Town's road and bridge infrastructure, requiring additional investment to support its development. Should this initiative progress, the Town will need to explore cost-sharing initiatives to ensure the long-term sustainability of all impacted infrastructure.

Accessibility Standards: Existing and future requirements with respect to accessibility standards may necessitate upgrades to buildings and facilities which are not currently anticipated under the Plan.

Limited Population Growth: Population growth and other demographic changes serve as a significant demand driver for current and future assets. Limited growth in the development and population of the Town is anticipated, which makes it difficult to raise the tax dollars necessary to fund infrastructure spending at an optimal level.

Algonquin Park: The Town of Kearney hosts one of the Park Offices for Algonquin Park. The Town's roads provide a direct and popular link into the park. Unless the Town successfully pursues cost-sharing initiatives for some of these roads, demands for maintenance will result in a reduction in funds available for the Town's remaining road network, which in turn will create difficulties in achieving the levels of service targets.

Community Expectations: There is a recent trend towards heightened standards for health, safety, and environmental protection. Although the general public often has an opinion on how public services should be delivered, there is a disconnect between the level of service expected from the community and what it is willing to pay for. Increased resources for monitoring and managing these expectations are required to ensure the right balance of service level, cost, and risk is maintained.

Organizational Change and Capacity: Formal asset management is a labour-intensive process that requires a significant depth and breadth of knowledge across the organization. The amount of staff time required for this task is expected to increase over time, as new reporting requirements under O. Reg. 588/17 take effect, and as staff becomes more actively involved in asset management.

Since formal asset management planning was mandated by the Province, the Town has not increased its staff complement, and has instead experienced prolonged vacancies in many staff positions. Compounding this issue, in 2021 there has been a great deal of staff turnover, including the retirement of many senior staff members. It will likely become increasingly difficult to manage the workload at current staffing levels.

4.0 Asset Management Strategy

The purpose of an asset management strategy is to establish a set of planned actions that will enable the Town's assets to provide the desired levels of service in a sustainable way (over the long term), while managing risk, at the lowest possible cost to municipal taxpayers. Consequently, establishing a strategy involves considering the different actions over the lifecycle of the assets that would allow them to provide the needed level of service, and the potential risks and costs associated with each option, as a means to extract the maximum possible value out of the Town's assets.

Acquiring assets and simply letting them deteriorate until they are no longer useable is one strategy. Conventional wisdom suggests, however, that within most asset classes there are key times within the lifecycle that smaller maintenance or rehabilitation investments can increase an asset's lifespan, thereby delaying the need for replacement, and lowering the overall cost of owning that asset. It is generally accepted that doing reactive replacement of assets in the worst condition, the approach often followed by the Town in the past, has the highest lifecycle cost of all available options.

Many industry studies have been conducted around this theme, particularly in relation to roads and bridges. One such analysis, included in the Town's original Plan prepared by D.M. Wills Associates Limited, is presented in **Appendix D**. In this lifecycle analysis, it is demonstrated that a pavement management approach of strategic preventative maintenance and rehabilitation is approximately 23% cheaper than one of performing no preventative maintenance and simply replacing the asset at the end of its useful life. The appendix also provides an example of a strategic bridge maintenance program, which is approximately 50% cheaper than a strategy of no maintenance.

In another published study, using industry standard activities and costs, the costs for various road activities per year of added life were calculated. These are presented in the **Table 14**. This study supports the analysis presented in **Appendix D**, and shows that if applied at the right time in an asset's life, maintenance and rehabilitation activities have a lower cost per year of life added than reconstruction does.

Table 14 – Cost Per Year of Added Life

Treatment	Additional Years of Life	Condition Range	Cost per Year of Added Life as a % of Reconstruction
Paved Road - Reconstruction	35	25-0	100%
Paved Road – Resurface	18	50-26	69%
Paved Road – Crack Sealing	4	75	16%
Surface Treatment – Reconstruction	25-30	25-0	100%
Surface Treatment – Resurface	15-18	50-26	76%
Surface Treatment – Crack Sealing	4	75	11%

In yet another analysis it was determined that timely maintenance and rehabilitation activities could extend the useful life of road assets as follows:
Paved Roads – increase lifespan from 25 years to 58 years;
Surface Treated Roads – increase lifespan from 20 years to 33 years;
Gravel Roads – increase lifespan from 10 years to 16 years.

The above examples are three of many studies that illustrate the potential benefits of abandoning the historical strategy of "fix it once it's broken" to a strategy of "fix it before it breaks" (hereinafter referred to as the "preservation management approach"). Ideally, over time, as additional asset and financial data become available, the Town will be able to conduct such analyses on its own assets. However, at present the Town does not have the internal resources to do this, and has instead, accepted the general applicability of these best management practices to its own assets.

The full application of the preservation management approach outlined below is likely not feasible in the short-term. Under this approach, staff time must be diverted away from their traditional duties towards monitoring the condition of the assets and preventative maintenance activities. Additionally, with some assets in conditions beyond the point of preservation management techniques, funds will be required to address the most significantly deteriorated assets leaving fewer funds for keeping the good assets good.

Consequently, it is the Town's intention to immediately move towards this approach, by applying the best management practices outlined below when financially feasible. This will require the cooperation of Council and staff: Council must allocate sufficient resources to implement best management practices; staff must recommend and employ the best management practices.

In addition to moving towards the preservation management approach, the Town will immediately incorporate the following generic strategies in their capital planning:

- non-essential capital projects will not be undertaken at the expense of preservation management activities;
- in lieu of delaying projects or purchasing specialized equipment, use of external contracted services will be considered;
- additional assets will not be constructed/acquired without considering the impact such expenditures may have on future operations and expenditures;
- the possibility of renting/leasing an asset (e.g., buildings or equipment) or jointly purchasing assets with neighboring municipalities will be considered prior to acquiring/constructing a new asset;
- as a means to control demand for increased levels of service, local improvement charges will be considered when increases in service level will benefit a specific group of taxpayers;
- the Town will be prepared to capitalize on senior government funding opportunities as they arise.

4.1 Condition Assessment Programs

The preservation management approach is a take on consistently doing the right thing at the right time throughout the entire life cycle of the asset, rather than waiting for the asset to disintegrate before intervening. Since the effective application of a preservation management approach involves actually knowing/being able to predict what the condition of your assets is, a necessary component of the strategy is to establish condition assessment protocols. As part of the Town's strategy, the following condition assessment approaches are planned:

Roads - A road needs study, prepared by a professional engineer, will be completed every five years. Typically, these studies include a schedule of priority road projects, based on a "worst first" approach. In lieu of this, the consulting engineer will be requested to provide a schedule of priority road projects based on the application of the preservation management approach. A 10-year plan for road expenditures should be developed as part of the engagement, and will provide the basis for the Town's planned expenditures. Municipal staff should review the per-unit cost estimates with the engineer contracted to prepare the study, to assure reasonable local-area rates are incorporated. Prior to including in subsequent annual budgets, proposed roads are to be reviewed in the field to ensure the suggestions of the roads needs studies reflect the real-world condition of the road assets.

Bridges and Culverts – Ontario municipalities are mandated to inspect all bridges and culverts over 3 metres in span according to the Ontario Structure Inspection Manual (OSIM). An OSIM inspection on all qualifying bridges and culverts will be conducted every two years by a qualified engineer, as required by the Ministry of Transportation. Items noted in the inspections will be incorporated into subsequent annual budgets. Again, the consulting engineer will be requested to provide a ten-year work schedule, incorporating cost-effective preventative maintenance and rehabilitation work as appropriate, in addition to recommending if supplementary studies on particular bridges are required. Recommendations in the OSIM reports will form the basis of planned capital expenditures.

Buildings – An informal building assessment of the buildings for which they are responsible will be performed annually by the managers of public works, parks and recreation and the fire department. These assessments will be presented to Council as part of the annual budget deliberations. From there, it can be determined which planned actions should be taken as part of the asset management strategy.

The community centre was formally assessed by a trained industry professional in 2020, and the Town is not contemplating any additional formal building assessments at the present time. In such assessments, various components of the building (site components, structural components, electrical components, mechanical components, vertical movement) are inspected, and a facility condition index (FCI) is often calculated. The FCI is an industry standard numerical summary of a building's condition, which measures the value of required improvements as a % of the total building value.

In the future, the Town may consider having a formal inspection completed before any major refurbishment or rehabilitation is performed on a building.

Rolling Stock– Vehicles and machinery have routine inspections as required by legislation and operational needs depending on the use of the asset. Vehicles and machinery are serviced both in-house and outsourced depending on the level of technical ability required. A more proactive preventative maintenance program is not currently being considered.

Other Assets - the inventory is comprised of many different types of assets, and each asset type requires a specific inspection system which is determined by examining the risks of damage to property or inconvenience or injury to the public associated with them. Critical assets, such as those asset types with associated safety or high value, will be the subject of greater scrutiny than those with lower risks or value. At minimum, routine visual inspections are to be carried out by staff while performing daily tasks to ensure there are no obvious hazards, and reactive inspections will occur in response to a complaint/request from the general public.

4.2 Risk Assessment

When establishing levels of service, when designing strategies to meet those levels of service and when distributing available funding over competing projects, the risks associated with various courses of action must be taken into account. Risk can be viewed as a function of the following:

(a) the probability of an event occurring; and

(b) the consequence of an event occurring (the effect of changing the level of service, having an asset fail, or of not completing a project).

As part of the preparation of its strategy, the Town has researched quantitative risk models developed or employed by other municipalities. Typically, in these models, numerical values are assigned to both the probability and consequence of failure for each asset, theoretically allowing for an objective assessment of its associated risk.

In reality, the Town has seen very little evidence of the effective or consistent use of such quantitative models. Further, the process for determining and weighting the numerical values is highly subjective. Consequently, the Town has decided not to employ any such models in its own risk assessment plan, and instead will employ a qualitative method of assessing the risk of various asset management options in accordance with ISO Risk Management standards.

In its simplest form, the probability of failure can be determined by considering how frequently an event has occurred in the past or is projected to occur in the future. It is worth noting that, in this context, "failure" refers not to a complete loss of utility, but to

any inability for the asset to perform its normal function. **Table 15** can be used to assign a "probability" score to each asset:

Table 15: Probability Ratings

Grade	Value	Probability Rating	Frequency Descriptor
A	Virtually Certain	>80%	Will or has occurred multiple times in a single year, over a multi-year period
B	Probable	50-80%	Will or has occurred once per year on average
C	Possible	20-50%	Occurs around once every five years, on average
D	Unlikely	5-20%	May occur within the next 20 years
E	Rare	<5%	Unlikely to occur within the next 20 years

Further, the consequence of failure can be considered as a function of five impact areas: health and safety, community, legal, financial, and environmental. Each of these areas have been incorporated into **Table 16** below:

Table 16: Consequence of Failure Matrix

	Value	Health and Safety	Community Impact	Legal Liability	Financial Impact	Environmental Impact
A	Catastrophic	Threat of death, both of staff and the public.	Immediate and prolonged impact to the community. Reaction is substantial and requires a significant outlay of resources to rectify.	Town faces a serious and credible threat of multiple lawsuits arising, which may exceed the available insurance coverage. Additional threat of class-action suits.	Budgetary impact above $1,000,000 (total annual net operating income available to finance capital). All other projects postponed; debt financing required.	Significant impact to natural environment which requires a large outlay of resources to rectify; multiple years to restore; MNR notified.
B	Major	Prolonged hospitalization and permanent injuries; not life-threatening.	Community concern is raised quickly and to a high level. Some resources are required to resolve issues.	Town faces a serious and credible threat of multiple lawsuits arising, which may exceed the available insurance coverage. Future insurability questionable.	Budgetary impact from $400,000-$1,000,000; debt financing required; some projects postponed.	Impact to natural environment requiring at most one year to rectify.
C	Moderate	Hospitalization for a single day at most. Injuries present, but not life-altering.	Community raises concerns; however, these can be dealt with internally without escalating to a higher level.	Town faces a threat of one or more lawsuits; however, the total damages are expected to be within insurance limits. Some concern to future insurability.	Budget impact from $100,000-$400,000; debt not required; some capital projects postponed.	Some impact to the natural environment requiring up to six months to rectify.
D	Minor	Minor injuries occur; visit to hospital not required.	Issues are noted by the public, but are not brought forward for action.	Town faces a threat of one or more lawsuits; however, the total damages are expected to be within insurance limits. No threat to future insurability.	Budget impact < $100,000; may be managed with existing funds, no debt required.	Minor damages to the environment which require at most one month to restore.

Once both probability and consequence factors are assigned, these two matrices culminate in the assignment of a risk level to the asset that can be used to help prioritize projects under limited financial capacity. This is illustrated in **Table 17** below:

Table 17- Risk Matrix

	Consequence				
Likelihood	E Insignificant	D Minor	C Moderate	B Major	A Catastrophic
A- Certain	Medium	Medium	High	High	Extreme
B- Probable	Medium	Medium	Medium	High	Extreme
C- Possible	Low	Medium	Medium	High	High
D- Unlikely	Low	Low	Medium	Medium	High
E- Rare	Low	Low	Medium	Medium	Medium

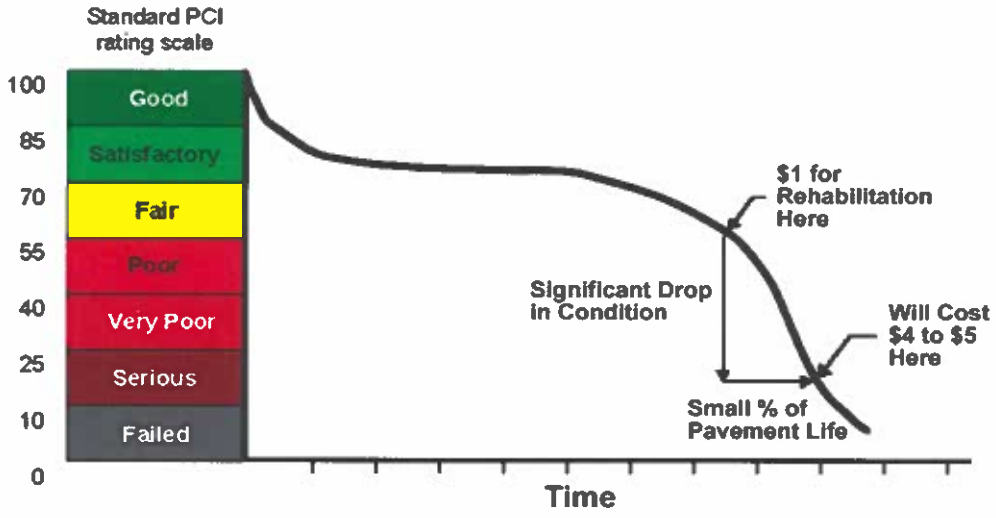
4.3 Asset Management Strategy Roads – Best Practices Framework

The following information related to the implementation of a preservation management approach and best management practices was provided by D,M. Wills Associates Limited for the original version of the Town's asset management plan. The information continues to be valuable guidance for Public Works and Council alike in the application of the preservation management approach.

4.3.1 Roads Best Management Practices

As discussed in the introduction to this section, extensive industry research has proven that the key to managing a road network is the timing of maintenance and rehabilitation activities. This idea evolves from the fact that deterioration of a road over its lifespan is generally non-linear. A road generally provides a constant, acceptable condition for the first part of its service life—perhaps the initial 70% of its life-- and then as defects occur, begins to deteriorate very rapidly. If the proper work is not completed during this deterioration phase, surface defects and road drainage can be affected to the point that base failure results and reconstruction of the road is the only available option. **Figure 3** illustrates the underlying principle in support of a preservation management approach to pavement infrastructure. The principle also has application to each of the classes of roads maintained by the Town.

Figure 3- Typical Service Life of an Asphalt Pavement



Over a road's lifecycle, depending on the condition of the road and the nature of the defect, there are number of different maintenance, rehabilitation and replacement activities that are recommended to minimize the cost of keeping the road in acceptable condition. These can generally be categorized as: preventative maintenance; rehabilitation; replacement/reconstruction. The thresholds for when work

activities should be applied coincide approximately with the condition of the assets as shown below:

- Assessed condition rating 100-76 – preventative maintenance phase - apply relatively low-cost preventative maintenance activities such as crack sealing on paved and surface treated roads
- Assessed condition rating 75-50 – rehabilitation phase – resurface options such as mill & pave, asphalt overly, single and double surface treatments
- Assessed condition rating less than 50 (for roads that exhibit defects attributable to the failure of the base soil layers beneath the surface) – reconstruction phase

Preservation management treatments for each type of road are discussed further below.

4.3.2 Preservation Management Approach for Roads

The Town intends to rely on ongoing staff condition assessments in conjunction with recommendations in future Road Needs Studies to implement the preservation management strategy for the management of its roads. Each of the preservation management activities identified below are guidelines only. Road deterioration rates and the type of deterioration will dictate when action should be taken and what kind of treatment is most appropriate. The treatments outlined below should be considered in any future updates of the Road Needs Study and recommendations on the specific treatments required should be documented and prioritized by the consulting engineer.

A. Gravel Roads

Gravel roads require frequent maintenance, as wheel motion shoves material to the outside as well as in-between travelled lanes, leading to rutting, reduced water run-off, and eventual severe road deterioration. If interrupted early enough this deterioration process can be prevented: simple regarding and compaction is sufficient, with material being pushed back into the proper profile. In addition to this, lifecycle activities include gravel spot and section replacement, dust abatement, ditch clearing and cleaning and roadside brushing. Through these perpetual maintenance activities, full reconstruction of gravel roads can be avoided.

A preservation management approach for this class of road, presented as a guideline only, is outlined in the following tables.

Table 18 – Preservation Management Approach - Gravel Roads

Action	Frequency
Regrade surfaces to maintain smooth/safe driving surface and proper crossfall	As needed. Generally 2-3 times per year for higher volume roads; 1-2 for lower volume roads
Add calcium to tighten surface, retain aggregate and reduce dust	Each spring on all roads or higher volume and as needed during summer months. OGRA recommends 4t per kilometer
Ditch and brush right-of-ways to improve roadbed drainage and safety	Complete road network every 10 years

Table 19 - Capital Activities – Gravel Roads

Action	Frequency
Add layer (75mm) of granular material to road surface	Every 3 years for class 4 and 5 roads; every 5 years for class 6 roads
Base and sub-base improvements	As needed or as dictated by traffic volumes
Reconstruct/convert to hard top	As dictated by traffic volumes

B. Surface Treated Roads

A guideline preservation management strategy for surface treated roads is presented in the following table.

Table 20 – Preservation Management Approach – Surface Treated Roads

Activity	Age (Years)	Condition Rating	Service Life Extension (years)
Slurry seal	3	8	4
Slurry seal	6	7	3
Double surface treatment	10	6	5
Pulverize and DST	14	<4	8

In addition to the above-noted preservation approach, the following best management practices should be employed to preserve the surface, extend the service life and reduce lifecycle costs of surface treated roads:

1. Surface treatment should be applied to the entire road platform, from "grass to grass", including any shoulders. This will eliminate grading on surface treated roads, which has a tendency to damage the edge of the surface treatment and cause premature failure of the surface.

2. Suitable new technologies should be utilized where they can be demonstrated to reduce life cycle costs, such as fibre-reinforced surface treatment. This technology can be used to mitigate reflective cracking when a single or double surface treatment is applied over an aging surface. It can eliminate the need for

pulverizing the underlying surface in certain situations and can reduce overall costs.

3. Drainage and culvert needs should be assessed prior to any significant renewal or rehabilitation strategy and any improvements should be completed concurrently. This will eliminate the need to cut/excavate a relatively new surface to replace a culvert.

4. Ditching and clearing (brushing) of the right-of-ways should take place to improve roadbed drainage and safety.

C. Asphalt Roads

Asphalt surfaces are the smoothest, most durable and most expensive road surface used by the Town. **Table 21** below summarizes preservation management activities to be considered for asphalt roads:

Table 21 - Rural Asphalt Roads

Activity	Age (Years)	Condition Rating	Service Life Extension (years)
Crack seal	2-6	9	2
Slurry seal/ Microsurface*	4-8	8	4-6
Overlay	12-15	6-7	10
Pulverize and Pave	20-25	<5	20
Reconstruct	30	<4	30

*Slurry seal can be used on lower volume paved roads (less than 1000 vehicles per day). For roads with volumes in excess of 1,000 vehicles per day, microsurfacing should be used.

In addition to the above-noted preservation approach, the following best management practices should be considered to extend the service life and reduce life cycle costs of asphalt roads:

1. Review the condition of other infrastructure, particularly underground infrastructure prior to implementing any major renewal or rehabilitation of the pavement. Any repairs or capital upgrades to other infrastructure should be coordinated (refer to Section 4.8 for discussion on Integrated Capital Planning). This should reduce utility cuts in newer asphalt.
2. Repair potholes in the surface in a timely fashion to prevent saturation and weakening of road base.
3. Undertake regular shouldering program of rural paved roads to promote proper drainage. Poorly maintained shoulders allow surface water to pond and saturate the road base, which weakens the base and leads to cracking at the edge of pavements.

4. Undertake a ditching program to ensure there is adequate drainage for road base on rural roads. This will reduce the likelihood of structural distresses caused by softening of the road base due to poor drainage.
5. Specify the appropriate type of performance graded asphalt cement for the location.
6. Undertake a clearing program to reduce shading of the roadbed and remove roots/vegetation from the road base.

4.4 Asset Management Strategy Bridges and Culverts – Best Practices Framework

4.4.1 Bridges and Culverts Best Management Practices

As with roads, the structural integrity of bridges and culverts do not fall constantly with time. A new bridge or culvert generally provides a constant, acceptable level of service and condition for the first part of its service life and then begins to deteriorate more rapidly as time progresses. Studies have shown that it is more cost effective to apply more frequent, less costly maintenance and rehabilitation treatments to structures rather than waiting for serious signs of structural failure to become noticeable.

4.4.2 Preservation Management Approach for Bridges and Culverts

The Town intends to rely on recommendations provided in biennial OSIM inspections to implement a preservation management strategy for managing its bridge assets (including culverts larger than 3 m). Each of the preservation management activities identified below should be considered as part of the biennial structure inspections. Deterioration rates and the type of deterioration will dictate when action should be taken and what kind of treatment is most appropriate. Recommendations on the specific treatments required should be documented and prioritized in the OSIM Inspection. A 10-year plan for bridge expenditures should be developed as part of the engagement.

A. Bridge Management Strategy

Bridges are complex structures that generally transmit live loads directly though their structure to a foundation, and are made up of several elements including the foundation, the substructure (abutments or ballast walls) and the superstructure (deck). Bridges are designed with a 75-year service life, but to achieve this lifespan, intervention at periodic times is required. Through rehabilitation, it is also possible to extend this lifespan to approximately 100 years, delaying the need for costly replacement. **Table 21** summarizes a preservation management strategy that is applicable to bridges:

Table 21 - Bridge Preservation Management Strategy

Activity	Age (Years)	Condition Rating	Service Life Extension (years)
Minor Repairs	10-20	80-90	2-5
Minor Rehabilitation	30	65-70	20
Major Rehabilitation	50-60	50-60	40
Replacement	75	<40	75

Over the life of a bridge, two minor rehabilitations and one major rehabilitation can be anticipated. Minor rehabilitations typically involve repairs to the bridge deck, railing system, deck joints, and other concrete components. A major rehabilitation would include a full deck replacement.

B. Structural Culvert Management Strategy

Culverts transmit loads through fill to a foundation. Structural culverts are typically designed with a 75-year service life similar to a bridge. However, in order to achieve this lifespan, careful selection of culvert material considering the site chemistry and culvert exposure is required. Intervention at periodic times is also required. **Table 22** summarizes a preservation management strategy that could be applied to culverts:

Table 22 - Culvert Preservation Management Strategy

Activity	Age (Years)	Condition Rating	Service Life Extension (years)
Culvert material/ coating Selection	at Design		
Minor Repairs (patching, re-coating - partial or full, cleanout etc.)	10-20	80-90	2-5
Minor Rehabilitation (e.g., waterproofing, coating)	25	65-70	20
Major Rehabilitation (overlay, invert paving, lining etc.)	35 – 50	50-60	40
Replacement	75	<40	75

In addition to the above-noted preservation approaches, the following best management practices should be employed by the Town to extend the service life and reduce life cycle costs of bridges and culverts:

1. Undertake minor bridge repairs as recommended in the OSIM Inspection reports. Minor repairs are critical as they address problems while they are still small and cost effective to repair. Repairs may include, hand rail repair, pothole patching, concrete patches, repair to joint armouring, tightening steel bridge hardware, regrading of approaches or embankments, erosion prevention, crack sealing, etc.

2. Sweep and clean bridge decks and deck drains each spring. This will allow for inspection of the bridge surface and will promote positive drainage on the deck. This will eliminate standing water that has the potential to penetrate the wearing surface and cause premature deterioration of the deck.

3. Replace expansion joints AS SOON AS THEY ARE DAMAGED or worn. Expansion joints are flexible joints between the bridge deck and the approach slabs on a large bridge. Once they are damaged, they allow water to penetrate down to the abutments and bearing seats, which causes premature deterioration of

these areas. Expansion joints are (relatively) inexpensive and their timely replacement can delay very costly rehabilitation work on the sub-structure.

4. Complete deck condition assessments on any larger structures as outlined in the OSIM reports. Deck condition assessments involve exploratory work to properly assess the extent of deterioration of the deck. They will help define the extent of rehabilitation required on a bridge deck.

5. Undertake localized or complete painting of steel girders, truss members or other steel members as recommended by OSIM inspections.

6. Cleanout culverts as need to prevent standing water or sediment collection in the culvert.

7. Stabilize embankments and inlet/outlet to prevent erosion and "piping" around the culvert. Ensure appropriate headwall/cutoff walls or clay seals are in place.

8. At the time of replacement, consider alternatives such as using pre-fabricated steel structures to replace small bridges on rural, low volume roads.

4.5 Asset Management Strategy Buildings – Best Practices Framework

Due to the high cost of new building construction, the Town's general strategy for buildings is to undertake maintenance and upgrades on its existing buildings to ensure, as a minimum, the expected useful service life of each building is realized, with the goal of using each building beyond its expected service life. Prior to performing major upgrades/rehabilitation on any building, the continued need for the building, the overall condition of the building, and suitability for its intended purpose will be evaluated to ensure that continued rehabilitation is the most appropriate strategy.

4.5.1 Building Best Management Practices

Deterioration of buildings over time varies from one building to another due to the type of construction, the environment, the usage of the building and the level of maintenance over its lifespan. Consequently, no overriding lifecycle management strategy has been recommended in the literature we have seen. Instead, the recommended approach is to program regular inspections to identify potential failures and deterioration, and ensure that problems are addressed before they become critical or cause additional damage.

On an ongoing basis, the Town should employ the following best management practices in maintaining its buildings:

1. Program inspections on a regular basis, including inspections by trained professionals on a periodic basis.

2. Maintain exterior sealants and flashing to ensure no water penetration.

3. Ensure grading is such that surface water (drainage) is directed away from the building or into soak away pits.

4. Repair damaged exterior elements (e.g., steel sheathing, roofing, cladding) as soon as the damage occurs to prevent further deterioration.

5. Annually inspect and remove debris from roof drains, gutters, downspouts.

6. Enact or maintain service contracts for building systems such as HVAC as per manufacturer recommendations or as otherwise deemed necessary.

7. Consider retrofitting buildings to enhance energy conservation.

8. Pump-out septic tanks on a regular basis.

9. Maintain heating and HVAC systems through annual cleaning of furnaces and replacement of filters. Provide for humidity and moisture controls to prevent mold.

4.6 Asset Management Strategy Rolling Stock and Equipment – Best Practices Framework

It is generally thought that the optimal approach to managing rolling stock and equipment is through routine inspections, servicing and preventative maintenance programs. Usually maintenance manuals, that are supplied at the time of purchase, outline the appropriate schedules and routines for regular maintenance and servicing.

Through a condition assessment program, staff can make note of equipment or part deterioration so they can schedule to replace or repair worn parts before they fail, thus avoiding the consequence of failure of the asset.

The general strategy is to replace the asset when the cost/benefit of replacing the asset exceeds the cost/benefit of continued maintenance and rehabilitation. This requires a prediction of the future condition of a given asset. Research into the historical costs of major equipment over time will be incorporated into future versions of this Plan.

4.6.1 Rolling Stock and Equipment Best Management Practices

The Town should employ the following best management practices to maintaining their rolling stock and equipment:

1. Assets to be serviced on a regular basis, as per manufacturer recommendations or as otherwise deemed necessary by the manager.

2. Asset failures shall be repaired at the earliest opportunity to prevent undue wear and tear.

3. Assets shall be used with care.

4. Assets will be stored indoors whenever possible.

5. Winter sanding/salting vehicles will be washed after use to remove salt/sand residue.

6. Operators shall be properly trained on the use and care of the rolling stock.

7. Vehicles shall be locked and parked in a safe location, when not parked at their home facility, to prevent the potential for vandalism and theft.

4.7 Asset Management Strategy Land Improvements

The general strategy for land improvements is to maintain them as needs are identified in attempt to ensure they are available for use up to or beyond their expected service lives, and to re-evaluate the need for the asset prior to its replacement. Assets are scheduled for replacement when their functionality or condition renders them inadequate to support the intended level of service.

4.8 Integrated Capital Planning

The best management practices outlined above treat each asset group as a stand-alone system (e.g., the road network, the bridge network, etc.), and suggest that optimal capital investment decisions are triggered primarily by the asset's current condition. However, it is also important to understand and implement an integrated capital planning approach to realize maximum value for money invested. As an example, it is not generally cost-effective to replace a road surface in Year 1, only to go back and replace services beneath the road--and have to replace the surface again--5 years later. The scheduling and prioritizing of projects should be an integrated approach across related assets.

The following integrated capital planning practices shall be adopted by the Town in developing work priorities.

A. Road rehabilitation work adjacent to structures planned for replacement shall be considered for tender with the structure replacement work or after structure, work is complete.

B. Road and bridge priorities shall give due consideration to short and long-term development plans (e.g., turning lane requirements, utility cuts, etc.).

C. Any identified road base deficiencies will be reviewed when road resurfacing occurs (e.g., increasing road width, creating an emergency bypass).

4.9 Procurement Methods

The Town has in place and shall adhere to its current *Purchasing By-Law* in retaining services to manage, maintain and improve its infrastructure assets under this Plan.

Alternative procurement methods shall be explored as the opportunities for such arise including:

Joint Tendering - e.g., line painting, gravel/salt bulk purchase to realize potential economies of scale

Retainer Services - e.g., engineering, consultant retainers to minimize procurement costs

Shared Services - pooled services with other municipalities.

5.0 Financing Strategy

5.1 Overview

When the Province adopted its long-term infrastructure plan for Ontario ("Building Together") in 2011, one of its guiding principles was that *those who benefit directly from municipal infrastructure should pay for the service, whenever feasible*. While the Province continues to assist municipalities with their infrastructure challenges, it is clear that every municipality is expected to move towards the sustainable management of its own capital assets: to ensure that, as assets need to be repaired, replaced and augmented, each municipality will be able to finance its own requirements.

The Town of Kearney, as with many rural and small urban municipalities, is faced with sustaining a substantial inventory of capital assets with a limited tax base. One oft-cited measure of the current funding shortfall is "the infrastructure deficit", which is typically defined as "the added investment that would be required to maintain the Town's infrastructure at appropriate service levels in a good state of repair". Such a measure could be calculated in many ways. In the Town's case, a comparison of the "sustainable annual investment" (as defined earlier in this Plan) and the current level of net capital expenditures produces one measure of this deficit. The sustainable annual investment is currently calculated to be $1.68 million, while the five-year average net capital expenditures on all asset classes was $1.1 million, producing an infrastructure deficit of approximately $.7 million annually.

In the short-term it is not feasible to bridge this funding gap. For this Plan, the Town has focussed on funding those projects summarized in **Appendix A** and detailed in **Appendix B**. The projects are based on the combined strategies of the preservation management approach and end-of-life replacement. An outline of how these revenues and expenditures were estimated is presented in the sections that follow.

It should be noted that this section of the Plan is not intended to replace the Town's standard budgeting practices. With the preservation management approach, it is vital that the actual field conditions of assets are regularly monitored, and rehabilitation/replacement projects are timed appropriately. Instead, the revenue and expenditure estimates are based on the current best guess of when capital expenditures will be required, and where the related funding sources will lie if the prescribed approach to tax rate increases, debt and other sources of financing are followed.

Historically, capital projects come under the microscope annually, when Council engages the annual budgeting process. At that time, current cost estimates and Council/staff/ratepayer priorities are matched with available funding. A key deciding factor on the approved capital projects for the year is inevitably the impact that the capital expenditures in conjunction with the less discretionary operating expenditures will have on the tax levy.

Even though the urgency of particular projects changes over time as does the outlook of Council/Council itself, there are advantages to taking a longer view of capital requirements than the current 1-year view (i.e., preparing a longer-term capital budget):

- **Increases opportunities for obtaining Federal and Provincial funding**. For virtually all funding available today, it is necessary to demonstrate how the proposed project is a priority in the Town's *Asset Management Plan*. Additionally, there is often a very short window between the announcement of funding and having "shovel ready" projects for submission.
- **Can help to avoid sudden changes in its debt service requirements and spikes in its tax rates**. By being aware of future needs and projects, the public and Council alike are less likely to view the annual budget as an end in itself, rather than part of a continuous process of expenditure/revenue generation. This might help justify to both the public and Council such things as increasing the annual levy above what is absolutely required in an effort to reserve money for known upcoming capital requirements, or to be more selective about when debt financing is to be used.
- **Facilitates the avoidance of costly mistakes** such as performing major repairs to assets that are likely to be replaced in the near future.
- **Focuses attention on community objectives and fiscal capacity**. As a result, staff, Council and the public are more likely to consider how proposed asset expenditures will contribute to the desired service levels and the trade-offs that must be made to be affordable.

5.2 Expenditures

A summary of the anticipated expenditures and related sources of funding is presented in **Appendix A**. The capital acquisitions summarized in this appendix are supported by a detailed 10-year asset replacement schedule, presented in **Appendix B**. Details of the historical capital-asset-related operating expenses—identified in **Appendix A** as non-infrastructure solutions and operating and maintenance activities—are provided in **Appendix C**.

For the purposes of forecasting future expenditures, an annual inflation factor of 5% has been used.

Highlights of the expenditures follow.

A. Operating Expenses

Operating expenses for capital assets have been projected by inflating historical costs, and including specific non-infrastructure solution costs (such as OSIM inspections) when the timing is known. Due to the uncertainty about future price level changes, and limitations in both current staffing levels and the historical segregation of data in the Town's general ledger, a more sophisticated approach to estimating operating costs was not considered to be warranted at the present time. The operating expense section will be more fine-tuned to changes in the asset base in future iterations of this Plan.

Over the 10-year planning period it is estimated that approximately $8 million of capital-asset-related operating expenditures will be incurred. As noted in the Levels of Service section of this Plan, this excludes payroll costs for those employees involved in asset management and maintenance. The staffing levels—and resulting payroll costs—are considered fixed operating expenditures, unlikely to vary with the planned level of capital asset activity.

B. Hardtop Roads

Capital expenditures on hardtop roads are geared to implementing a preservation management approach, with additional expenditures included for roads currently considered to be in unacceptable condition. Using this approach, priority was given to roads for which a single layer of pavement or surface treatment, rather than full replacement of the surface, appears to be feasible. If this treatment was not considered feasible, work within the 10-year planning horizon was not budgeted.

The identified hardtop road expenditures (inflated to future $) over the 10-year period are $5,521,789, ranging from a high of $1,949,410 in 2027 to a low of NIL for both 2030 and 2031. In the 10-year period it is anticipated that roads originally paved under large BCF and G8 grants will require a new layer of asphalt, or micro-surfacing.

C. Loosetop Roads

Capital expenditures on loosetop roads are based on applying a 3" (75 mm) lift of gravel on a 5-year rolling cycle. All roads, regardless of traffic volume, have been included in this cost, with the exception of Rain Lake and Forestry Tower Road. For these two roads this extent of gravelling is cost-prohibitive and the Town intends to explore cost-sharing initiatives before a rehabilitation plan is established for them. In addition, costs associated with the relocation of a section of Clam Lake Road, currently in progress, have been included in year 1 of the Plan.

The identified loosetop road expenditures (inflated to future $) over the 10-year period are $1,836,881. This is based on an initial lump-sum gravel cost—not earmarked for specific roads--inflated each year over the 10-year period. with the Clam Lake Road expenditures increasing the 2022 requirement by an estimated $120,000.

D. Bridges and Culverts

The 2021 OSIM inspection report recommended rehabilitation work on 7 of the Town's bridges and culverts in the next five years, and suggested that a structural evaluation of Sucker Creek bridge is necessary to determine whether rehabilitation or replacement is appropriate.

The 10-year forecast assumes that replacement of Sucker Creek Bridge will be necessary, and this has been included in the Plan for 2027. The balance of the rehabilitation work identified in the OSIM inspection is included in years 1 to 4 of the Plan. Beyond the work identified, no additional capital expenditures have been forecasted for years 7 to 10.

Total expenditures over the 10-year period are estimated at $3,157,740.

E. Buildings

In total, $267,590 of building capital expenditures are included in year 1 of the Plan. With the exception of the community centre, required capital expenditures for buildings have been based on when the buildings will reach the end of their useful service lives (as determined by the Town's current amortization policy). Since none of the Town's buildings will be reaching the end of their useful lives within the 10-year period, no capital expenditures have been included for most years of the Plan.

A recent assessment of the community centre has identified the immediate need for HVAC system replacement and roof repairs, with these estimated costs included in year 1 of the Plan. Additional work on the community centre, including the potential construction of additional office space, is currently under consideration. All costs and potential related funding for this project have been excluded from this Plan, since neither can be estimated at the present time.

F. Rolling Stock

$3,009,155 of expenditures for the replacement of existing rolling stock have been included in the 10-year Plan. The expenditure for each asset has been recorded in the year staff is currently contemplating replacing it. The proposed timing of asset purchases is as follows:

- Year 1 – Excavator
- Year 2 – Fire pumper, tandem truck
- Year 3 – Parks pickup truck
- Year 5 – Fire float trailer
- Year 6 – Tandem truck
- Year 8 – Public Works F550
- Year 9 – Fire pickup, grader
- Year 10 – Public Works pickup, tandem truck.

The replacement of the 2nd fire pumper is not included in the current Plan. This asset will be 20 years old in 2030, but Council has recently discussed keeping it in service for 25 years.

G. Equipment and Furniture

$825,648 of expenditures for the replacement of existing equipment and furniture has been included in the 10-year Plan. The timing of some of these expenditures, notably those on fire equipment and large public works assets, are based on estimates by the related managers. The timing of other asset replacements has been based on when they will have reached the end of their useful service lives (as determined by the Town's current amortization policy).

Significant expenditures included in the 10-year plan include:

- Year 1 – 8 SCBA and air bank upgrade ($126,000)
- Year 2 – 4 SCBA and extraction equipment ($81,584)
- Year 6 – brush hog ($53,604)
- Year 9 – sweeper and Regatta stage cover ($61,708)
- Year 10 – surveillance equipment, multi-function printer, photocopier, electronic sign ($86,198)

H. Land Improvements

Land improvements at the community centre (such as the parking lot and septic system) are nearing the end of their expected useful lives. However, replacement of these assets has not been included in the 10-year Plan, as the extent and timing of work on the related building is currently under consideration. A significant portion of the Town's other land improvements have been recently purchased, constructed or refurbished, and are not expected to require rehabilitation or replacement within the 10-year Plan period.

In total, $162,392 of land improvements is forecasted for the next 10 years, including an estimated $67,000 expansion activity in year 1 of the Plan related to the development of a new parking lot at Island Lake. Other expenditures include the replacement of the Town site transfer station shelter, currently considered to be in poor condition, in year 1 of the Plan, and of the Lion's Park gazebo at the end of its estimated useful service life in year 7.

I. Net Transfers to (and from) Reserves

Transfers to and from reserves play an integral role in the Town's concept of sustainable annual investment. If sufficient funding was available, to meet its sustainable investment targets the Town would compare the annual investment in capital acquisitions plus related debt repayments to the sustainable investment level for each asset class. Any shortage/surplus expenditure in the year would then been transferred to/from reserve for each asset class. In this way, the total annual investment in capital assets--past (via debt repayment), present (via actual capital purchases) and future (via reserves set aside for future capital purchases)--would match the sustainable investment level for each asset class.

Since it is not financially feasible for the Town to achieve this level of investment at present, reserve transfers designed to achieve sustainable investment for each asset class have not been incorporated into the 10-year Plan. Instead, reserve transfers have been recorded to ensure that there is neither a funding shortfall or surplus relative to financial requirements in any year of the Plan.

The annual net transfer to/from reserves for each year of the Plan is reported on page 1 of **Appendix A**, and further detail for each reserve is provided on page 2 of the appendix. Highlights of these transfers are as follows:

From Reserves

- Year 1 – existing reserves used for the community centre roof, SCBA, air pack and excavator. The general capital reserve used for paved roads to balance funding requirements
- Year 2 – fire truck and fire equipment reserves exhausted for the purchase of the pumper truck and the balance of the existing road equipment reserve used for the tandem purchase. The general capital reserve applied to paved roads to balance
- Year 3 – the existing municipal capital reserve exhausted for paved roads and the bridge reserve used to balance
- Year 4 – bridge reserve used to balance
- Year 5 – bridge reserve exhausted
- Year 6 – accumulated reserve used for the Regatta band shelter replacement
- Year 7 – existing Lion's Park reserve used for the gazebo replacement.

To Reserves

- $80,000 transferred to the building reserve annually, when feasible
- Estimated annual shore road allowance sales ($20,000) transferred to the recreation and culture reserve in each year of the Plan
- Large transfers to (and from) the paved road reserve booked to smooth out forecasted paved road capital expenditures
- Begin replenishing fire truck and road equipment reserves in year 9 of the Plan

The 2021 year-end capital-related reserve balance carried forward to year 1 of the Plan is expected to be $2,558,483. With the transfers outlined above, this will increase to $3,970,582 by the end of year 10.

J. Debt Principal and Interest Repayments

A total of $666,608 debt repayment is forecasted for the planning period. This includes $150,789 related to existing debt that will be fully repaid in 2030. The balance relates to a new loan discussed in the revenue section below.

In total, the forecasted investment in capital asset rehabilitation, replacement and expansion is $14.8 million in the 10-year period. The 1-year requirements range from a low of $553 thousand (2025) to a high of $2.6 million (2027). In combination with capital asset operating expenses, net transfers to reserves and debt repayments, the total 10-year funding requirements are estimated to be $24.9 million, with the 1-year requirements ranging from $1.9 million in 2023 to $3.5 million in 2027.

5.3 Revenue (Sources of Funding)

Revenue and other funding sources (i.e., debt proceeds) available for financing the above-noted expenditures is also presented in **Appendix A**. Each primary source of funding is discussed below.

A. Taxation/Other Operating Revenue Applied to Operating Expenses

In its annual budget, the Town makes a clear distinction between operating and capital revenues and expenditures. The non-infrastructure solutions and operating and maintenance activities for capital assets are considered operating expenses, and will be funded directly by taxation, operating grants and other operating revenue within the annual operating budget. Any increase/decrease in these costs over the 10-year period will be matched directly with changes in this source of funding.

B. Net Operating Income Available to Finance Capital

Since adopting its original asset management plan in 2013, the Town has targeted budgeted net operating income as a means to ensure that funds available to finance needed capital increase over time. The key controllable source of revenue in this target is the tax levy. By ensuring the tax levy was set with net operating income in mind, operating funds available to finance capital have increased from approximately $686,000 in the 2013 budget to $993,338 in the 2021 budget.

Working from the 2021 base, net operating income (taxation) available for financing capital asset expenditures has been increased by 6% annually. This encompasses a 5% annual increase to keep pace with rising prices due to inflation, and a 1% increase to begin closing the Town's annual infrastructure deficit.

C. Shore Road Allowance Sales

By resolution of Council, all shore road allowance sale proceeds are earmarked for a recreation and culture reserve, which is used to finance recreation-related operating and capital expenditures. These proceeds are highly variable, with recent annual proceeds ranging from NIL to a high of $75,000. An estimated $20,000 annual sales have been included as revenue (with the corresponding transfer to the recreation and culture reserve recorded as an expenditure).

D. Senior Government Grants

Future Federal gas tax funding has been estimated at its current base amount of $53,378 annually for each Plan year, with the accumulated unused balance being brought into revenue in year 1. Similarly, Provincial OCIF funding has been estimated at the current $86,631 annually. Grant revenue also includes a confirmed grant of $100,000 related to the replacement of the community centre HVAC system. No *speculative* senior-level grants have been forecasted.

E. Long-term Debt Financing

A discussion of long-term debt financing is presented in **Appendix E**. At present, the Town's net financial assets and debt servicing costs are considered to be in the "low risk" category from the perspective of the Ministry of Municipal Affairs' annual Financial Indicator Review. Additionally, the Town has substantial borrowing capacity available to remain in the low risk category. For example, based on a 10-year, 3% loan, the Town estimates it could borrow $1,785,600, or $178,560 annually if phased in over 10 years, to stay in the low-risk category. This is illustrated in **Appendix F**.

In order to match funding requirements with sources of funding, a loan of $1,112,899—intended to finance a large portion of the Sucker Creek bridge replacement--has been recorded in year 6 of the Plan. Debt repayments have been recorded assuming 10-year, 3% loan. In conjunction with repayments of its existing debt, this level of borrowing is expected to keep the Town within the low risk category.

F. Other Financing

Other identified sources of capital funding are a one-time local improvement charge related to the construction of a new Island Lake parking lot and parkland contributions. Based on recent history, annual parkland contributions of $5,000 might be expected. The parkland contributions have not been brought into the Plan as a source of revenue, as they could potentially be used for work on any public-recreation-oriented community centre renovations that are currently under consideration.

In future years, local improvement charges will be considered whenever increases in service levels will benefit a specific group of ratepayers.

5.4 Funding Shortfall/Excess Relative to Financial Requirements

As noted above, transfers to and from reserves were recorded in each year of the Plan so that the resulting annual funding shortfalls/excesses were eliminated. In **Appendix A** the forecasted sources and uses of funding are both $24.9 million for the 10-year planning period.

The Town's net capital asset investment (defined as actual asset acquisitions plus net transfers to reserves for capital assets plus net debt repayments) is also reported in **Appendix A**. Discounted to 2021$, the total capital asset investment is $12.8 million, falling short of the sustainable 10-year investment level of 16.8 million. By implementing an accumulating net operating income increase 1% above the anticipated rate of inflation, the annual infrastructure deficit would decline from its current level of $700 thousand to approximately $487 thousand by the 10th year of the Plan.

6.0 Risks to the Asset Management Plan

Simply producing a documented asset management plan doesn't mean that the benefits of asset management, as outlined in **Section 1**, will actually be realized. As with any plan, there are inherent risks that may jeopardize its execution or may prevent the achievement of its expected outcomes. The following is a summary of the risks that are known to exist today:

- **Non-commitment by Town Council or Staff to the Plan.** Implementing asset management best practices will require a significant overhaul of existing operational practices. Staff and Council must work collectively to ensure that recommended practices and procedures are internalized and implemented.
- **Staffing Levels and Turnover**. Taking a proactive approach to asset management requires more staff time, effort and knowledge. It is unrealistic to believe that this additional work can be accomplished without increasing staff levels and potentially restructuring job responsibilities. Additionally, the loss of knowledge and experience that will accompany the retirement of existing staff may impede the Town's ability to continue providing levels of service that had previously been possible.
- **Inadequate Funding.** In order to provide desired service levels in a sustainable manner, Council must be committed to increasing its own-source revenue, primarily taxation, at rates that are higher than has been considered acceptable in the past. An understanding of the benefits of proactive asset management is of little value if it can't be put into practice.
- **Capital Requirements of District Boards**. The requirement to fund large capital expenditures of the local district boards (i.e., home for the aged, health unit and DSSAB), over which the Town has no control, will detract funds away from the Town's own capital assets.
- **Emergencies**, premature asset failures and other unforeseen events could direct funds away from the Plan.
- **Legislative Requirements**. Change in legislative requirements could directly impact both required levels of service and the way the services are delivered.

As is the case in many small rural municipalities, particularly in Northern Ontario, the simple reality is that there is a limited availability of funds, and a related limited ability to grow funding, in order to manage the Town's infrastructure. While this Plan sets out to manage the competing infrastructure priorities at the lowest combined lifecycle costs, it will be subject to revision and refinement as internal knowledge grows, new approaches/technologies are discovered, new funding strategies are found, and the expectations of the Town (Council, staff, and ratepayers) evolve.

Appendix A

Yearly Revenue and Expenditure Summary

The Yearly Revenue and Expenditure Summary, prepared in a stand-alone Excel document, is an integral component of the Plan. A copy of this document should be inserted prior to Plan distribution.

Appendix A
Yearly Revenue and Expenditure Summary

Estimated Annual Rate of Inflation 5.00%

	Actual		Budget	Plan Year 1	2	3	4	5	6	7	8	9	10	10-Year Total
	2019	2020	2021	2022	2023	2024	2025	Forecast 2026	2027	2028	2029	2030	2031	
Operating Expenses														
Non-infrastructure Solutions[1]	92,575	166,049	149,355	202,501	124,426	124,032	137,179	168,652	131,141	150,762	166,743	166,215	224,556	1,416,307
Operating and Maintenance activities[2]	432,416	409,425	487,521	511,900	537,500	564,400	592,600	622,200	653,300	686,000	720,300	756,300	794,100	6,438,600
Total Operating Expenses	524,991	575,474	636,876	714,401	661,926	688,432	729,779	790,852	804,541	836,762	887,043	922,515	1,018,656	8,054,907
Capital Acquisitions														
Renewal/Rehabilitation and Replacement Activities -														
Hardtop Roads (including stormwater)	0	99,432	616,200	734,516	257,536	804,220	14,108	1,949,410	357,455	269,636	1,134,907	0	0	5,521,788
Loosetop Roads	24,341	0	0	256,500	143,325	150,491	158,016	165,917	174,212	182,922	192,069	201,673	211,756	1,836,881
Bridges and Culverts	16,916	634,125	918,000	241,500	242,550	729,304	376,807	0	1,567,579	0	0	0	0	3,157,740
Buildings	6,533	19,121	100,000	267,590	0	0	0	0	0	0	0	0	0	267,590
Rolling Stock	381,304	160,679	39,929	236,250	842,384	55,566	0	38,268	402,029	0	143,313	724,470	566,855	3,009,155
Equipment and Furniture	44,349	61,059	78,125	182,770	98,330	38,325	3,647	73,270	82,108	13,750	44,220	99,679	189,549	825,648
Land Improvements	158,547	342,428	18,768	15,750	0	0	0	0	0	79,642	0	0	0	95,392
Disposal Activities[3]	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Expansion Activities														
Buildings	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rolling Stock	0	40,535	0	0	0	0	0	0	0	0	0	0	0	0
Equipment and Furniture	75,019	3,187	24,703	0	0	0	0	0	0	0	0	0	0	0
Land Improvements	0	0	71,200	67,000	0	0	0	0	0	0	0	0	0	67,000
Total Capital Acquisitions	707,009	1,360,666	1,866,925	2,001,876	1,584,125	1,777,906	552,578	2,226,885	2,583,383	545,950	1,514,509	1,025,822	968,160	14,781,194
Net Transfers to (from) reserves[4]	1,097,802	338,987	96,215	(593,730)	(331,153)	(451,735)	853,303	(745,760)	90,400	970,523	91,581	681,859	846,811	1,412,099
Long-term Debt Repayment														
Principal and interest - existing debt	28,151	28,151	28,151	28,151	28,151	21,919	13,194	13,194	13,194	13,194	13,194	6,597	0	150,788
Principal and interest - future debt	0	0	0							128,955	128,955	128,955	128,955	515,820
Debt Principal and Interest Repayments	28,151	28,151	28,151	28,151	28,151	21,919	13,194	13,194	13,194	142,149	142,149	135,552	128,955	666,608
Total Net Capital, Reserve, and Long-term Debt Funding Requirements	1,832,962	1,727,804	1,991,291	1,436,297	1,281,123	1,348,090	1,419,075	1,494,319	2,686,977	1,658,622	1,748,239	1,843,233	1,943,926	16,859,901
Grand Total Operating and Capital Net Funding Requirements	2,357,953	2,303,278	2,628,167	2,150,698	1,943,049	2,036,522	2,148,854	2,285,171	3,491,518	2,495,384	2,635,282	2,765,748	2,962,582	24,914,808
Sources of Funding														
Use of Opening Accumulated Surplus	297,751	146,645	655,045	0	0	0	0	0	0	0	0	0	0	0
Taxation/Other Operating Revenue Applied to Operating Expenses	524,991	575,474	636,876	714,401	661,926	688,432	729,779	790,852	804,541	836,762	887,043	922,515	1,018,656	8,054,907
Shore Road Allowance Sales (used to fund recreation and culture reserve)	0	75,711	0	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	200,000
Gas Tax Revenue (confirmed to 2023 only)	0	221,632	56,446	109,728	58,378	58,378	58,378	58,378	58,378	58,378	58,378	58,378	58,378	635,130
OCIF Revenue (confirmed to 2021 only)	0	238,395	86,880	86,631	86,631	86,631	86,631	86,631	86,631	86,631	86,631	86,631	86,631	868,310
Other Federal/Provincial Grants	468,811	10,027	128,382	100,000	0	0	0	0	0	0	0	0	0	100,000
Use of Parkland Contributions (receive projected $5,000 annually)	10,991	77,435	5,000	0	0	0	0	0	0	0	0	0	0	0
Asset Sale Proceeds, Insurance Proceeds and Asset Donations	108,752	4,259	0	0	0	0	0	0	0	0	0	0	0	0
Local Improvement Charges	0	0	63,200	67,000	0	0	0	0	0	0	0	0	0	67,000
Net Operating Income Available To Finance Capital (budget target)	946,657	953,700	993,338	1,052,938	1,116,114	1,183,081	1,254,066	1,329,310	1,409,069	1,493,613	1,583,230	1,678,224	1,778,917	13,878,562
Long-term Debt Proceeds	0	0	0	0	0	0	0	0	1,112,899	0	0	0	0	1,112,899
Total Sources of Funding	2,357,953	2,303,278	2,628,167	2,150,698	1,943,049	2,036,522	2,148,854	2,285,171	3,491,518	2,495,384	2,635,282	2,765,748	2,962,582	24,914,808
Funding Shortfall Relative to Financial Requirements	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Capital Asset Investment (discounted to 2021 $)				1,367,902	1,162,016	1,164,531	1,167,477	1,170,838	2,005,064	1,178,752	1,183,277	1,188,164	1,193,402	12,781,423

			Actual		Budget	Forecast										10-Year Total
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Reserves and Reserve Funds for Capital Purposes and Mixed-Use Purposes[4]																
Balance, beginning of year	Opening Reserve, Jan 1/22 based on 2021 budget	Closing Reserve at end of Yr 10	1,025,479	2,123,281	2,462,268	2,558,483	1,964,753	1,633,600	1,181,865	2,035,168	1,289,408	1,379,808	2,350,331	2,441,912	3,123,771	3,970,582
Net Transfers to (from) reserves[5]																
Municipal Capital (Roads)	445,785	1,715,251	2,775	6,668	(100,000)	(222,690)	(43,640)	(174,455)	800,000	(800,000)		800,000	(8,419)	381,859	546,811	1,279,466
Modernization Funding	336,777	169,187	410,600	(64,232)	(9,591)	(167,590)										(167,590)
Buildings	450,000	1,220,268	100,000	150,000	150,000	80,000	80,000	80,000	80,000	50,268	80,000	80,000	80,000	80,000	80,000	770,268
Bridges and Culverts	442,405	0	444,905	0	(175,000)			(378,080)	(47,497)	(16,828)						(442,405)
Fire/1st Response Equipment	3,489	0	0	0	0		(3,489)									(3,489)
Fire Air Bottle/Fill Station	18,000	0	0	10,000	8,000	(18,000)										(18,000)
Fire Air Pack	50,000	0	0	5,000	45,000	(50,000)										(50,000)
Fire Truck	321,074	295,954	50,000	50,000	92,074		(321,074)					95,954		100,000	100,000	(25,120)
Roads Rolling Stock	300,000	200,000	100,000	100,000	100,000	(236,250)	(63,750)							100,000	100,000	(100,000)
Recreation and Culture (SRA)	127,088	327,088	(9,027)	75,527	(5,600)	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	200,000
Ball Diamond	2,034	2,034	0	0	0											0
Trail Development	5,000	5,000	0	5,000	0											0
KCC Kitchen Equipment	25,800	25,800	0	0	0											0
Regatta Band Shelter	5,600	0	800	800	800	800	800	800	800	800	(9,600)	0	0	0	0	(5,600)
Ralph Bice	0	0	157	94	(9,468)	0	0	0	0	0	0	0	0	0	0	0
Lion's Park (Lion's Club)	25,431	0	1,646	181	0	0	0	0	0	0	0	(25,431)	0	0	0	(25,431)
Library Board - CAP Program	0	0	(4,054)	(51)	0	0	0	0	0	0	0	0	0	0	0	0
	2,558,483	3,970,582														
Net increase (decrease) in Reserves and Reserve Funds for Capital Purposes			**1,097,802**	**338,987**	**96,215**	**(593,730)**	**(331,153)**	**(451,735)**	**853,303**	**(745,760)**	**90,400**	**970,523**	**91,581**	**681,859**	**846,811**	**1,412,099**

Notes:

1. Non-infrastructure solutions are those measures that are not capital in nature but result in lowering the cost and/or extending the useful life of an asset. This includes, but is not limited to conducting asset condition and needs studies, asset management training, asset management plan updates and insurance

2. Includes all costs associated with operating and maintaining assets in the Plan with the exception of related staff payroll costs. All such costs are generally considered "opeating", as opposed to "capital" in nature, and are funded by taxation and other operating revenue within the operating budget.

3. Per the Town's Tangible Capital Asset Policy, asset disposal costs are included in the cost of newly constructed replacement assets. For purchased assets, there are no significant disposal expenditures anticipated in the planning period.

4. Mixed use reserves are those funded by a specific revenue source that are not earmarked specifically for either operating or capital purposes. These currently include the Modernization Funding reserve (funded from a one-time grant and currently earmarked for professional studies and capital work on the community centre), Recreation and Culture reserve (funded from the sale of shore road allowance), the Ralph Bice reserve (funded from committee activities) and the Lion's Park reserve (funded from net Lion's Club revenue).

5. Transfers to reserve plus any interest earned net of transfers from reserve

Appendix B

10-year Asset Replacement Schedule

The 10-year Asset Replacement Schedule, prepared in a stand-alone Excel document, is an integral component of the Plan. A copy of this document should be inserted prior to Plan distribution.

Appendix B

10-year Asset Replacement Schedule

Road Section #	Asset Description/Road	Initial Estimated Replacement Date	Estimated Replacement/ Construction Cost (2021 $)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Comments
		Compounded inflation factor		5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
Insert new rows below this one														
LAND IMPROVEMENTS														
	Town Hall Septic System-general govt ptn	[redacted]	40,500											Plan for existing KCC facilities currently under discussion, but is not expected to be decided within the next two years. All but urgent renovations to the site land improvements and building have been EXCLUDED from this plan, pending Council decision on this matter.
	Town Hall Septic System-rec facilities ptn	[redacted]	84,000											
	Town Hall Septic System-senior's ptn	[redacted]	13,500											
	Town Hall Septic System-library ptn	[redacted]	12,000											
	Town Hall Septic Well-gen govt ptn	[redacted]	3,713											
	Town Hall Septic Well-rec facilities ptn	[redacted]	7,701											
	Town Hall Septic Well-senior's ptn	[redacted]	1,238											
	Town Hall Septic Well-library ptn	[redacted]	1,100											
	Kearney CC parking lot - gen govt ptn	[redacted]	29,700											
	Kearney CC parking lot - rec facilities ptn	[redacted]	61,600											
	Kearney CC parking lot - senior's ptn	[redacted]	9,900											
	Kearney CC parking lot - library ptn	[redacted]	8,800											
	Septic system, firehall	2058	71,759											
	Drilled well, firehall	2043	13,752											
	PW garage septic system	2034	20,341											
	PW garage, well	2041	11,778											
	Sand Lake transfer station 12 * 12 shelter	[redacted]	15,000											
	Town transfer station 10' 2" * 15' shelter	2022	15,000	$ 15,750										Needs outside electrical outlet, 3 windows, floor replacement, electrical upgrade
	Lion's Park Pavilion 163 Main St	2050	261,600											
	Lion's Park septic system	2044	50,570											
	Drilled well at Lion's Park	2042	11,849											
	Lion's Park Gazebo, 163 Main St	[redacted]	3,600											
	Playground Equipment 163 Main St	2028	56,600							$ 79,642				
	Lion's Park playground sand 163 Main St	2037	7,575											
	Lion's Park garden retaining walls	2038	9,736											
	Ball Diamond - fencing, 4 14ft players benches, 2, 14ft 4-tier bleachers	[redacted]	100,581											Benches and bleachers refurbished in 2021
	Beaver Lake boat ramps - asphalt	2034	40,952											
	Sand Lake boat ramp - concrete	2070	122,611											
	Perry Lake (Strand Avenuse) boat ramp - concrete	2070	131,768											
	Town Dock - fixed dock on steel pillars	2070	103,622											
	Town Dock - 2011 additions floating dock	2071	6,869											
	Town Dock - accessibility upgrades incl paving	2039	93,969											
	Mirror Bay Floating Dock	2040	5,423											
	Island Lake 6' x 16' floating dock	2037	11,312											
	McManus beach dock (2 8'*20' floating with ramp extensions)	2037	21,725											
	Trail Kiosk and signs	2036	33,696											
BUILDINGS														
	Town Hall - outside office storage units (2, 8' x 45' units)	[redacted]	20,000											Recent inspection indicated storage units should be reset but are otherwise in fair condition.
	For AMP only - 27% KCC shell (89% prop cost)	2084	556,727											
	For AMP only - 56% KCC shell (89% prop cost)	2084	1,154,693											
	For AMP only - 9% KCC shell (89% prop cost)	2084	185,576											

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	Compounded inflation factor			5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
	For AMP only - 8% KCC shell (89% prop cost)	2084	164,956											
	For AMP only - 27% KCC HVAC and services (5% prop cost)	2022	31,277	$ 32,841										Grant for HVAC replacement in 2021/2022 approved.
	For AMP only - 56% KCC HVAC and services (5% prop cost)	2022	64,870	$ 68,114										
	For AMP only - 9% KCC HVAC and services (5% prop cost)	2022	10,426	$ 10,947										
	For AMP only - 8% KCC HVAC and services (5% prop cost)	2022	9,267	$ 9,730										
	For AMP only - 27% KCC roof (6% prop cost)	2022	37,532	$ 39,409										Recent inspection indicated immediate roof issues.
	For AMP only - 56% KCC roof (6% prop cost)	2022	77,844	$ 81,736										
	For AMP only - 9% KCC roof (6% prop cost)	2022	12,511	$ 13,137										
	For AMP only - 8% KCC roof (6% prop cost)	2022	11,121	$ 11,677										
	Fire Station (3,500 sq ft) Shell, 111 Main St	2068	600,000											Issues identified in 2020 insurance inspection were completed in 2021
	Fire Station Roof	[redacted]	150,000											
	Fire Station HVAC	[redacted]	250,000											
	Public Works Garage (4,160 sq ft) shell, 149 King St	2089	124,440											Issues identified in 2020 insurance inspection were completed in 2021
	Public Works Garage Roof	[redacted]	47,580											
	Public Works Garage HVAC	[redacted]	73,200											
	Public Works Garage Services	[redacted]	120,780											
	Public Works Garage Surveillance equipment - add to equipment when replaced. Upgraded in 2021	2031	18,288										$ 29,789	Record as equuipment replacement.
	Public Works Storage building pad & shell	2113	159,600											
	Public Works Storage building services	2043	8,400											
	Ball Park 8""4' storage building (purch price $3,354 < threshold)	2112	3,700											
EQUIPMENT														
	Telephone system	2023	5,453		$ 6,012									
	Surveilance Camera-gen govt ptn	2029	660								$ 975			
	Surveilance Camera-rec fac ptn	2029	1,370								$ 2,024			
	Surveilance Camera-senior's ptn	2029	220								$ 325			
	Surveilance Camera-library ptn	2029	196								$ 290			
	Surveilance Camera external upgrades-gen govt ptn	2029	505								$ 746			
	Surveilance Camera external upgrades-rec fac ptn	2029	1,048								$ 1,548			
	Surveilance Camera external upgrades-senior's ptn	2029	168								$ 248			
	Surveilance Camera external upgrades-library ptn	2029	150								$ 222			
	Electronic sign (2021 replacement)	2031	15,226										$ 24,802	
	Konica photocopier (replaced 2021)	2031	9,153										$ 14,909	
	Community Centre floor scrubber	2032	3,507											
	Main kitchen - water heater for dishwasher	2032	3,603											
	Main kitchen - dishwasher	2032	5,330											
	Main kitchen - 2 coolers sliding glass doors	2032	5,511											
	60" Garland Range with 6 burners	2040	12,730											
	Kenmore Refrigerator	2032	1,661											
	Commercial Dishwasher-senior's kitchen	2036	5,071											
	36" GFE Starfire gas stove	2040	8,694											
	8 SCBA - 2007 purchase	2022	100,000	$ 105,000										8 of 12 planned for 2022 replacement using related reserve.
	1 SCBA - 2007 purchase	2023	12,500		$ 13,781									Balance currently assumed to be replaced the following year.
	1 SCBA- 2010 purchase	2023	12,500		$ 13,781									
	1 SCBA - 2011 purchase	2023	12,500		$ 13,781									
	1 SCBA - 2011 purchase	2023	12,500		$ 13,781									
	Five bunker suits (2021 disposal)	2031	13,000										$ 21,176	

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		Compounded inflation factor		5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
	One Innoteck bunker suit (2022 disposal)	2022	2,600	$ 2,730										
	One Innoteck bunker suit (2022 disposal)	2022	2,600	$ 2,730										
	One Innoteck bunker suit (2022 disposal)	2022	2,600	$ 2,730										
	One Innoteck bunker suit (2022 disposal)	2022	2,600	$ 2,730										
	One Innoteck bunker suit (2024 disposal)	2024	2,600			$ 3,010								
	One Innoteck bunker suit (2024 disposal)	2024	2,600			$ 3,010								
	One Innoteck bunker suit (2024 disposal)	2024	2,600			$ 3,010								
	One Innoteck bunker suit (2027 disposal)	2027	2,600						$ 3,484					
	One Innoteck bunker suit (2027 disposal)	2027	2,600						$ 3,484					
	One Innoteck bunker suit (2027 disposal)	2027	2,600						$ 3,484					
	One bunker suit (2029 disposal)	2029	2,600								$ 3,841			
	One bunker suit (2029 disposal)	2029	2,600								$ 3,841			
	One bunker suit (2029 disposal)	2029	2,600								$ 3,841			
	Five Battalion bunker suits (2030 disposal)	2030	13,000								$ 3,841			
	One Ice water suit	2029	1,078									$ 20,167		
	One Ice water suit	2029	1,078								$ 1,593			
	CET 18hp Honda Portable Pump	2022	5,873	$ 6,167							$ 1,593			
	1CET 11 hp Honda powered portable pumps	2022	9,029	$ 9,480										
	1CET 11 hp Honda powered portable pumps	2022	7,804	$ 8,194										
	1 Wick 250 Forestry Pump with 500' forestry hose	2022	3,670	$ 3,854										
	6hp Honda forestry pump & hoses	2030	1,766									$ 2,740		
	1 Wick 250 Forestry Pump 7hp with 2" x 10' hose	2029	3,757								$ 5,551			
	10,000 watt generator for fire hall	[redacted]	3,494											
	Honda EM 3500S generator	2022	4,453	$ 4,676								$ 6,908		
	1 Generac 4,000 watt generator	2022	1,673	$ 1,757										
	Generac 22kw generator	2034	10,512											
	LF 1 Positive pressure fan	2022	2,778	$ 2,917										
	1 Homaltro extraction equipment (2023 replacement)	2023	24,000		$ 26,460									
	Evolution 5600 Thermal Imaging Camera	[redacted]	7,888											
	Thermal imaging camera (shared)	[redacted]	2,064											
	Low level Strainer	2028	1,238							$ 1,742				
	Cutter/spreader combination tool	[redacted]	4,717											
	Vehicle Digital radio - 2002 Freightliner Pumper	2023	1,500		$ 1,654									replace at same time as related vehicle
	Vehicle Digital radio - 2007 International Pumper/Tanker	2034	1,500											
	Vehicle Digital radio - 2016 Chev Silverado	2036	1,500											
	Portable digital radio replace 2021	2026	1,500					$ 1,914					$ 2,443	replace 3/year idefinitely
	Portable digital radio replace 2021	2026	1,500					$ 1,914					$ 2,443	
	Portable digital radio replace 2021	2026	1,500					$ 1,914					$ 2,443	
	Portable digital radio	2022	1,500	$ 1,575					$ 2,010					
	Portable digital radio XPR7550E	2022	1,500	$ 1,575					$ 2,010					
	Portable digital radio XPR7550E	2022	1,500	$ 1,575					$ 2,010					
	Portable digital radio XPR7550E	2023	1,500		$ 1,654					$ 2,111				
	Portable digital radio XPR7550E	2023	1,500		$ 1,654					$ 2,111				
	Portable digital radio XPR7550E	2023	1,500		$ 1,654					$ 2,111				
	Portable digital radio XPR7550E	2024	1,500			$ 1,736					$ 2,216			
	Portable digital radio XPR7550 - public wks garage	2024	1,500			$ 1,736					$ 2,216			
	Portable digital radio XPR7550E	2024	1,500			$ 1,736					$ 2,216			
	Portable digital radio XPR7550E	2025	1,500				$ 1,823					$ 2,327		
	Portable digital radio XPR7550E	2025	1,500				$ 1,823					$ 2,327		
	Remote deskset and Cisco Router/Smart RG Router	2022	3,887	$ 4,081										
	Radio console (BF) - shared	2030	2,258									$ 3,503		
	Zoll AED - defibrillator	2028	2,400							$ 3,377				
	AED - defibrillator	2029	2,400								$ 3,546			
	Zoll AED - defibrillator (2021 purchase)	2031	2,400										$ 3,909	
	Dual regulator & cylinder holder	2023	1,922		$ 2,119									

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		Compounded inflation factor		5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
	5 hp air compressor	2023	1,813		$ 1,999									
	Water filtration system	[redacted]	7,847											
	Cascade System Air Compressor (Air Bank) (upgrade in 2022)	2022	20,000	$ 21,000										
	Fire building sign	[redacted]	1,427											
	Kitchen equipment	[redacted]	2,570											
	Generator	[redacted]	46,192											(KCC generator)
	Widescreen projector	[redacted]	3,633											
	Defibrillator	2029	2,400								$ 3,546			
	Stainless steel electric sanding unit	[redacted]	8,303											
	Brush Hog	2027	40,000						$ 53,604					
	72" Spreader/sander	2026	6,013					$ 7,674						
	Trackless with 5ft snow blade attachment (sidewalk mcahine)	[redacted]	150,000											
	Trackless broom attachment	[redacted]	1,763											
	Kenwood radio installed in 2016 Freightliner	2027	1,500						$ 2,010					
	1999 Johnston Sweeper (4-wheel)	2030	28,054									$ 43,522		
	Mobile fuel tank & pump	2028	1,634							$ 2,299				
	Slip-in tank	2032	38,000											
	Water filtration system	[redacted]	4,400											
	22kw generator	2034	10,705											
	Radio installed in 2020 Freightliner	2031	1,500										$ 2,443	
	Kenwood radio, 2020 CAT backhoe loader	2035	1,500											
	2020 Thomspon steamer	2040	16,508											
	2 40 Yard Bear Proof containers	[redacted]	18,039											
	20 Yard Open Top bin	[redacted]	4,510											
	40 Yard Open Top bin	[redacted]	9,020											
	60' Transport Trailer (for storage bins)	[redacted]	5,267											
	Water filtration system - Lion's park	[redacted]	7,847											
	Cub Cadet 21.5 hp lawn tractor (2021 replacement)	2031	4,000										$ 6,516	
	Cub Cadet 18 hp lawn tractor (2021 replacement)	2031	4,000										$ 6,516	
	Garbage/Recycling Container	2026	1,245					$ 1,589						
	Garbage/Recycling Container	2026	1,245					$ 1,589						
	Garbage/Recycling Container	2026	1,245					$ 1,589						
	Garbage/Recycling Container	2026	1,245					$ 1,589						
	Garbage/Recycling Container	2027	1,287						$ 1,725					
	Plastic picnic table	2027	1,200						$ 1,608					
	Plastic picnic table	2027	1,200						$ 1,608					
	Plastic picnic table	2027	1,200						$ 1,608					
	Plastic picnic table	2027	1,200						$ 1,608					
	Stagecover (Regatta)	2030	11,723									$ 18,186		Related reserve is accumulating as a condition of the related grant.
COMPUTERS														
	Optiplex 9020 computer with 19" monitor (Treasury)	2024	1,763			$ 2,041							$ 2,872	
	Lenovo Think Centre M910t (Keven's computer)	2024	2,406			$ 2,785							$ 3,919	
	Lenovo Think Centre M910t (Cindy's computer)	2024	2,406			$ 2,785							$ 3,919	
	Lenovo ThinkPad E570 laptop&24"monitor (Brenda)	2024	2,846			$ 3,295							$ 4,636	
	Dell Latitude laptop (Leslie)	2027	1,384						$ 1,855					
	Lenovo ThinkPad E570 laptop&24"monitor (CBO)	2024	2,846			$ 3,295							$ 4,637	
	Lenovo ThinkPad E570 laptop&24"monitor (Insp)	2024	2,846			$ 3,295							$ 4,637	
	Lenovo ThinkPad E570 laptop&24"monitor (Fire)	2024	2,846			$ 3,295							$ 4,636	
	Lenovo ThinkPad E570 laptop&24"monitor (PW)	2024	2,846			$ 3,295							$ 4,637	
	Lenovo X3250/rack/hard drive/backup system	2026	18,423					$ 23,513						Upgraded in 2021
	Multi-function printer (2021 purchase)	2026	10,251					$ 13,083					$ 16,698	
	WiFi hardware,&installation-admin	[redacted]	14,460											
	WiFi hardware,&installation-gym	[redacted]	2,517											
	WiFi hardware,&installation-snr's	[redacted]	2,517											

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	Compounded inflation factor			5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
	WiFi hardware,&installation-library	[redacted]	2,517											
	WiFi hardware,&installation-Fire		1,554											
	WiF hardware,&installation (PW)		1,554											
	Media system (tv, webcam, mini pc)		1,856											
	GPS infobite software with 6 wireless mobile GPS units	2026	13,242					$ 16 900					$ 21,570	
	Outdoor Public Wifi wireless access pt	[redacted]	1,458											
ROLLING STOCK														
	2002 Freightliner Fl80 Pumper - Unit 311	2023	480,000		$ 511,634									Recommended that front-line vehicle should be 15-20 years old, and most recent objective discussed by Council is to have both pumpers < 25 years old. Optimal spacing of expenditures would be one pumper replacement every 12-13 years. Schedule currently reflects purchase of 1 new pumper in 2023. The '07 pumper (in service in 2009) will be in service 25 years in 2034. The pumper was originally purchased via a 20-year loan that will be fully repaid in June 2030.
	2007 International Tanker/Pumper - Unit 313	2034	480,000											
	Kearney 1/5 share of 2 ice/water rescue boats	2065	2,568											
	2016 Chev Silverado with bedslide and steps-Unit 310	2036	95,000											
	2016 Ranger (UTV) with tracks	2037	22,000											
	2017 Alcom aluminum cargo trailer	2037	6,500											
	2020 Dodge RAM 1500	2030	48,000											
	Float Trailer	2026	30,000					$ 38,288				$ 74,464		
	Sterling Tandem	2023	300,000		$ 330,750									Based on current discussion, either excavator or tandem to be replaced in 2022. If kept, excavator will required 30K of work in 2022.
	Excavator	2022	225,000	$ 236,250										
	2012 GMC Sierra (replacement in 2021 budget)	2021	48,000											
	2015 John Deere Grader	2030	419,000										$ 78,187	
	2016 Freightliner	2027	300,000						$ 402,029			$ 650,007		
	2019 Ford F550	2029	97,000								$ 143,313			
	2020 Freightliner	2031	300,000										$ 488,668	
	2020 CAT BACKHOE LOADER model 420F2IT	2035	168,713											
	2014 Ford F150 with radio	2024	48,000			$ 55,566								
STREETLIGHTS														
	51 units - Fixtures, Photocells, Lamps (bulbs)	2036	265,000											
	6 units - Main St Streetlights	2036	96,000											
	Traffic Lights - 1 red flashing light	[redacted]	10,000											
SIDEWALKS														
	Concrete - Main St to Fire Hall	2056	2,501											
	Concrete - along Allister Johnson Bridge	2039	16,349											Sidewalk on north side of AJ bridge and on Rain Lake Road to King Willian in very poor condition. Other sidewalks in good/excellent condition.

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		Compounded inflation factor		5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
BRIDGES AND CULVERTS > 3M														Automatic formulas based on estimated replacement date and construction costs removed for bridges and culverts. Schedule based on 2021 OSIM inspection recommendationt November 2021, completed over 5 years, with assumed Sucker Creek bridge replacement ocurring in the 6th year.
	Main St Bridge (Sucker Creek Bridge)	2027	1,169,752	$ 10,500					$ 1,567,579					Complete structural evaluation to determine load rating and to decide whether to rehab or replace in year 1. Replacement cost based on 2-lane bridge.
	Allister Johnston Bridge - Main St	2046	2,499,380			$ 729,304								Major rehabilitation.
	Boundary Bridge (Granite Road Bridge) - on Hwy 518	2063	3,099,153				$ 218,791							Patch, waterproof and pave deck, replace seals and caulk arourings.
	Cashman Creek Bridge - on Hwy 518	2096	1,055,341											
	Proudfoot Bridge (Magnetawn River Bridge)	2065	2,733,996				$ 158,016							Patch, waterproof and pave deck, replace seals and caulk arourings.
	Cashman Creek Road Bridge	2045	739,725	$ 220,500										Install new railing system/SBGR, replace timber lagging and wingwalls.
	West Bay Road Bridge	2089	343,391	$ 10,500										Bailey bridge maintenance.
	Chetwynd Road Box Culvert STRUCTURE (from bridges in 2021)	2075	716,352		$ 242,550									Excavate, patch, waterproof and pave deck, install new guide rail, rock protection on embankments and repair concrete.
	Higgins Road Culvert	2087	273,780											
	Rain Lake Road Culvert	2091	325,156											
	Echo Ridge Road Culvert	2096	290,004											
ROADS														
Paved		The initial estimated replacement date for all roads has been set = year 11, to fall outside the 10-year planning		2020 assessed surface condition = 90	2020 assessed surface condition = 80 (slurry seal or micro surface)	2020 assessed surface condition = 60 to 70 (overlay)	2020 assessed surface condition = 50 or less (mill and repave)		Need cost info re alternative pavement strategies. Have used overlay only, and assumed = 1/2 full pavement)					Per DM Wills, slurry seal is not appropriate for high volume roads > 1,000 AADT. The maximum estimated AADT of any Kearney road = 775.
2	Highway 518-Main Street to 0.20 km West of Main Street	2032	65,376	$ -	$ -	$ 58,437	$ -	$ -	$ -	$ -	$ -	$ -	$ -	Paved in '09 (BCF project)
4	Highway 518-0.20 km West of Main Street to .8 km West of Main Street	2032	196,128	$ -	$ -	$ -	$ -	$ 85,919	$ -	$ -	$ -	$ -	$ -	
6	Highway 518-0.4 km East of Main Street to Main Street	2032	130,752	$ -	$ -	$ 51,954	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
8	Highway 518-Bevans Road to .4 km East of Main Street	2032	98,064	$ -	$ -	$ 38,966	$ -	$ -	$ -	$ -	$ -	$ -	$ -	Paved in '09 (BCF project)
10	Highway 518-12th Concession Road to Cherry Hill Road	2032	457,632	$ -	$ -	$ -	$ -	$ 200,478	$ -	$ -	$ -	$ -	$ -	Paved in '09 (BCF project)
12	Highway 518-Rock Lake Lane to 12th Concession Road	2032	1,013,328	$ -	$ -	$ -	$ -	$ 443,916	$ -	$ -	$ -	$ -	$ -	Paved in '13 (BCF project)

Appendix B

10-year Asset Replacement Schedule

Road Section #	Asset Description/Road	Initial Estimated Replacement Date	Estimated Replacement/ Construction Cost (2021 $)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Comments
	Compounded inflation factor			5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
14	Highway 518-Dinsmore's Road to Rock Lake Lane	2032	1,078,704	$ -	$ -	$ 292,185	$ -	$ 329,357	$ -	$ -	$ -	$ -	$ -	Paved in '12 (BCF project). Approx 1 km of 3.3km starting to honeycomb, road distorting. Assume full pulv, DST. Balance overlay.
16	Highway 518-Cashman Creek Road to Dinsmore's Road	2032	523,008	$ -	$ -	$ -	$ -	$ 229,118	$ -	$ -	$ -	$ -	$ -	Paved in '12 (BCF project)
18	Highway 518-Boat Ramp Road to Cashman Creek Road	2032	326,880	$ -	$ -	$ -	$ -	$ 143,199	$ -	$ -	$ -	$ -	$ -	Paved in '12 (BCF project)
20	Highway 518-Edgewater Park Road to Boat Ramp Road	2032	371,826	$ -	$ -	$ -	$ -	$ 162,889	$ -	$ -	$ -	$ -	$ -	Paved in '12 (BCF project)
22	Highway 518-Forestry Tower Road to Edgewater Park Road	2032	286,020	$ -	$ -	$ -	$ -	$ 125,299	$ -	$ -	$ -	$ -	$ -	Paved in '15 (BCF project)
24	Highway 518-Chetwynd Road to Forestry Tower Road	2032	286,020	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 145,049	$ -	$ -	Paved in '15 (BCF project)
32	Chetwynd Road-Higgings Road to Grass Lake Road	2032	257,418	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 130,544	$ -	$ -	Paved in '15 (BCF project)
34	Chetwynd Road-Grass Lake Road to Tavemers Road	2032	343,224	$ -	$ -	$ 136,380	$ -	$ -	$ -	$ -	$ -	$ -	$ -	Paved in '12 (BCF project)
38	Chetwynd Road-Island Lake Road to Armour Township Boundary	2032	400,428	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 203,069	$ -	$ -	Paved in '12 (BCF project)
47	Hazard Hill Road-Cedar Lane to .6 km south Cedar Lane	2032	122,580	$ -	$ -	$ 48,707	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
71	Forestry Tower Road-200 m North of Hwy 518 to Highway 518	2032	81,720	$ -	$ 69,568	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
124	Rain Lake Road-70 m East of Patton Road to Pine Drive	2032	333,418	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 169,086	$ -	$ -	Paved in '16
126	Rain Lake Road-Pine Drive to Echo Ridge Road	2032	212,472	$ -	$ -	$ 84,426	$ -	$ -	$ -	$ -	$ -	$ -	$ -	Paved in '16
182	Main Street-Highway 518 to Lakeview Avenue (includes AJ bridge)	2032	98,064	$ -	$ -	$ 38,966	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
184	Main Street-Lakeview Avenue to Rain Lake Road	2032	69,871	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 35,434	$ -	$ -	Paved in '09 (G8 project)
186	Main Street-Rain Lake Road to 0.06 km South	2032	22,064	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 11,190	$ -	$ -	Paved in '09 (G8 project)
188	Main Street-0.06 km South of Rain Lake Road to 0.14 km South of Rain Lake Road	2032	29,419	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,919	$ -	$ -	Paved in '09 (G8 project)
190	Main Street-0.14 km South of Rain Lake Road to Lake Street	2032	26,150	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 13,262	$ -	$ -	Paved in '09 (G8 project)
192	Main Street-Lake Street to .10 km South (Sucker Creek Bridge)	2032	28,602	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,505	$ -	$ -	Paved in '15
194	Main Street-.10 km South (Sucker Creek Bridge) to Bill Groome Road	2032	214,515	$ -	$ -	$ -	$ -	$ 93,975	$ -	$ -	$ -	$ -	$ -	Paved in '16
196	Lakeview Avenue-Main Street to King William Street	2032	34,322	$ -	$ -	$ 13,838	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
198	Lakeview Avenue-King William Street to Riverside Drive	2032	210,838	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 106,922	$ -	$ -	Paved in 2018
200	Lakeview Drive-Riverside Drive to 0.24 km West	2032	58,838	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 29,839	$ -	$ -	Paved in 2018
202	Riverside Drive-Lakeview Avenue to 0.22 km East	2032	53,935	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 27,352	$ -	$ -	Paved in 2018
204	Riverside Drive-0.22 km East of Lakeview Avenue to 1.1 km Northeast of Lakeview Avenue	2032	156,902	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 79,570	$ -	$ -	Paved in 2018
206	Riverside Drive-1.1 km Northeast of Lakeview Avenue to plow turnaround	2032	73,548	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 37,298	$ -	$ -	Paved in 2018
208	King William Street North-Lakeview Avenue to Rain Lake Road	2032	31,871	$ 11,486	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
210	King William Street South-Rain Lake Road to Patton Road	2032	102,967	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 52,218	$ -	$ -	Paved in 2017
216	Pattons Road-King William Street to Rain Lake Road	2032	73,548	$ -	$ -	$ -	$ -	$ 32,220	$ -	$ -	$ -	$ -	$ -	Paved in 2017
218	Park Road-Pattons Road to 0.40 km Southeast	2032	98,064	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 49,731	$ -	$ -	Paved in 2018
222	Rain Lake Road-Main Street to King William Street	2032	32,688	$ -	$ -	$ -	$ -	$ 14,320	$ -	$ -	$ -	$ -	$ -	
224	Rain Lake Road-King William Street to 70 m West of Patton Road	2032	91,526	$ 32,987	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
228	Shaw Avenue-Main Street to Regent Street	2032	34,322	$ -	$ -	$ -	$ -	$ 15,038	$ -	$ -	$ -	$ -	$ -	
230	Regent Street-Shaw Avenue to Strand Avenue	2032	62,924	$ -	$ -	$ -	$ -	$ 27,566	$ -	$ -	$ -	$ -	$ -	
232	Regent Street-Strand Avenue to 0.12 km South	2032	29,419	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 14,919	$ -	$ -	Paved in 2018
234	Strand Avenue-Main Street to 0.18 km West	2032	51,484	$ -	$ 43,828	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	

Appendix B

10-year Asset Replacement Schedule

Road Section #	Asset Description/Road	Initial Estimated Replacement Date	Estimated Replacement/ Construction Cost (2021 $)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Comments
	Compounded inflation factor			5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
Surface Treated														
38	Chetwynd Road-Taverners Road to Island Lake Road	2032	414,596	$ 294,400					$ 136,958	$ 230,089				2.0 of 5.2 km were pulverized, M gravel aded and DST in 2021: total estimated cost 184,000. Doing same work on balance of the road section identified as a priority by Scott. SST all after 5 years
41	Island Lake Road-Chetwynd Road to 200 m North of Chetwynd Road	2032	13,668			$ 5,070								Road split from gravel section 42 in 2020 Road Needs Study. 2017 = date gravel was applied. No info on when ST applied (possibly part of 44, done in 2015)
44	Island Lake Road-Hazard Hill Road to 1.4 km Northwest	2032	95,676			$ 35,493								DST 2015
46	Hazard Hill Road-Island Lake Road (excluding hill .21) to Cedar Lane	2032	98,410					$ 46,118						Hill ptn was DST in 2018 (new), balance DST 2015
48	Hazard Hill Road-.6 km south Cedar Lane to Central Lane	2032	15,946	Next treatment pulverize and DST										
50	Cedar Lane-Hazard Hill Road to 0.1 km East	2032	6,834	Next treatment pulverize and DST										
52	Loon Lake Road-Chetwynd Road to 2.3 km North	2032	157,182	Next treatment pulverize and DST										
54	Morris Lane-Loon Lake Road to 0.26 km East	2032	17,768				$ 6,921							SST in 2020 (recap)
56	Hillside Drive-Loon Lake Road to 0.27 km East	2032	18,452				$ 7,187							DST in 2020 (new).
60	Grass Lake Road-2.4 km North of Lake Haven Road to Chetwynd Road	2032	164,016	Next treatment pulverize and DST										DST in 2020 (new).
62	Grass Lake Road-Lake Haven Road to 1.1 km Northeast of Lake Haven Road	2032	75,174		$ 26,559									SST in 2018 (recap).
63	Grass Lake Road-1.1 km North of Lake Haven Road to 3.9 km North of Lake Haven Road	2032	191,352	Next treatment pulverize and DST										DST in 2018 (new)., new gravel 2017
64	Lake Haven Road-Grass Lake Road to 0.52 km West	2032	35,537		$ 12,555									SST in 2017 (recap).
98	Kalio Road-Highway 518 to 0.2 km South	2032	13,668	Next treatment pulverize and DST										DST in 2018 (new)., new gravel 2017
144	Echo Ridge Road-Rain Lake Road to Stoeger's Road	2032	250,580	$ 220,497					$ 220,497					Slurry seal in 2017. Next pulverize, DST, 50mm gravel (portion from Rain to Sunrise, approx 86%)-balance only needs recap immediately
146	Echo Ridge Road-Stoeger's Road to Balsam Drive	2032	103,649	$ 34,876										Slurry seal in 2017. Recap immediately
148	Echo Ridge Road-Balsam Drive to Clam Lake Road	2032	95,676	$ 32,193										DST in 2016 (new). Recap immediately
150	Echo Ridge Road-Clam Lake Road to 2.1 km East (School Bd)	2032	143,514	$ 32,193										DST in 2021 (new) - 2 of 2.1 km. .1km recap immediately
152	Clam Lake Road-Echo Ridge Road to 1.3 km South	2032	74,035		$ 78,542					$ 33,383				SST in 2017 (recap). Pulverize, gravel, DST next.
156	Clam Lake Road-2.1 km South of Echo Ridge Road to 2.0 km Northeast	2032	136,680	Next treatment pulverize and DST										
162	Sunrise Drive-Lawson Drive to Lynx Drive	2032	34,170		$ 12,072									
164	Lynx Drive-Ostick Drive to 1.0 km East	2032	68,340	$ 22,995										DST 2013 (new). SST soon
168	Lawson Drive-Echo Ridge Road to 2.3 km Southwest	2032	157,182	$ 52,889										DST 2013 (new) SST immediately
180	Ester Street-Highway 518 to 0.07 km South	2032	4,784	Next treatment pulverize and DST										DST 2013 (new). SST immediately
220	John Street-Pattons Road to 0.2 km West	2032	11,390	Next treatment pulverize and DST										
240	East Street-Main Street to Empire Street	2032	6,834		$ 7,206					$ 3,082				Poor condition. DST, pulverize, gravel
242	Empire Street-East Street to 0.1 km North	2032	6,834		$ 7,206					$ 3,082				Poor condition. DST, pulverize, gravel

Appendix B

10-year Asset Replacement Schedule

Road Section #	Asset Description/Road	Initial Estimated Replacement Date	Estimated Replacement/ Construction Cost (2021 $)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Comments
		Compounded inflation factor		5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
Gravel		The initial estimated replacement date for all gravel roads has been set = year 11, to fall outside the 10-year planning window	130,000	$ 136,500	$ 143,325	$ 150,491	$ 158,016	$ 165,917	$ 174,212	$ 182,923	$ 192,069	$ 201,673	$ 211,756	The default original purchase date of 2007 was used when the assets were originally set up in the PSAB ledger (if date = 2007, no gravel applied since 2009)
40	Proudfoot Road (maintained by Armour)-Armour Township Boundary to 1.85 km East	2032	-											
42	Island Lake Road-200 m North of Chetwynd Road to Hazard Hill Road	2032	69,600											
49	Hazard Hill Road-Central Lane to 50 m West Central Lane	2032	900											2017 gravel approx 3"
58	Taverner's Road-Chetwynd Road to 0.54 km South (turnaround)	2032	8,100											
66	Higgins Road-Chetwynd Road to 0.5 km West	2032	12,000											
68	North Shore Road-Higgins Road to 0.6 km South	2032	14,400											2019 gravel approx 1"
70	North Shore Road-0.6 km South of Higgins Road to 2.2 km South of Higgins Road (turnaround)	2032	28,800											2017 gravel approx 3"
72	Forestry Tower Road-East Lake Road to 200 m North of Hwy 518	2032	111,300											2017 gravel approx 3"
74	Forestry Tower Road-7.6 km East to East Lake Road	2032	319,200											2017 and 2019 gravel (very light)
76	East Lake Road-Forestry Tower Road to 0.1 km North	2032	3,000											
78	East Lake Road-0.1 km North of Forestry Tower Road to 3.3 km North of Forestry Tower Road	2032	38,400											
80	Buckleys Road-Highway 518 to 0.5 km West	2032	9,000											
82	Buckley's Road-0.5 km West of Highway 518 to 0.9 km West	2032	6,000											2017 gravel approx 2"
84	Edgewater Road-Highway 518 to 0.23 km West	2032	4,830											
86	Chickadee Drive (not maintained by Kearney)-Edgewater Road to 0.2 km North	2032	-											
88	Perry's Road-Highway 518 to Edgewater Road	2032	5,400											
92	Boat Ramp Road-Highway 518 to 0.2 km West	2032	4,200											
94	Cashman Creek Road-Highway 518 to 0.4 km West	2032	7,200											
98b	Kalio Road- 2 km S of Highway 518 to .4 km S Highway 518	2032	4,800											
98a	Kalio Road-0.4 km S of Highway 518 to Sand Lake Dump Road	2032	7,680											2019 gravel approx 1"
100	Kalio Road-Sand Lake Dump Road to 1.15 km Southeast (plow turnaround)	2032	24,150											
102	Sand Lake Dump Road (Transfer Station Road)-Kalio Road to 0.10 km South	2032	2,100											
104	Dinsmores Road-Highway 518 to 0.1 km North	2032	1,800											
106	Rock Point Road-West Bay Road to Dinsmores Road	2032	29,820											
108	West Bay Road-Highway 518 to Rock Point Road	2032	9,600											2019 gravel approx 2"
110	West Bay Road-Rock Point Road to Magnetawan River (to WB Rd bridge)	2032	7,200											2017 and 2019 gravel approx 3"
112	West Bay Road-Magnetawan River (WB road bridge) to 1.10 km Northwest	2032	19,800											
114	12th Concession West-Highway 518 to Perry Township Boundary	2032	23,100											
116	Beaver Lake Lane (not maintained by Kearney)-Highway 518 to 0.1 km South	2032	-											600 cu m gravel 2018 (3")
118	Rose Drive-Highway 518 to 0.4 km Southeast	2032	7,200											
120	Bevans Road -Highway 518 to Perry Township Boundary	2032	21,000											800 cu m gravel 2018 (>3")

Appendix B

10-year Asset Replacement Schedule

Road Section #	Asset Description/Road	Initial Estimated Replacement Date	Estimated Replacement/ Construction Cost (2021 $)	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Comments
	Compounded inflation factor			5.00%	10.25%	15.76%	21.55%	27.63%	34.01%	40.71%	47.75%	55.13%	62.89%	
122	Cherry Hill Road (maintained by Perry)-Highway 518 to 0.3 km North	2032	-											
128	Rain Lake Road-Echo Ridge Road to 5.3 km East	2032	127,200											1,600 cu m gravel 2018 (approx 1.5")
130	Rain Lake Road-5.3 km East of Echo Ridge Road to Landfill Entrance	2032	125,520											
132	Rain Lake Road-Landfill Entrance to 1.55 km East of Landfill Entrance	2032	37,200											
134	Rain Lake Road-1.55 km East of Landfill Entrance (plow turnaround) to Driveway for #3359	2032	43,200											
136	Aholas Road-Rain Lake Road (East intersection) to Driveway for #294	2032	55,800											
137	Aholas Road-Driveway for #294 to Rain Lake Road (West intersection)	2032	23,400											
138	Pine Drive-Rain Lake Road to 0.5 km East	2032	9,000											
140	Stoneway Road-Rain Lake Road to 3.8 km Northeast	2032	79,800											
142	Stoneway Road-3.8 km Northeast of Rain Lake Road to 4.4 km Northeast of Rain Like Road	2032	9,000											2,500 cu m gravel 2018 (> 3")
154	Clam Lake Road-1.3 km South of Echo Ridge Road to 2.1 km South of Echo Ridge Road	2032	19,200	$ 120,000										Estimated additional costs to complete the relocation of a portion of this section and surface treat
158	Balsam Drive-Echo Ridge Road to 0.35 km West	2032	6,300											300 cu m gravel 2018 (>3")
160	Stoegers Road-Echo Ridge Road to 0.75 km East	2032	13,500											400 cu m gravel 2018 (>3")
168	Ostick Drive-Lawson Drive to Plow turnaround south of Lynx Drive	2032	7,500											300 cu m gravel 2018 (>3")
170	Emsdale Lake Road-Perry Township Boundary to 0.3 km West of Peace Valley Drive	2032	60,000											1,500 cu m gravel 2018 (3")
172	Peace Valley Drive-Emsdale Lake Road to 0.55 km South	2032	11,550											200 cu m gravel 2018 (approx 2")
174	Savage Settlement Road (not maintained by Kearney)-Perry Township Boundary to 0.76 km East	2032	-											
176	Fred Freiburger Trail (EARTH per RD NEEDS)-0.76 km East of Perry Township Boundary to 1.26 km East of Perry Township Boundary	2032	-											
178	Ayers Avenue-Highway 518 to 0.10 km South	2032	1,800											
212	King William Street South (Dump Road)-Pattons Road to 0.24 km East	2032	5,760											
214	Pattons Road-King William Street to 0.8 km South	2032	12,000											
226	Lake Street-Main Street to 0.1 km West	2032	2,100											
236	Seagull Point Road-Regent Street to 0.10 km West	2032	1,500											
238	Albert Street-Main Street to 0.06 km Southerly	2032	1,080											
	Total Expenditures			**$ 1,934,876**	**$ 1,584,125**	**$ 1,777,906**	**$ 552,578**	**$ 2,226,885**	**$ 2,583,383**	**$ 545,950**	**$ 1,514,509**	**$ 1,025,822**	**$ 968,160**	

ASSETS REMOVED FROM REPLACEMENT SCHEDULE (unhide rows below to view)

	Breakdown by Asset Type											
Paved Roads	$ 734,516	$ 257,536	$ 804,221	$ 14,108	$ 1,949,410	$ 357,455	$ 269,636	$ 1,134,907	$ -	$ -		
Unpaved Roads	$ 256,500	$ 143,325	$ 150,491	$ 158,016	$ 165,917	$ 174,212	$ 182,923	$ 192,069	$ 201,673	$ 211,756		
Bridges & Culverts	$ 241,500	$ 242,550	$ 729,304	$ 376,807	$ -	$ 1,567,579	$ -	$ -	$ -	$ -		
Buildings	$ 267,590	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 29,789	(2031 replacement = equipment)	
Rolling Stock	$ 236,250	$ 842,384	$ 55,566	$ -	$ 38,288	$ 402,029	$ -	$ 143,313	$ 724,470	$ 566,855		
Equipment	$ 182,770	$ 98,330	$ 38,325	$ 3,647	$ 73,270	$ 82,108	$ 13,750	$ 44,220	$ 99,679	$ 159,759		
Land Improvements	$ 15,750	$ -	$ -	$ -	$ -	$ -	$ 79,642	$ -	$ -	$ -		
TOTAL CHECK	$ 1,934,876	$ 1,584,125	$ 1,777,906	$ 552,578	$ 2,226,885	$ 2,583,383	$ 545,950	$ 1,514,509	$ 1,025,822	$ 968,160		

Appendix C

Detail of Historical Capital Asset Operating Costs

The Detail of Historical Tangible Capital Asset Operating Costs, prepared in a stand-alone Excel document, is an integral component of the Plan. A copy of this document should be inserted prior to Plan distribution.

	A	B	K	L	M
1	**Appendix C**				
2	**Detail of Historical Tangible Capital Asset Operating Costs**				
3					
4	Account #	Description	2019 Actual	2020 Actual	2021 Budget
5	**Non-Infrastructure Solutions**				
6	032-035	Administration - Insurance	31,139	37,899	37,185
7	040-035	Fire Dept. - Insurance	20,504	20,543	25,769
8	050-035	PW - Insurance	18,401	19,655	27,867
9	082-035	KCC - Insurance	5,196	4,671	6,466
10	060-035	Transfer Station - Insurance			333
11	032-055	Contracted Engineering (grant applications)	4,158	-	5,000
12	050-050	PW - Road Needs Study/Asset Management Plan	6,400	14,732	30,844
13	053-020	Bridges & Culverts - Bridge Maintenance/Inspections	6,777	5,635	6,300
14	various	One-time operating expenses included in capital accounts (architect fees/surveys)	-	62,914	9,591
15		**subtotal non-infrastructure solutions**	**92,575**	**166,049**	**149,355**
16					
17	**Operating and Maintenance Costs**				
18	**Land Improvements**				
19	various	One-time operating expenses included in capital accounts	-	-	3,000
20	080-020	Parks - Parks & Trails maintenance supplies	3,886	8,745	6,000
21	080-025	Parks - Town Dock Hydro	415	460	380
22		**subtotal**	**4,302**	**9,204**	**9,380**
23	**Buildings**				
24	various	One-time operating expenses included in capital accounts	-	-	3,175
25	032-031	Administration Hydro	5,300	3,966	4,050
26	040-031	Fire Hydro/Heat	7,886	6,355	6,480
27	040-032	Fire Building Expenses	1,253	2,242	3,000
28	050-020	PW Garage - Bldg. & Equipment Supplies and R&M	15,692	12,026	15,000
29	050-031	PW Garage - Hydro/Heat	13,211	9,576	9,770
30	060-024	Transfer Station - Operating Expenses	3,277	6,822	7,000
31	060-031	Transfer Station - Hydro and Phones	3,588	3,345	3,410
32	082-020	KCC - Supplies and Maintenance Expenses	17,542	10,925	20,000
33	082-021	KCC - Water Operations & Maintenance	1,440	1,311	4,000
34	082-031	KCC - Hydro/Heat	16,282	12,468	12,720
35		**subtotal**	**85,471**	**69,036**	**88,605**
36	**Equipment**				
37	various	One-time operating expenses included in capital accounts	4,281	674	3,644
38	032-023	Computer and Equipment Maintenance	17,472	19,887	25,500
39	040-025	Fire Equipment Maintenance	10,749	7,921	10,000
40	050-125	Pw - Repairs - Sanding Unit for 1 Ton	1,414	3,142	1,000
41	050-145	PW - Propane/Repairs - Equipment Steamer	32	-	300
42	050-165	PW - Repairs - Trackless sidewalk machine	2,552	1,178	2,500
43	050-166	PW - Repairs - Sweeper	-	-	5,000
44	083-021	Library Operating Expenses	2,438	2,099	2,140
45		**subtotal**	**38,937**	**34,900**	**50,084**
46	**Rolling Stock**				
47	040-100	Fire Vehicle Expenses	9,312	11,842	14,000
48	050-100	Public Works - All Vehicles Diesel Fuel	49,744	44,925	64,500
49	050-105	PW - 2012 GMC Sierra - fuel, license and repairs	7,257	9,232	-
50	050-106	PW -GMC Sierra replacement 2021 - fuel, license and repairs			5,300
51	050-110	PW Repairs - 2004 Sterling Tandem	-		-
52	050-115	PW - License and Repairs - 2007 Sterling Tandem	8,650	3,364	-
53	050-120	PW - License and Repairs - 2008 Sterling Tandem	17,055	18,353	25,000

	A	B	K	L	M
4	Account #	Description	2019 Actual	2020 Actual	2021 Budget
54	050-121	PW - License and Repairs - 2016 Freightliner	16,359	10,117	10,000
55	050-122	PW- License and Repairs - 2019 Ford 550	626	5,071	5,000
56	050-123	PW - License and Repairs - 2020 Freightliner	79	9,039	10,000
57	050-130	PW - License and Repairs - 2010 Dodge Truck	2,342	-	-
58	050-135	PW - Repairs - Caterpillar Excavator	8,320	7,419	8,000
60	050-155	PW - Repairs - Grader	32,204	7,544	10,000
61	050-160	PW - Repairs - John Deere Backhoe	9,782	5,663	-
62	050-160	PW - Repairs - 2020 CAT Backhoe		0	1,000
63	050-170	PW - Repairs - Public Works Trailer	710	1,513	3,000
64	060-060	Repairs - John Deere Backhoe		355	3,000
65	080-035	Parks/Recreation Insurance	8,782	10,803	11,674
66	080-100	Parks Vehicle - operating expenses	2,949	6,612	4,000
67		**subtotal**	**174,170**	**151,852**	**174,474**
68	**Road Network Maintenance Costs**				
69	051-020	Paved Rd - Cold Patch/Patching	4,271	4,847	6,000
70	051-021	Paved Rd - Sweeping	733	608	3,000
71	051-022	Paved Rd - Line Painting	11,364	7,123	12,000
72	052-020	Unpaved Rd - Gravel	12,565	5,635	10,000
73	052-021	Unpaved Rd - Dust Control	22,833	33,313	39,720
74	052-022	Unpaved Rd - Gravel Pits	-	-	-
75	052-023	Unpaved Rd - Armour Mtce Agreement	3,358	3,358	3,358
76	053-021	Bridges & Culverts - Culverts	257	19,161	12,000
77	054-020	Roadside - Mowing/Brushing	5,173	6,205	6,500
78	054-021	Roadside - Signs	2,960	8,204	7,200
79	054-023	Roadside - Guardrails	-	-	-
80	055-020	Winter Ctrl - Sand & Salt	59,827	51,816	60,000
81	055-021	Carillion (winter) Road Agreement	-		-
82	056-020	Street Lights - Energy & Repairs	6,195	4,162	5,200
83		**subtotal**	**129,536**	**144,433**	**164,978**
84		**subtotal - operating and maintenance costs**	**432,416**	**409,425**	**487,521**
85					
86		**Total Tangible Capital Asset Operating Costs Funded by Taxation and Other Operating Income**	**524,991**	**575,474**	**636,876**

Appendix D
Life Cycle Cost Analysis

Life Cycle Cost Analysis

Pavement Management

The following life cycle costs analysis compares three different municipalities--Town 1, Town 2 and Town 3--each with three distinct approaches to pavement management. For this analysis we will assume each of the three municipalities have 7000 m^2 of pavement i.e., 1km of asphalt paved road that is 7m wide. In each scenario, the road is assumed to have been constructed in 2013 and will operate under normal traffic loading.

The Life Cycle Cost Analysis (LCCA) assumes no user costs. The LCCA uses a discount rate of 2.5% / year.

The LCCA shows the three different municipalities and tracks their pavement management decisions and related condition over the specified time period. Town 1 represents decisions made based on strategic preventive maintenance and rehabilitation (M&R), Town 2 represents decisions based on no preventive M&R and Town 3 represents decisions based on resurfacing only.

The figure below illustrates a time- pavement condition plot for each Town.

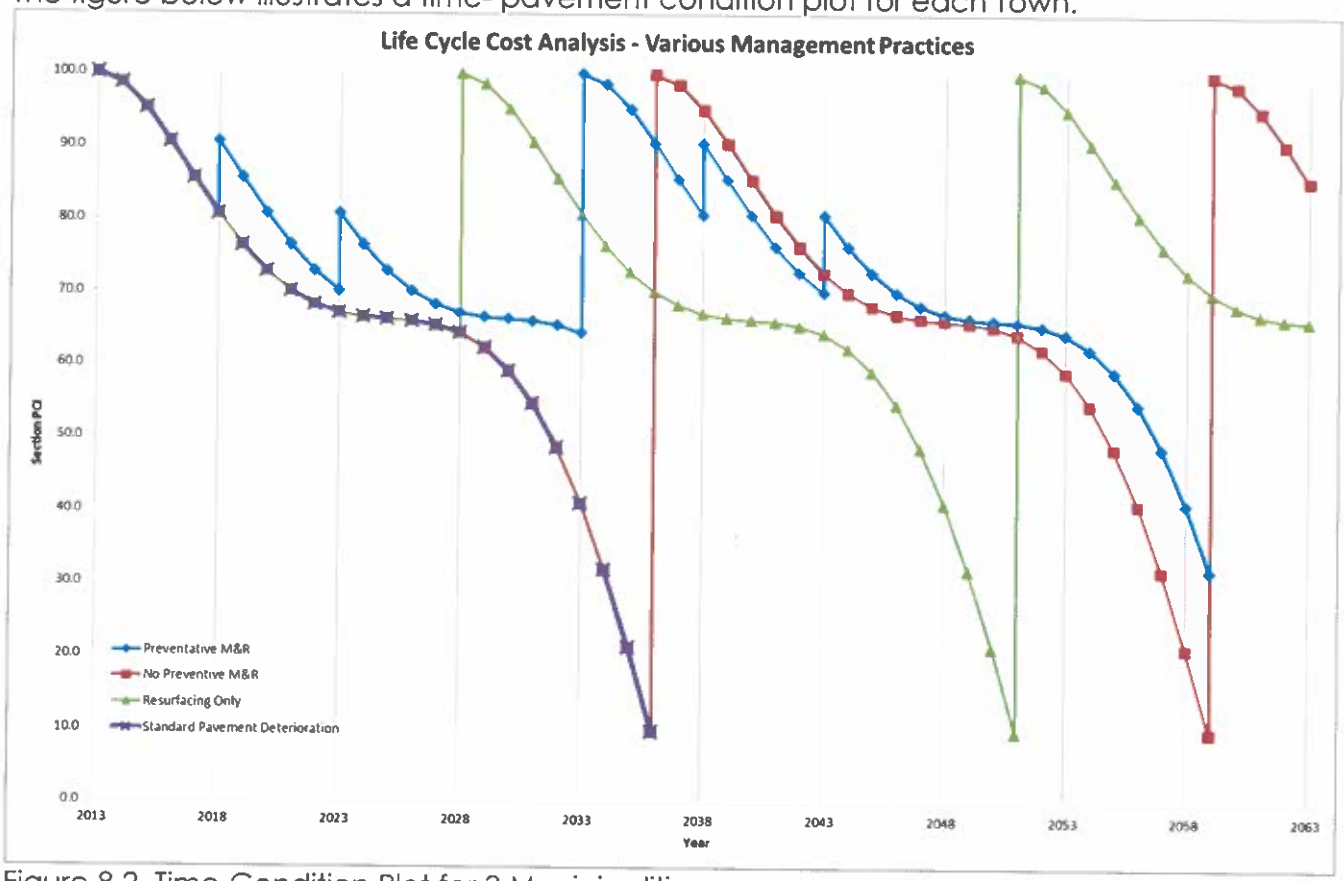


Figure 8.2. Time-Condition Plot for 3 Municipalities

The costs associated with the corresponding maintenance and rehabilitation decisions are outlined in the following tables:

Preventive M&R									
Year	Age	Treatment	Δ PCI	PCI_q	Quantity	Unit	Unit Cost	Total Cost	Present Worth
		-- Annual Ditching/Clearing --							
2018	5	Localized Preventive - Rout and Seal	81-90	Satisfactory-Good	1000	m	$1.50	$1,500.00	$1,325.78
2023	10	Global Preventive - Slurry Seal	70-81	Satisfactory-Good	7000	m^2	$6.50	$45,500.00	$35,544.53
2033	20	Surface Course	64-100	Poor-Good					
		Mill and Dispose of Surface Course			7000	m^2	$12.00	$84,000.00	
		50mm Surface Course			892.5	t	$135.00	$120,487.50	
								$204,487.50	$124,792.78
2038	25	Localized Preventive - Rout and Seal	81-88	Satisfactory-Good	4500	m	$1.50	$6,750.00	$3,640.89
2043	30	Global Preventive - Slurry Seal	68-78	Satisfactory-Good	7000	m^2	$6.50	$45,500.00	$21,691.79
2048	35	Safety/Stopgap Maintenance - AC Patching/Leveling	N/A	N/A	5%	m^2	$30.00	$10,500.00	$4,424.40
2053	40	Safety/Stopgap Maintenance - AC Patching/Leveling	N/A	N/A	10%	m^2	$30.00	$21,000.00	$7,821.04
2058	45	Full Reconstruction	32-100	Serious-Good					
		Remove Asphalt Full Depth			7000	m^2	$15.00	$105,000.00	
		Add and Compact Corrective Aggregate/Correct Crossfall (25mm avg.)			420	t	$35.00	$14,700.00	
		40mm Base Course			686	t	$125.00	$85,750.00	
		50mm Surface Course			892.5	t	$135.00	$120,487.50	
								$325,937.50	$107,290.28
2063	5	Localized Preventive - Rout and Seal	81-90	Satisfactory-Good	1000	m	$1.50	$1,500.00	$436.41
		Final PCI in 2063:	90	Good				Net:	$306,967.90
								Residual Value:	$85,346.08
								Total Cost:	$221,621.82

The policy of Town 1 is to strategically intervene with preventative maintenance measures over the course of the pavement's service life. Two significant maintenance measures are performed on the pavement at various times and ultimately extend the service life of the pavement, prorating the total cost of the pavement over a longer period of time. Eventually, a full reconstruction is required and this cycle repeats. The total life cycle costs are substantially less when compared to Town 2 and 3, at a total of $221,622 over 50 years.

No Preventive M&R									
Year	Age	Treatment	Δ PCI	PCI_q	Quantity	Unit	Unit Cost	Total Cost	Present Worth
2023	10	Safety/Stopgap Maintenance - AC Patching/Leveling	N/A	N/A	5%	m^2	$30.00	$10,500.00	$8,202.58
2028	15	Safety/Stopgap Maintenance - AC Patching/Leveling	N/A	N/A	10%	m^2	$30.00	$21,000.00	$14,499.78
2030	17	Safety/Stopgap Maintenance - AC Patching/Leveling	N/A	N/A	20%	m^2	$30.00	$42,000.00	$27,602.19
2036	23	Full Reconstruction	10-100	Poor-Good					
		Remove Asphalt Full Depth			7000	m^2	$15.00	$105,000.00	
		Add and Compact Corrective Aggregate/Correct Crossfall (25mm avg.)			420	t	$35.00	$14,700.00	
		40mm Base Course			686	t	$125.00	$85,750.00	
		50mm Surface Course			892.5	t	$135.00	$120,487.50	
								$325,937.50	$184,707.88
2043	7	Safety/Stopgap Maintenance - AC Patching/Leveling	N/A	N/A	5%	m^2	$30.00	$10,500.00	$5,005.80
2048	12	Safety/Stopgap Maintenance - AC Patching/Leveling	N/A	N/A	10%	m^2	$30.00	$21,000.00	$8,848.79
2053	17	Safety/Stopgap Maintenance - AC Patching/Leveling	N/A	N/A	20%	m^2	$30.00	$42,000.00	$15,642.09
2059	23	Full Reconstruction	10-100	Poor-Good					
		Remove Asphalt Full Depth			7000	m^2	$15.00	$105,000.00	
		Add and Compact Corrective Aggregate/Correct Crossfall (25mm avg.)			420	t	$35.00	$14,700.00	
		40mm Base Course			686	t	$125.00	$85,750.00	
		50mm Surface Course			892.5	t	$135.00	$120,487.50	
								$325,937.50	$104,673.45
Final PCI in 2063:			86	Good				Net:	$369,182.56
								Residiual Value:	$81,552.92
								Total Cost:	$287,629.64

The policy of Town 2 is to simply construct the pavement and wait until serious deficiencies begin to appear before acting. This approach unfortunately remains common still today. Over the last period of the pavement's life, maintenance is required to ensure safety and operation until the pavement becomes completely destroyed. Once the pavement has failed, a complete reconstruction is carried out restoring the pavement to new condition. This cycle repeats again until a second reconstruction is required. The total costs are substantial and total $287,630 over 50 years.

Resurfacing Only									
Year	Age	Treatment	Δ PCI	PCI_q	Quantity	Unit	Unit Cost	Total Cost	Present Worth
2028	15	**Surface Course**	64-100	Poor-Good					
		Mill and Dispose of Surface Course			7000	m^2	$12.00	$84,000.00	
		50mm Surface Course			892.5	t	$135.00	$120,487.50	
								$204,487.50	**$141,191.58**
2051	23	**Full Reconstruction**	10-100	Serious-Good					
		Remove Asphalt Full Depth			7000	m^2	$15.00	$105,000.00	
		Add and Compact Corrective Aggregate/Correct Crossfall (25mm avg.)			420	t	$35.00	$14,700.00	
		40mm Base Course			686	t	$125.00	$85,750.00	
		50mm Surface Course			892.5	t	$135.00	$120,487.50	
								$325,937.50	**$127,534.43**
2067	15	**Surface Course**	64-100	Poor-Good					
		Mill and Dispose of Surface Course			7000	m^2	$12.00	$84,000.00	
		50mm Surface Course			892.5	t	$135.00	$120,487.50	
								$204,487.50	**$53,898.67**
		Final PCI in 2063:	**66**	**Good**				**Net:**	**$322,624.67**
								Residiual Value:	**$62,587.12**
								Total Cost:	**$260,037.55**

The policy of Town 3 is periodic resurfacing. The pavement is constructed and time passes until early signs of serious distress are observed. This occurs after the time when preventive maintenance is neither appropriate nor possible, but before the pavement becomes completely destroyed. Resurfacing is performed and restores the pavement to almost new condition. The pavement then deteriorates for the remainder of its life, requiring significant maintenance in the last years before it becomes completely destroyed. A full reconstruction is then carried out and the cycle continues. The total costs are in between that of Town 1 and 2 at $260,038 over 50 years.

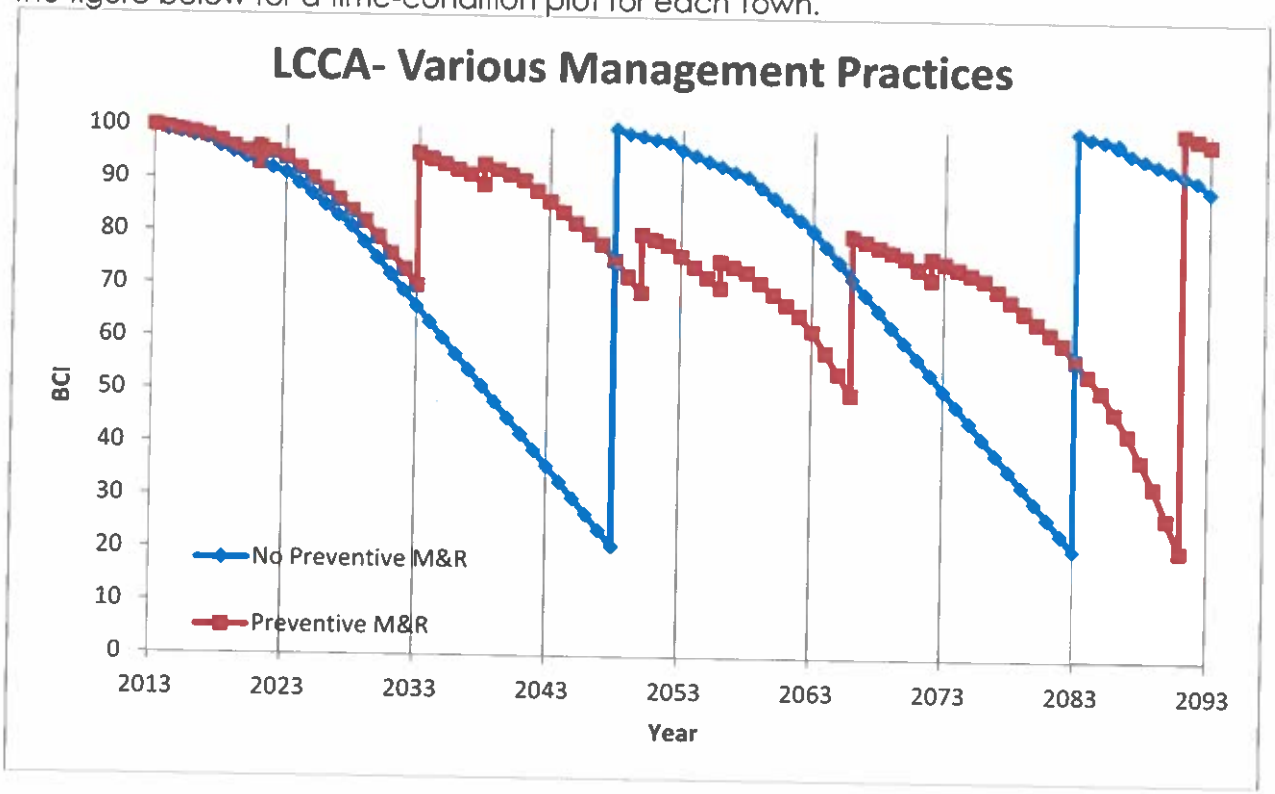
It may be easy to see upfront cost savings by understanding that as long as any costs associated with maintaining the pavement are deferred as long as possible, money will be saved. The reality is that extending a pavements service life prorates the total cost of the pavement over a longer period of time and ultimately becomes more economical in the long run. If preventive maintenance measures are strategically planned and carried out then the service life of the pavement can be maximized and substantial reconstruction costs can be deferred for longer periods of time. In a time when economy and efficiency are becoming more and more important, this type of proactive management is essential in the management of infrastructure.

Life Cycle Cost Analysis
Structures

The following life cycle costs analysis compares two different management practices for municipalities managing their structure inventory. For the analysis we will assume each of the municipalities have an identical bridge as a part of their inventory. The bridges both have the same initial construction cost, and are identical in terms of structure type and construction.

For the analysis, each Town has in their inventory a two-lane, single span bridge with concrete barrier walls and deck supported by prestressed concrete girders on concrete abutments. The bridge has expansion joints at either end and a paved deck. The road maintenance policy of each Town is to use salt as a winter roadway de-icer. The Life Cycle Cost Analysis (LCCA) assumes no user costs.

The LCCA shows the municipalities and tracks their structure management decisions over a 90-year time period. Town 1 represents decisions made based on strategic preventive M&R and Town 2 represents decisions based on no preventive M&R. Refer to the figure below for a time-condition plot for each Town.



Time-Condition Plot for 2 Municipalities

The costs associated with the corresponding maintenance and rehabilitation decisions are outlined in the following tables:

Preventive M&R

Year	Treatment	Δ BCI	Quantity	Unit	Unit Cost	Total Cost	Present Worth
2021	Rout and Seal Cracks	93-96	250	m	$2.50	$625.00	$512.97
2033	First Rehabilitation	70-95					
	Patch, Waterproof and Pave Deck		480	m2	$600.00	$288,000.00	
	Misc Concrete Patching		50	m2	$2,000.00	$100,000.00	
						$388,000.00	$236,785.13
2038	Rout and Seal Cracks	89-93	250	m	$2.50	$625.00	$337.12
2050	Barrier Wall Replacement	69-80	39	m3	$2,500.00	$97,500.00	$39,104.04
2056	Rout and Seal Cracks	70-75	200	m	$2.50	$500.00	$172.92
2066	Second Rehabilitation	50-80					
	Patch, Waterproof and Pave Deck		480	m2	$600.00	$288,000.00	
	Misc. Concrete Patching		100	m2	$2,000.00	$200,000.00	
	Bearing Replacement		10	ea.	$5,000.00	$50,000.00	
	New Barrier Walls		39	m3	$1,450.00	$56,550.00	
						$594,550.00	$160,628.84
2072	Rout and Seal Cracks	72-76	350	m	$2.50	$875.00	$203.84
2091	Structure Replacement	21-100					
	Piles		1500	m	$350.00	$525,000.00	
	Abutments and Wingwalls		300	m3	$1,100.00	$330,000.00	
	Girders		450	m	$1,000.00	$450,000.00	
	New Concrete Deck		300	m3	$1,250.00	$375,000.00	
	New Barrier Walls		39	m3	$1,450.00	$56,550.00	
	Approach Slabs		56	m3	$575.00	$32,200.00	
						$1,768,750.00	$257,753.73
	Final BCI in 2093:	98				Net:	$695,498.58
						Residual Value:	$240,427.03
						Total Cost:	$455,071.54

No Preventive M&R

Year	Treatment	Δ BCI	Quantity	Unit	Unit Cost	Total Cost	Present Worth
2048	Structure Replacement	21-100					
	Piles		1500	m	$350.00	$525,000.00	
	Abutments and Wingwalls		300	m3	$1,100.00	$330,000.00	
	Girders		450	m	$1,000.00	$450,000.00	
	New Concrete Deck		300	m3	$1,250.00	$375,000.00	
	New Barrier Walls		39	m3	$1,450.00	$56,550.00	
	Approach Slabs		56	m3	$575.00	$32,200.00	
						$1,768,750.00	$745,300.07
2083	Structure Replacement	21-100					
	Piles		1500	m	$350.00	$525,000.00	
	Abutments and Wingwalls		300	m3	$1,100.00	$330,000.00	
	Girders		450	m	$1,000.00	$450,000.00	
	New Concrete Deck		300	m3	$1,250.00	$375,000.00	
	New Barrier Walls		39	m3	$1,450.00	$56,550.00	
	Approach Slabs		56	m3	$575.00	$32,200.00	
						$1,768,750.00	$314,047.89
	Final BCI in 2093:	64				Net:	$1,059,347.96
						Residual Value:	$157,013.57
						Total Cost:	$902,334.39

*Costs are for materials only and do not include construction costs

The policy of Town 1 is to strategically intervene with maintenance measures over the course of the structure's service life. Maintenance measures are performed on the structures at various times and ultimately extend the service life of the structure, prorating the total cost of the structure over a longer period of time. Eventually, a full reconstruction is required and this cycle repeats. The total costs are fractional compared to those of Town 1. This difference in decision making introduces significant savings throughout the cycle.

The policy of Town 2 is to simply build the structure and wait until serious deficiencies become evident. At the last possible minute, a complete reconstruction is carried out restoring the structure to perfect condition. This cycle repeats again until a second reconstruction is required. The total costs are substantial. Unfortunately, this approach still remains common today as municipalities are faced with an aged structure network and limited funds for maintenance.

It may be easy to see upfront cost savings by understanding that as long as any costs associated with maintaining the structure are deferred as long as possible, money will be saved. The reality is that extending a bridge or culvert's service life prorates the total cost of the structure over a longer period of time and ultimately becomes more economical in the long run. If preventive maintenance measures are strategically planned and carried out then the service life can be maximized and substantial reconstruction costs can be deferred for longer periods of time. In a time when economy and efficiency are becoming more and more important, this type of proactive management is essential in the management of our resources.

The difficulty faced by most municipalities is related to "breaking the cycle." With an aged infrastructure and many structures with condition beyond the point of preservation management techniques, substantial funds are required to address those most significantly deteriorated structures leaving little funds for keeping the good bridges good.

Appendix E
Low Risk Long-term Debt Level

Low Risk Long-term Debt Level

In the Building Together guide, the province suggested that as part of a long-term capital asset financing strategy "***there may be a need for some municipalities to revisit their "zero debt" policies.*** *Debt financing, such as debentures, loans, and construction financing agreements, helps to spread the cost of expensive capital projects over time so that both current and future users of services share the burden.*"

When viewed in conjunction with another of the Province's guiding principles—"*those who benefit directly from municipal infrastructure should pay for the service*"—it seems clear that, rather than having to borrow money itself to pay for grants to individual municipalities, the Province is expecting individual municipalities, the beneficiaries of the related municipal infrastructure, to take on long-term debt themselves. In light of the Province's philosophy, the Town is prepared to use long-term debt to finance capital projects to a "reasonable level".

The Ministry of Municipal Affairs (MMA) prepares a "Financial Indicator Review" (Review) annually for each municipality, based on the Financial Information Return (FIR) submitted. The Review classifies the Town as "Low", "Moderate" or "High" Risk for each of the reported measures. There are two debt-related measures on the most recently distributed "Financial Indicator Review":

1. Debt servicing cost as a % of total revenues: low risk = < 5%
2. Net financial assets or net debt as a % of own source revenues: low risk > -50%

Based on its 2020 FIR, the Town calculated what its low risk level of debt threshold would be using these two measures, and determined that the most restrictive measure was the debt servicing cost as a % of total revenue. Using this measure, a low risk level of borrowing is in the neighbourhood of $1,785,600 based on a 10-year repayment term and 3% interest rate. In other words, at any point in time, the total initial amount of borrowing that the Town could be repaying is $1,785,600 over a 10-year term @ 3% to be classified as "Low Risk" based on the measures in the Review.

Note that the **maximum** allowable outstanding debt of the Town (estimated from the commonly-cited "Annual Debt Repayment Limit" using a 10-year repayment and 3% interest) is approximately five times this amount (2021 limit of approximately $8.6 million).

The following outlines an approach that could be used to gradually move to this threshold by the Town:

a) in each year, an equivalent amount of new debt could be incurred to finance capital expenditures. The annual amount of $178,566 new debt was calculated assuming that the borrowing rate will be 3%, and all debt will be repaid over 10 years.
b) By the 10th year, by incurring $178,566 new debt each year, the Town will have reached its threshold level of repayments of $207,000, and will have outstanding debt of approximately $848,000.

c) This pattern of borrowing and repaying is sustainable indefinitely. However, **by the 10th year this strategy will not produce any additional capital asset financing**, since the debt repayments (principal and interest) will exceed the new debt incurred by the interest portion of the repayments.

Rather than phasing in debt over time, it is more likely that new long-term debt will be linked to the purchase of specific capital expenditures, and will only be agreed to after careful consideration of other available alternatives (such as deferring/reducing planned capital expenditures). The actual decision to incur debt for specific items will occur as a result of the annual budgeting procedures.

Appendix F
Tally of Cumulative Debt Repayments

The Tally of Cumulative Debt Repayments is prepared on a separate Excel spreadsheet

Appendix F

Tally of Cumulative Debt Repayments

MAXIMIMUM LEVEL OF OUTSTANDING PRINCIPAL	$ 1,785,600			
TARGET LEVEL OF ANNUAL REPAYMENT	$ 206,902			
LOAN DATA:				
Annual borrowing	$ 178,560			
Monthly Interest Rate	0.25%	Annual interest Rate	3.0%	
# of payments	120			
monthly payment	-$1,724.19			

SCHEDULE OF PAYMENTS:

PERIOD	PAYMENT	INTEREST	PRINCIPAL
Year 1	20690.28	5144.19	15546.09
Year 2	20690.28	4671.34	16018.94
Year 3	20690.28	4184.13	16506.15
Year 4	20690.28	3682.06	17008.22
Year 5	20690.28	3164.74	17525.54
Year 6	20690.28	2631.70	18058.58
Year 7	20690.28	2082.41	18607.87
Year 8	20690.28	1516.43	19173.85
Year 9	20690.28	933.27	19757.01
Year 10	20690.28	332.32	20357.96
Total 10-year loan repayment	206,903	28,343	178,560

CUMULATIVE EFFECT OF BORROWING SAME AMOUNT EACH YEAR FOR 10 YEARS

Total Outstanding Debt	1	2	3	4	5	6	7	8	9	10	11
New debt incurred	178,560										
Principal repayment	- 15,546	- 16,019	- 16,506	- 17,008	- 17,526	- 18,059	- 18,608	- 19,174	- 19,757	- 20,358	
New debt incurred		178,560									
Principal repayment		- 15,546	- 16,019	- 16,506	- 17,008	- 17,526	- 18,059	- 18,608	- 19,174	- 19,757	- 20,358
New debt incurred			178,560								
Principal repayment			- 15,546	- 16,019	- 16,506	- 17,008	- 17,526	- 18,059	- 18,608	- 19,174	- 19,757
New debt incurred				178,560							
Principal repayment				- 15,546	- 16,019	- 16,506	- 17,008	- 17,526	- 18,059	- 18,608	- 19,174
New debt incurred					178,560						
Principal repayment					- 15,546	- 16,019	- 16,506	- 17,008	- 17,526	- 18,059	- 18,608
New debt incurred						178,560					
Principal repayment						- 15,546	- 16,019	- 16,506	- 17,008	- 17,526	- 18,059
New debt incurred							178,560				
Principal repayment							- 15,546	- 16,019	- 16,506	- 17,008	- 17,526
New debt incurred								178,560			
Principal repayment								- 15,546	- 16,019	- 16,506	- 17,008
New debt incurred									178,560		
Principal repayment									- 15,546	- 16,019	- 16,506
New debt incurred										178,560	
Principal repayment										- 15,546	- 16,019
New debt incurred											178,560
Principal repayment											- 15,546
Total debt o/s end of year	163,014	310,009	440,498	553,978	649,933	727,830	787,118	827,233	847,591	847,591	847,591

o/s debt repayments reach target & stabilize

Total Debt Repayments	1	2	3	4	5	6	7	8	9	10	11
Principal	- 15,546	- 31,565	- 48,071	- 65,079	- 82,605	- 100,664	- 119,271	- 138,445	- 158,202	- 178,560	- 178,560
Interest	- 5,144	- 4,671	- 4,184	- 3,682	- 3,165	- 2,632	- 2,082	- 1,516	- 933	- 332	
	-	- 5,144	- 4,671	- 4,184	- 3,682	- 3,165	- 2,632	- 2,082	- 1,516	- 933	- 332
		-	- 5,144	- 4,671	- 4,184	- 3,682	- 3,165	- 2,632	- 2,082	- 1,516	- 933
			-	- 5,144	- 4,671	- 4,184	- 3,682	- 3,165	- 2,632	- 2,082	- 1,516
				-	- 5,144	- 4,671	- 4,184	- 3,682	- 3,165	- 2,632	- 2,082
					-	- 5,144	- 4,671	- 4,184	- 3,682	- 3,165	- 2,632
						-	- 5,144	- 4,671	- 4,184	- 3,682	- 3,165
							-	- 5,144	- 4,671	- 4,184	- 3,682
								-	- 5,144	- 4,671	- 4,184
									-	- 5,144	- 4,671
										-	- 5,144
Total Annual Repayment	- 20,690	- 41,381	- 62,071	- 82,761	- 103,451	- 124,142	- 144,832	- 165,522	- 186,213	- 206,903	- 206,903

Appendix G
Strategic Asset Management Policy

CORPORATION OF THE TOWN OF KEARNEY

Strategic Asset Management Policy

SECTION NAME	SECTION NO.	POLICY NO.
Council	1	1-01
POLICY	**EFFECTIVE DATE**	PAGES
Strategic Asset Management Policy	December 10, 2021	6
REVISIONS	**ADMINISTERED BY**	
Original Adoption –Res No: 10(d)(vi)/31/05/2019	CAO/Clerk/Treasurer	

Policy Statement

The Town of Kearney is committed to improving the long-term resilience and sustainability of its infrastructure. To do this, the Town must have a policy to guide its asset management decisions that promotes best practices and links asset management planning to budgeting, operations and other municipal planning activities.

Purpose

The purpose of this Policy is to provide guidance for capital asset management plans and other capital asset-related decisions for the Town. The adoption of a policy is one of the requirements of the Municipal Asset Management Planning Regulation under the Infrastructure for Jobs and Prosperity Act, 2015.

Asset Management Principles

The following principles will guide asset management planning in the Town. These principles align with the principles in section 3 of the Infrastructure for Jobs and Prosperity Act, 2015.

1. **Forward Looking** – the Town shall take a long-term view while considering demographic and economic trends in the region.

2. **Budgeting and Planning** – the Town shall take into account any applicable budgets or fiscal plans such as budgets adopted under Part VII of the Municipal Act, 2001.

3. **Consistency** – the Town shall ensure the continued provision of core public services such as protection, transportation and environmental services.

4. **Economic Development** – the Town shall promote economic competitiveness, productivity, job creation and training opportunities.

5. **Prioritizing** – the Town shall clearly identify infrastructure priorities that will drive investment decisions.

6. **Innovation** – the Town shall create opportunities to make use of innovative technologies, services and practices, particularly where doing so would utilize technology, techniques and practices developed in Ontario.

7. **Transparency** – the Town shall be evidence-based and transparent. Additionally, subject to any prohibitions under an Act or otherwise by law on the collection, use or disclosure of information, the Town shall:

   a) make decisions with respect to infrastructure based on information that is publicly available or made available to the public;
   b) share information with implications on infrastructure and investment decisions with the Government and broader public sector entities.

8. **Environmentally Conscious** – the Town shall minimize the impact of infrastructure on the environment by:

   a) respecting and helping maintain ecological and biological diversity;
   b) augmenting resilience to the effects of climate change;
   c) endeavoring to make use of acceptable recycled aggregates.

9. **Health and Safety** – the Town shall ensure that the health and safety of workers involved in the construction and maintenance of infrastructure assets is protected.

10. **Community Focused** – the Town shall promote community benefits, being the supplementary social and economic benefits arising from an infrastructure project that are intended to improve the well-being of the community, such as:

    a) local job creation and training opportunities (including for apprentices, within the meaning of section 9 of the Infrastructure for Jobs and Prosperity Act, 2015);
    b) improvement of public space within the community;
    c) promoting accessibility for persons with disabilities.

11. **Integration** – in planning and making decisions surrounding infrastructure, where relevant and appropriate, the Town shall be mindful and consider the principles and content of non-binding provincial or municipal plans and strategies established under an Act or otherwise.

Governance

The CAO/Clerk/Treasurer has overall responsibility for asset management planning for the Town. The CAO/Clerk/Treasurer is responsible for:

- Delegating asset management-related tasks to Town staff within their defined job descriptions/competencies and for recruiting external assistance when the required expertise does not reside in-house. Staff involved might include the Treasurer, Department Managers and Administrative Assistants.
- Arranging meetings among staff members to ensure timelines for strategic asset management policy review, asset management plan development and review and provincial reporting requirements are adhered to.
- Ensuring municipal ratepayers and other interested parties are given opportunities to provide input into asset management planning.
- Approving the Asset Management Plan before being presented to Council for approval.
- By July 1, 2026, preparing an annual report relating to the Town's asset management progress for Council consideration. The report will address:
  - -the Town's progress in implementing its Asset Management Plan;
  - -any factors impeding the implementation of the Asset Management Plan;
  - -proposed strategies to address identified impediments.

As part of the annual budgeting process, The CAO/Clerk/Treasurer will review the asset management principles with Council, Department Managers and the Public, provide them with a summary of the asset management planning milestones to be achieved in the budget year, and report on the asset management planning progress made to date.

Council has a key role in ensuring the long-term sustainability and resilience of the Town's infrastructure. Town Council has the following roles and responsibilities with respect to asset management planning in the Town:

- Review and approve by resolution the Strategic Asset Management Policy and all subsequent revisions within their term of Council.
- Review and approve by resolution revisions to the Asset Management Plan.
- Annually review and approve the report on the Town's asset management progress prepared by the CAO/Clerk/Treasurer.
- Adhere to the asset management planning guiding principles when making budget and other planning decisions.
- Ensure tax rate/other revenue generator decisions move the Town towards sustainability and resilience.

Strategic Alignment

Official Plan, Economic Development Plan and Related Policies

Well-maintained infrastructure is important to the growth and development of the Town as set out in the goals of the Town's *Official Plan*. The *Official Plan* states that "The Town will strive to be recognized as a leader in managing its resources for the continued use and enjoyment while maintaining or enhancing the quality of life for all."

Maintenance and improvement of infrastructure is also seen as vital to "realizing the vision and mission of the Town" as outlined in the Town's *Strategic Economic Development Plan.*

It is the intent of both the *Official Plan* and *Strategic Economic Development Plan* to encourage development that is compatible with the character, role and permitted uses of agricultural, rural and the Town Site areas, as well as to promote the continued functioning of natural systems. It is the intent that the natural beauty and environmental resources, considered key factors in the growth of the tourism sector, are not damaged by future development.

Good roads and bridges facilitate the movement of goods, the provision of services—notably emergency services—and the transport of people to work, school, recreation and other facilities. Good roads are essential to attracting economic development in the transport of commodities to market and providing access to tourism and other amenities the Town has to offer.

The state of local infrastructure also reflects on the image of the Town to its residents and visitors. Poorly maintained infrastructure conjures a negative image and may detract from investment in the Town.

Consequently, the Town's *Asset Management Plan* facilitates the achievement of the vision outlined in the Town's *Official Plan* and *Strategic Economic Development Plan* and supports the execution of the Town's *Emergency Management Response Plan.*

The Town's *Accessibility Customer Service Policy* states that "the Town is committed to ensuring its goods and services are provided in an accessible manner". This aligns with the asset management principles that will guide asset management planning in the Town.

Annual Budgets

The *Asset Management Plan* will be considered annually in the Town's operating budgets, capital budgets, and long-range financial plans as well as in the development of tax levy rates and other related revenue generators. A review of the financing section of the *Asset Management Plan* will be included in the annual budget deliberations.

The *Asset Management Plan* will be referenced by the service area personnel in conjunction with finance staff in the preparation of their budgets to help them:

1. Identify all potential revenues and costs (including operating, maintenance, replacement, and decommissioning) associated with proposed infrastructure investments;
2. Evaluate the validity and need for proposed capital investments;
3. Incorporate new revenue tools and alternative funding strategies where possible.

Stakeholder Engagement

The Town is committed to providing opportunities for municipal ratepayers and other interested parties to provide input into asset management planning. Stakeholders are encouraged to

attend public budget meetings and comment on asset management-related decisions being considered by Council. They will also be encouraged to comment on any revisions to the Town's existing *Asset Management Plan* prior to adoption by Council.

The Town recognizes that neighboring municipalities, provincial agencies, and other infrastructure-asset-owning agencies such as regulated utilities are partners in the delivery of service for municipal ratepayers. Accordingly, the Town shall coordinate asset management planning with these external parties when appropriate.

Asset Management Plan

With the exception of land and existing pooled assets, all assets currently listed on the Town's capital asset ledger and all asset additions that meet the capitalization threshold defined in the Town's *Tangible Capital Asset Policy* (2021) will be included in the *Asset Management Plan*. This includes the assets of all fully-controlled services. The low capitalization threshold established by the tangible capital asset policy ensures that all assets whose role in service delivery requires deliberate management by the Town are included in the *Asset Management Plan*.

On an ongoing basis, administration staff reviews all proposed development to ensure that it complies with the intent and direction of the *Official Plan* and *Zoning By-Law*. Administration staff reviews Ontario's land-use planning framework, including any relevant policy statements issued under section 3(1) of the Planning Act to ensure that provincial plans are incorporated into updates of the Town's *Official Plan* and *Zoning By-Law*. Prior to the adoption of any revisions to the *Asset Management Plan*, the CAO/Clerk/Treasurer will review the plan to ensure that it is aligned with the *Official Plan* and consequently, to Ontario's land use planning framework, policy statements and plans.

The Town **commits** to consider in asset management planning:

a) the *actions* that may be required to address the risks and vulnerabilities that may be caused by climate change to the Town's infrastructure assets (including changing operating procedures (e.g., revising maintenance schedules), raising/lowering levels of service and lifecycle management strategies) as well as the *anticipated costs* that could arise from these impacts, and *adaptation opportunities* that may be undertaken to manage the potential risks;

b) mitigation approaches to climate change, such as greenhouse gas emission reduction;

c) disaster planning and any required contingency funding.

Continuous Improvement

As part of the annual budgeting process, the CAO/Clerk/Treasurer will provide Council, Department Managers and the Public with an update on asset management planning progress. This will include: any factors affecting the ability of the Town to meet its commitments set out in the Asset Management Plan and Strategic Asset Management Policy; a strategy to address those factors; and progress on ongoing efforts to implement the Asset Management Plan.

The Asset Management Plan will be subject to revision as the Town works within its guidelines, and identifies specific challenges and/or opportunities for improvements. A comprehensive review of the Plan shall be undertaken every five-years, as a minimum, or on an as-required basis. Review of the plan will include an update to the existing state of infrastructure inventory and condition through such activities as the regular OSIM (Ontario Structural Inspection Manual) reporting and road evaluations. It will also include an update of the proposed levels of service, the lifecycle management strategy required to maintain the proposed level of service, an updated financial strategy, and a discussion of how the Town intends to address any funding shortfalls.