



INFRASTRUCTURE SOLUTIONS INC.

**Asset Management Plan
2013-2022
Revision 2**



Township of St. Joseph



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This is a revised version (Revision 2) of the Township's 2013 Asset Management Plan, and it incorporates:

- The condition assessments from the 2014 ISI Road Needs Study, and a confirmation that we were working with 92k of Road, not 117k.
- The 2014 ISI Building Study - Where applicable, the asset replacement costs, initially calculated by inflating historical costs, were updated with current replacement costs provided from the Township's insurance documents.
- Water and Wastewater infrastructure that was not previously included

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1 EXECUTIVE SUMMARY

The Province of Ontario, through its MIII Capital program, has provided funding designed to help municipalities address necessary road, bridge, and other priority projects identified through the assembly of an Asset Management Plan. This program is the second phase of the Province's Municipal Infrastructure Strategy which aims to:

- Further strengthen municipal asset management practices;
- Support the most critical roads, water and the sewer network; and
- Provide funding to municipalities that are unable to undertake projects without provincial support.

Infrastructure Solutions (Engineering) Inc., was contracted to build an Asset Management Plan for the Township. We were well supported by Erica Pollock and St. Joseph's staff to accumulate the Township of St. Joseph's geometric and condition assessment data where it was available, and uploaded tangible capital assets into Ontario Good Roads Association's asset management application, Municipal DataWorks (MDW).

Infrastructure Solutions (Engineering) Inc. based its Asset Management Plan on all asset types and their current replacement costs. Asset lifespans, condition and project requirements were determined by engineering assessments, and degradation curves (not accounting depreciation rates determined within the PSAB 3150 exercise). Where condition assessments were unavailable, ISI applied an age-based analysis. By replacement value, 75% of the Township's assets are in roads, water network, sewer network, sidewalks, bridges, and culverts with roads at the greatest value at 61%.

Through a comprehensive analysis of all asset types, ISI calculated the Township's "infrastructure deficit", defined as the added investment that would be required to maintain a township's infrastructure at appropriate service levels and in a good state of repair today. The Township has an infrastructure deficit of approximately \$5.48 MM in 2013. The Township of St. Joseph's infrastructure deficit is determined to be \$4,600 per person today.

Based on our calculations, St. Joseph's capital investment should be \$1.20 MM per annum. The Township is currently contributing \$119,917 to the capital program, resulting in a large infrastructure-funding gap, which will continue to grow without corrective action. As highlighted in the Report Card within, the Township's major linear asset, its roads, are generally in fair condition. The sidewalks are in poor condition. The water and sewer assets are in good condition. The bridge and culvert structures are in fair and good condition respectively.

Significant benefits could be gained by adhering to the tenets of an Asset Management Plan. We quote Gordon Sparks, Ph.D., P.Eng., and Professor of Civil Engineering University of Saskatchewan who states that "managing existing, capital intensive, public sector infrastructure asset such as roads, bridges, sewer and water systems, buildings, etc. could provide very significant benefits (i.e. 20 – 40% reductions in life cycle costs) associated with managing the maintenance of public sector infrastructure. It is recognized that finding and operating in this "sweet spot" is no easy task and it is advocated that to do so successfully will require public sector agencies to abandon traditional departmental and professional silos and develop multidisciplinary, cross functional teams that can effectively exploit the collective wisdom of all. This includes politicians, chief administrative officers, chief financial officers, planners, accountants, engineers and others."



The optimal outcome involves doing the right thing, at the right time, consistently. In the case of managing existing infrastructure, doing the right thing, at the right time, involves knowing and actually doing the most cost-effective maintenance, repair, rehabilitation or replacement activity at the right time throughout the entire life cycle of the asset. The process for prioritizing, establishing levels of service and operating performance indicators are defined in this report and attached Appendices.

Asset management is a philosophy and may require a significant change in organizational culture. The State of the Infrastructure Report (SOTI), Capital Plan, financial projections and recommendations within this Asset Management Plan will provide Township staff with critical information and analytical tools to begin the education/communication process for the Township's asset management strategy.

2 SOTI REPORT

2.1 HISTORICAL OVERVIEW

All of the World's urban cities and municipalities are underpinned by a vast network of roads, water supply, sewage, drainage, power supply, flood protection, recreational and real estate assets. These assets, predominantly managed by local governments, constitute a major investment over many generations and represent the world's largest portfolio of assets.

In Canada, we are in a deficit. It is the deficit that involves the deterioration of our infrastructure, the roads and bridges we drive on, the water treatment facilities we depend on for clean drinking water, and the sewer systems that take away tainted water. Most Canadian Cities are struggling to maintain existing infrastructure under current tax and rate levels. They continue to deal with new reporting responsibilities and expenses downloaded by both the Province and Federal Governments. Cities are facing a growing need to maintain and renew aged infrastructure, without the tax base to do so. In 1962, 22 cents of every dollar was spent on infrastructure by the Federal Government and by 2002, only 12 cents. Public infrastructure has suffered from decades of extensive neglect and overuse. In Canada, it is estimated that the average infrastructure deficit runs in excess of \$10,000 for every man, woman and child. Much of this infrastructure deficit is found in the major urban centers, but the National deficit will double over the next 10 years as projects undertaken in the 1950's/1960's reach their projected lifespan.

This State of the Infrastructure (SOTI) assessment is based on an analysis of the replacement, rehabilitation, and maintenance requirements of the Township's asset inventory and its current condition. We include a Report Card on the current state of the major linear assets within the Township. The Capital Plan provides both a high-level assessment of projected Capital expenses and a detailed future project by project costing for the Township's review and confirmation. Our objective is to give the Township the analytical tools and information necessary to implement a comprehensive and cohesive asset management program.

Asset management is a philosophy and may require a significant change in organizational culture, as well as at the community and political levels. This change will not occur overnight; however, the State of the Infrastructure Report, Capital Plan, financial projections and detailed recommendations will provide Township staff with critical information and analytical tools to begin the education/communication process for the Township's asset management strategy.



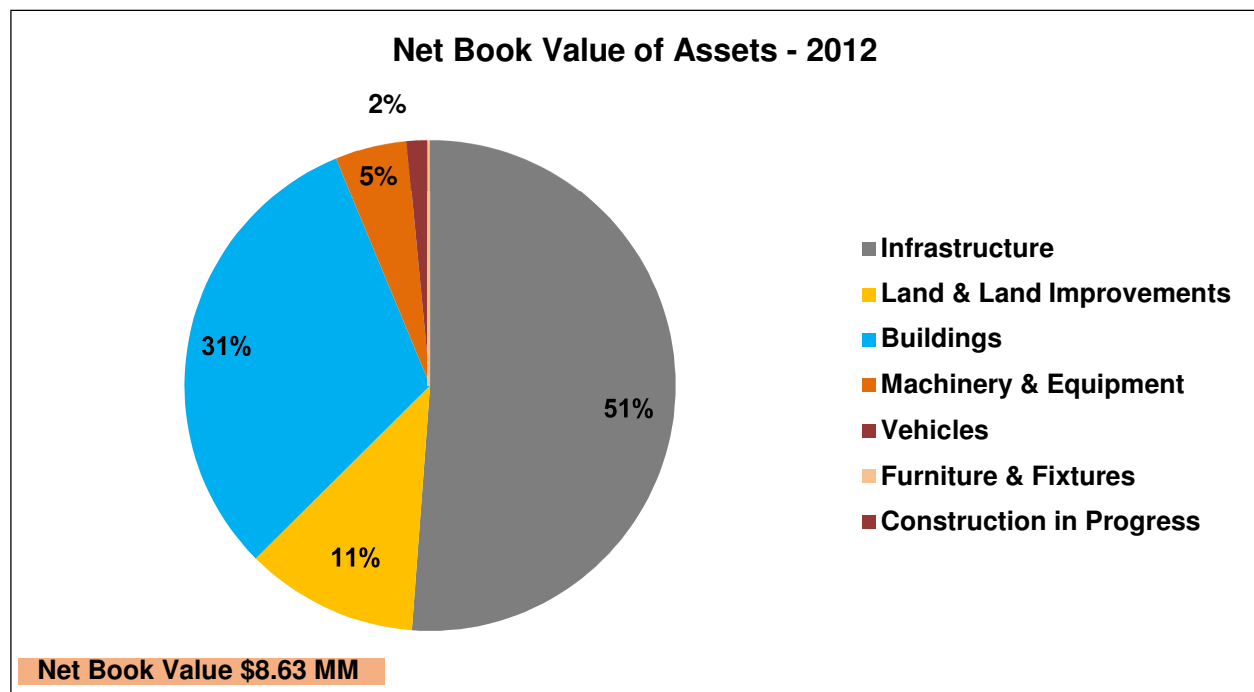
2.2 DATA ACCUMULATION AND VERIFICATION

The first step in the analysis of the Township’s asset inventory was to understand geometric and condition assessment data, where available, and the uploaded asset types in Ontario Good Roads Association’s asset management application, Municipal DataWorks. This information included all data pertaining to the lifespan and depreciated historical value of the assets. Once the upload was complete, ISI used Municipal DataWorks to create the Township’s PSAB’s reports and verify results against the Financial Statements prepared by the Township’s auditor. The verification established that no assets were missing from data provided by the Township, that the financial statements were correct, and verified that the accurate upload of the entire asset inventory was available in Municipal DataWorks.

Assets Type	Financial Statement 2012
Infrastructure	Match Exactly
Land & Land Improvements	Match Exactly
Buildings	Match Exactly
Machinery & Equipment	Match Exactly
Vehicles	Match Exactly
Furniture & Fixtures	Match Exactly
Construction in Progress	Match Exactly

2.3 MUNICIPAL DATAWORKS PSAB REPORTING

The upload of all of the assets data along with any supplementary geometric information into Municipal DataWorks is complete and reconciled with the data files (PSAB 2012) for the Township.



Assets Type	NBV of Assets
Infrastructure	\$4,414,797
Land & Land Improvements	\$980,743
Buildings	\$2,691,393
Machinery & Equipment	\$407,441
Vehicles	\$118,943
Furniture & Fixtures	\$12,370
Construction in Progress	\$0
Total	\$8,625,687

2.4 STATE OF THE INFRASTRUCTURE REPORT (SOTI)

Infrastructure Solutions has been contracted to assist the Township of St. Joseph in analyzing the State of the Infrastructure (SOTI) and the assembly of a Capital Plan as the initial components of a comprehensive Asset Management Plan. We have determined that the Township has a significant backlog of assets in need of betterment or replacement.

Dealing with aging infrastructure requires that the Township assess the long-term capital project requirements and establish the funding of high-priority projects in an efficient, timely and cost-effective manner. With our engineering analysis and project identification, the Township can monitor, track and manage infrastructure assets to ensure that policy makers obtain sufficient funding in order to maintain, at minimum, and potentially enhance future service levels. Through capital budgeting, the Township of St. Joseph can plan the future operating budget expenses and reserve funds to manage its financial position over a long term period. Capital planning provides the core information needed for the Council's planning and fiscal policies.

The Report Card produced within the SOTI has been developed to provide an easily understood reference that can be regularly updated to document investment gaps and the progress that the Township is making towards sustainability. The SOTI and associated analysis are strategic documents that identify trends and highlight possible issues involved in delivering services and maintaining the assets for those services. The SOTI will also assist in the development of more detailed tactical and operational plans aimed at identifying expenditures needed to provide service in a cost-effective, sustainable manner. Wherever provided, engineering assessments were used.

Encapsulated within this report ISI presents the Township's State of the Infrastructure report (SOTI), and a description of our methodology. The final Capital Plan contains a more detailed asset data and calculation process. All source information is readily available within the Municipal DataWorks software application for verification of asset conditions and lifespans by individual asset or by asset type and contain all data available and provided by the Township including asset location, a segmenting of linear assets into manageable lengths, asset ID's, geometrics of the asset (length, width and other appropriate dimensions). The comprehensive asset inventory in the Municipal DataWorks application includes PSAB data, the year constructed/purchased, estimated useful life, general description of asset, and geometrics.

The direction of this project was influenced by the Township's requirement for an Asset Management Plan and the work of the National Guide for Sustainable Municipal Infrastructure. In November 2003, the National Guide to Sustainable Municipal Infrastructure published a Best



Practice for Municipal Infrastructure Asset Management. It stated that the framework for an asset management plan can be described in terms of seven questions:

1. What do you have and where is it? (Inventory and Location)
2. What is it worth? (Costs/Replacement Rates)
3. What is its condition and expected remaining service life? (Condition and Capability)
4. What is the service level expectation and what needs to be done? (Capital & Operating Plans)
5. When do you need to do it? (Capital and Operating Plans)
6. How much will it cost and what is the acceptable level of risk? (Short/Long-term Financial Plan)
7. How do you ensure long-term affordability? (Short- and Long-term Financial Plan)

This report answers these questions.

2.5 INVENTORY AND THE VALUATION OF ASSETS

The aim of this section of the report is to provide an overview of the State of the Infrastructure (SOTI) by an analysis of the available data on the condition and/or age of the Township's assets. The MIII SOTI requirements are restricted to linear assets only. Within the Capital Plan, ISI has included other critical asset types in its analysis for the Township's review. The grouping of these assets and asset replacements were taken from the PSAB files provided by the Township, and the current replacement value of the assets is comprised of these factors:

- Value of all the existing assets
- New assets acquired prior to 2013
- Adjustments in unit costs based on improved knowledge and inflationary impacts

For the purpose of the Asset Management Plan report, we have grouped the assets as follows:

Linear Assets:

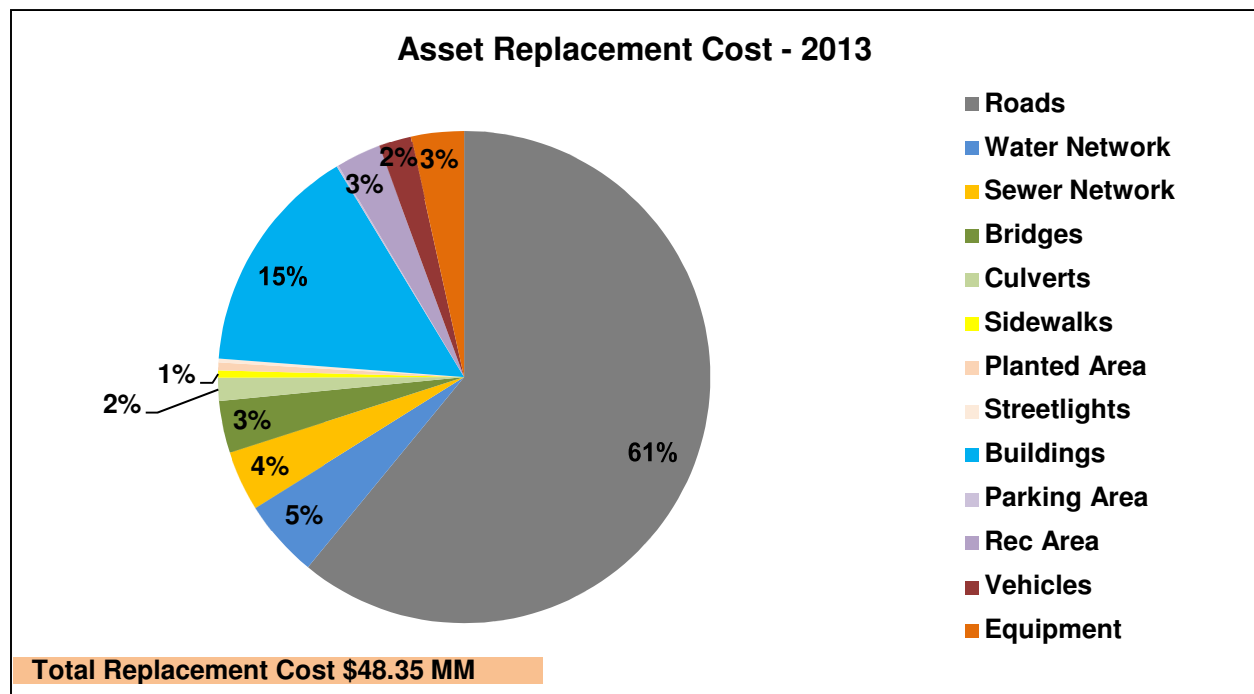
- Roads - Gravel, Surface Treated and Paved (HCB) and Airport Roads
- Sidewalks
- Water Network – Waterlines, Hydrants
- Sewer Network – Sewerline (Waste Water), Sanitary Forcemain
- Structures – Bridges and Culverts

Non-linear assets have not been included in the SOTI report but have been dealt with in the Capital Plan:

- Sewer Network - Outfall, Pumpstation (Waste Water)
- Water Network – Water Reservoir
- Buildings – includes the Waste Water Treatment Plant and Water Treatment Plant Facilities
- Streetlights
- Vehicles
- Equipment
- Parking Area
- Recreation Area
- Planted Area



Assets Type	Replacement Cost
Roads	\$29,472,270
Water Network	\$2,493,346
Sewer Network	\$1,901,478
Bridges	\$1,643,896
Culverts	\$729,327
Sidewalks	\$237,302
Planted Area	\$245,675
Streetlights	\$125,985
Buildings	\$7,319,438
Parking Area	\$52,798
Rec Area	\$1,412,921
Vehicles	\$1,039,114
Equipment	\$1,679,875
Total	\$48,353,426



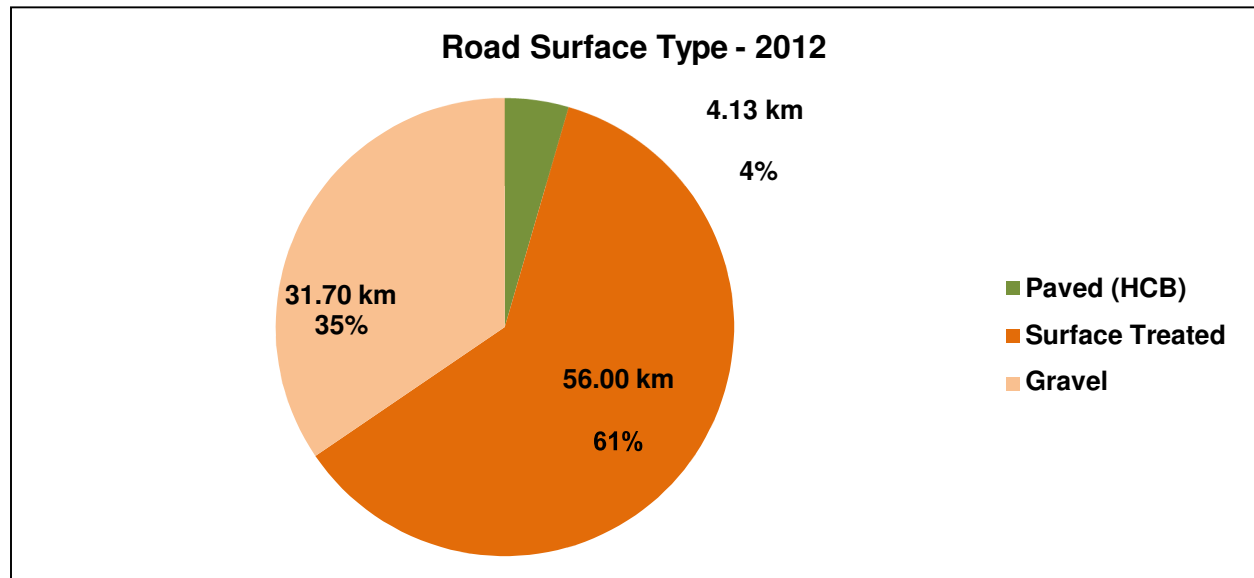
2.5.1 ROADS

The Township of St. Joseph has a total of 92.16 km of roads. The following summarizes the road surface types within the Township.



Road Surface Type:

Road Surface Type	Length (km)	%
Paved (HCB)	4.13	4%
Surface Treated	56.00	61%
Gravel	31.70	35%

**Condition Based Analysis for Roads:**

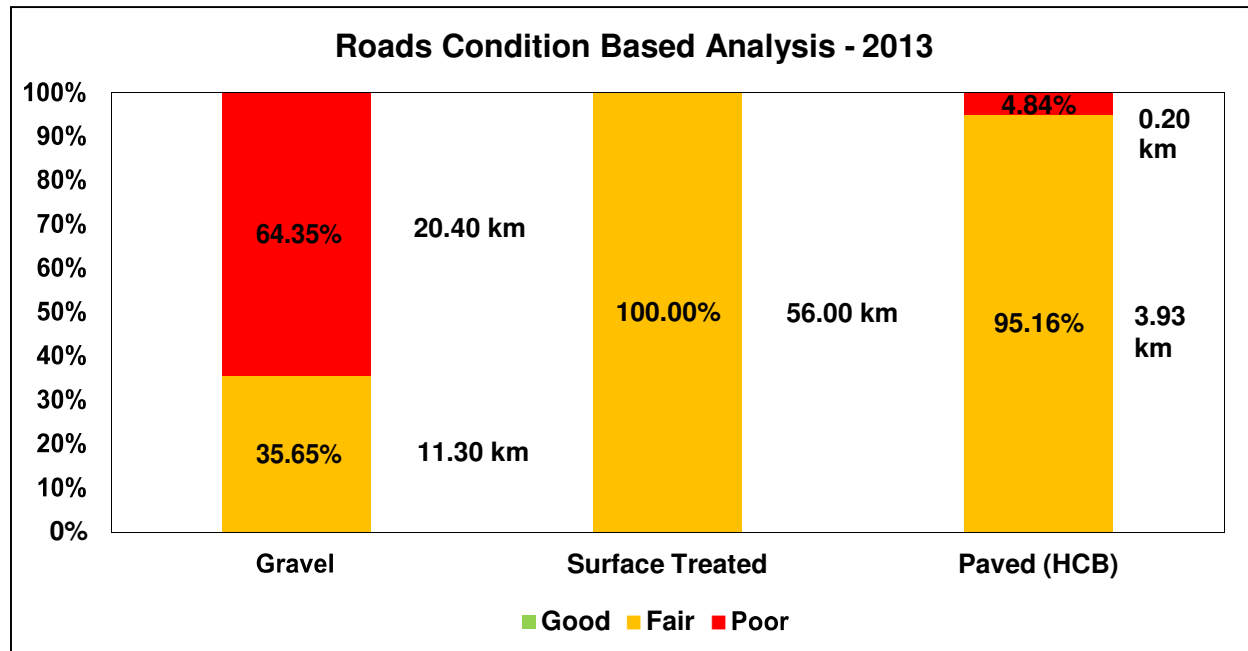
The Township has Gravel, Surface Treated and Paved (HCB) roads. The State of Infrastructure for roads is based upon ISI's Road Needs Study, conducted in the fall of 2014. For the purposes of this Asset Management Plan (2013 to 2022), the condition ratings have been adjusted to 2013. The SOTI shows that the Gravel roads are mostly in poor condition, (the condition rating for one of the Gravel roads, the unpaved 0.33 km portion of Marguerite St. to the Sewage Treatment Plant, is not available. Since Gravel roads are considered to have an indefinitely extendable life with periodic maintenance, gravel roads are not condition rated based on age. Consequentially, this section of Marguerite St. is not included in SOTI). The Surface Treated roads and Paved (HCB) roads are mostly in fair condition. Because the major road expenses are incurred in maintaining the Surface Treated and Paved (HCB) roads, we have given the roads an overall SOTI classification of "B", which is equivalent to "fair".

The strategies for rehabilitation/reconstruction for roads are suggested in Appendix A, the detailed capital planning report for the Township.

Road Average Condition:

Road Surface Type	Average Condition Rating
Paved (HCB)	61.10
Surface Treated	62.81
Gravel	45.91





Note: Percentages are calculated based upon the length of each road type

2.5.2 STRUCTURES – BRIDGES AND CULVERTS

This group comprises:

- Bridges – consists of 4 bridge structures
- Culverts – consists of 4 culvert structures

The inspection was completed by the Township in 2012, and the bridge inventory is a mix of concrete and wood material. There are number of common repairs and reconstruction for bridges and culverts recommended, like installing the guide rails, embankment improvement etc. All the projects recommended in the consultant’s report have been placed as projects in Appendix A.

Bridge Condition Index

The condition assessment was provided to ISI by the Township, and was uploaded into Municipal DataWorks. Municipal DataWorks calculates the Bridge Condition Index based on the consultant’s report and condition assessments. For condition calculations to take these bridges to 2013, deterioration curves were used. The MTO Bridge Condition Index rating is provided by the Ontario Ministry of Transportation which describes maintenance requirements within each range as follows:

Good: BCI Range 70 - 100: It is usually not required to perform any maintenance work within the next five years

Fair: BCI Range 60 - 69: Maintenance work is usually required within the next five years

Poor: BCI Less than 60: Maintenance work is usually required within one year

According to the MTO classification based on the average of the bridge condition index, the bridges are in fair condition, and culverts are in good condition.

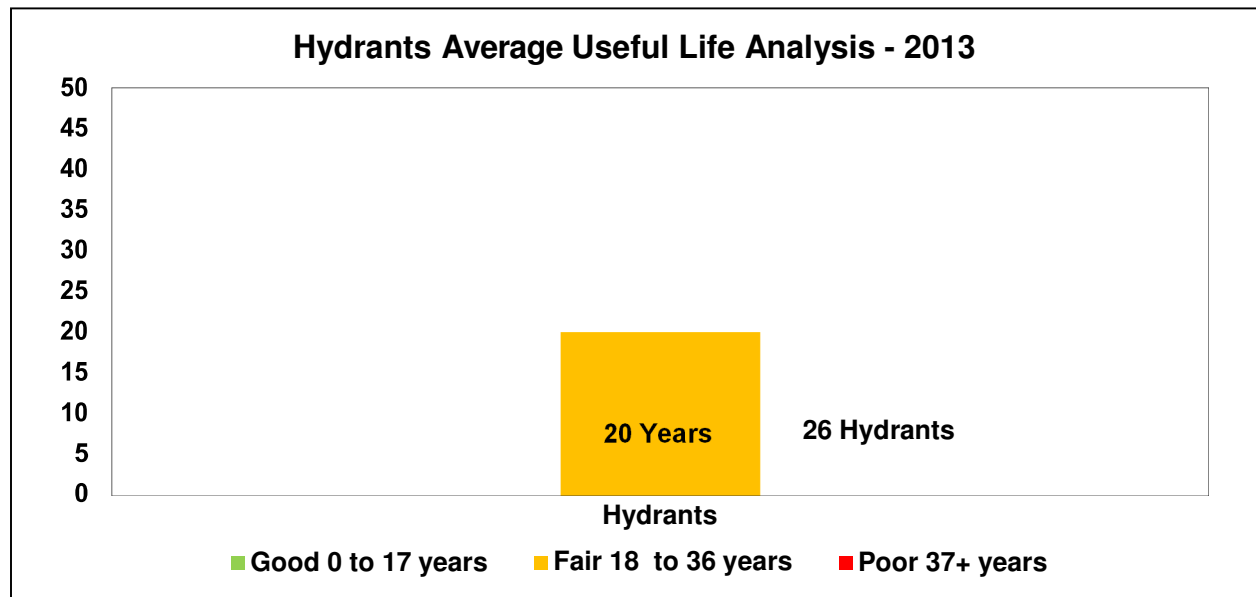
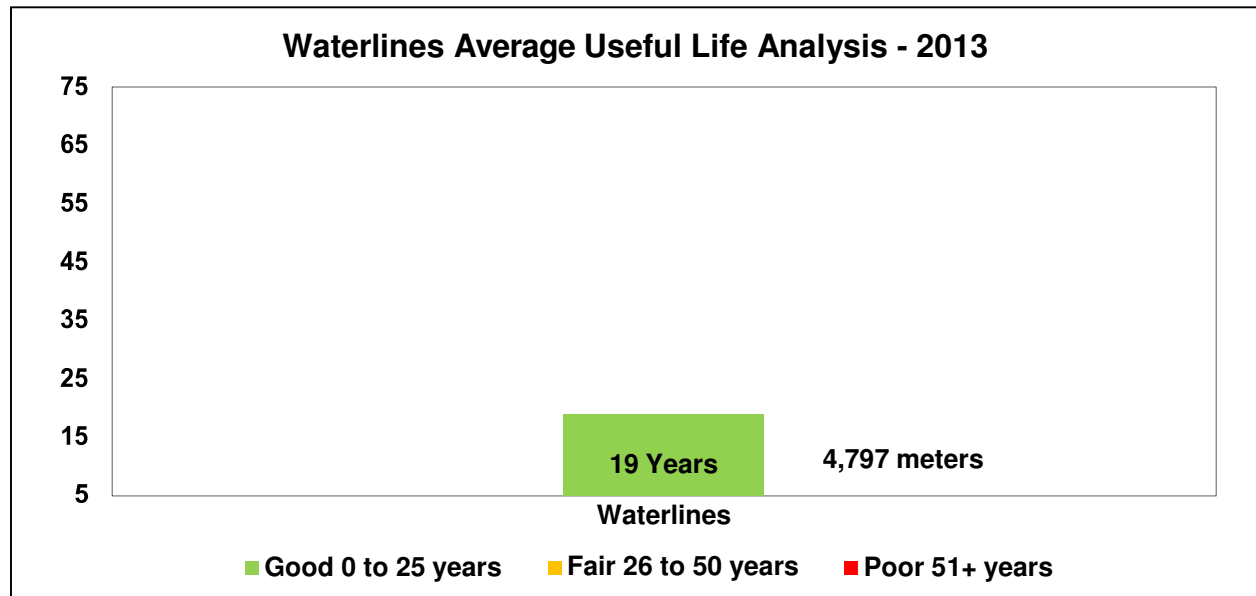


2.5.3 WATER NETWORK

This group comprises of:

- Waterline - consists of total length of 4,797 meters
- Hydrants – 26 hydrants

An age-based analysis has been conducted on the water assets due to the non-availability of condition ratings. The calculations, undertaken in this circumstance, were to determine the life used of the asset on age-based analysis with pre-defined criteria. An age-based condition assessment has **the least level of confidence to determine the current State of Infrastructure**. The graphs below show the age-based analysis (life used for each asset depending on their total useful life) for each asset mentioned above.

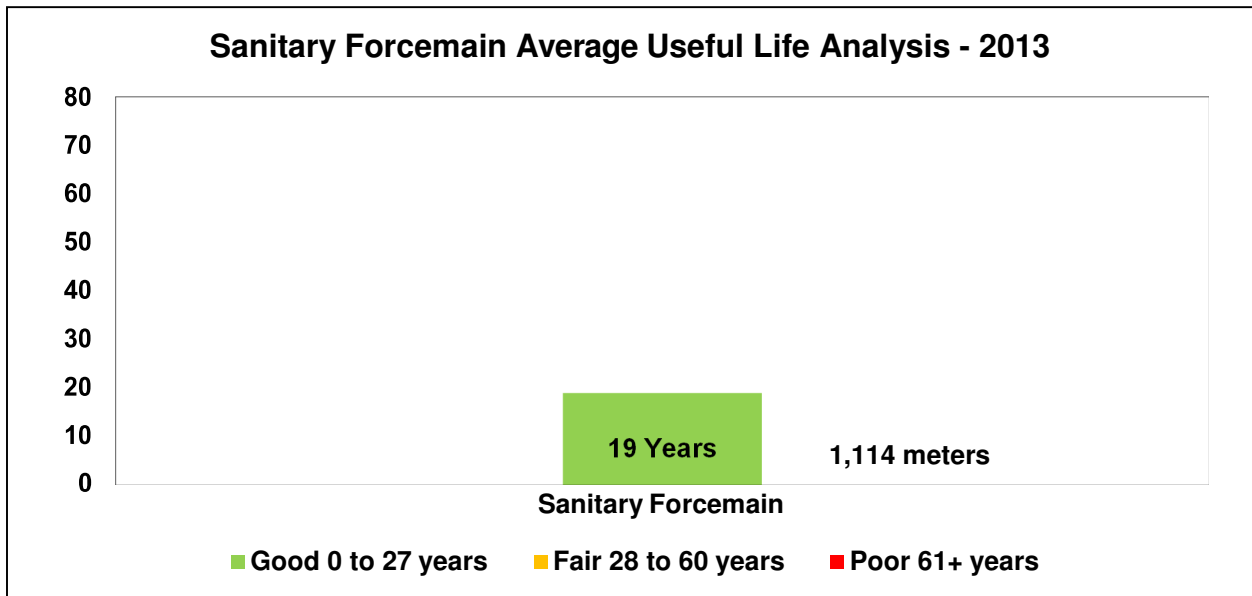
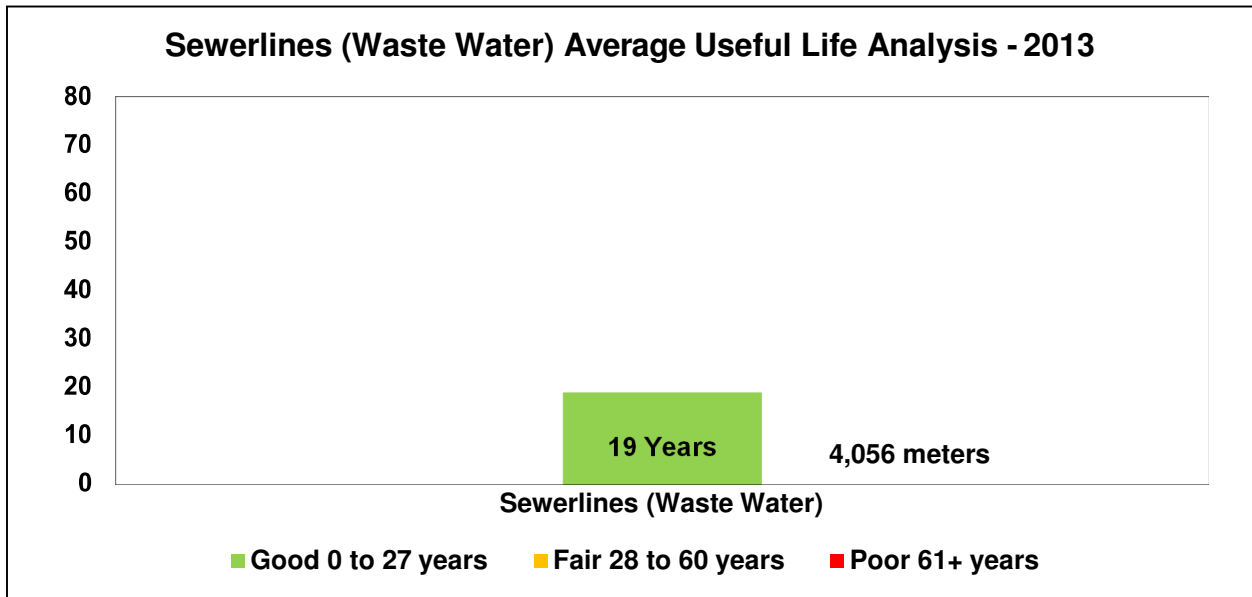


2.5.4 SEWER NETWORK

This group comprises of:

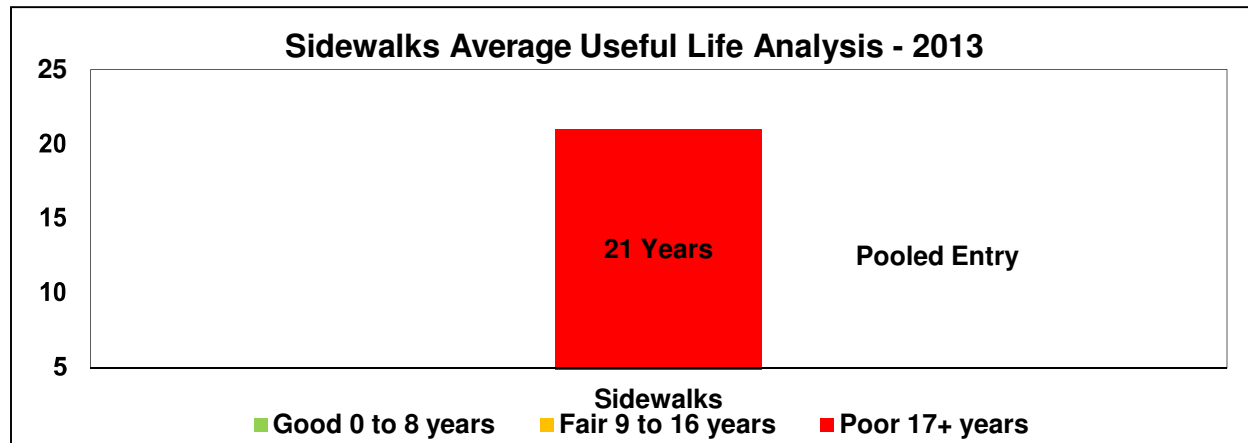
- Sewerline (Waste Water) - consists of 4,056 meters of waste water pipes
- Sanitary Forcemain – consists of 1,114 meters

An age-based analysis has been conducted on the sewer assets due to the non-availability of condition ratings. The calculations, undertaken in this circumstance, were to determine the life used of the asset on age-based analysis with pre-defined criteria. Age-based condition assessment has **the least level of confidence to determine the current State of Infrastructure**. The graphs below show the age-based analysis (life used for each asset depending on their total useful life) for each asset mentioned above.



2.5.5 SIDEWALKS

This group comprises of a pooled entry of sidewalks. An age-based analysis has been conducted due to the non-availability of condition ratings. The calculations, undertaken in this circumstance, were to determine the life used of the asset on age-based analysis with pre-defined criteria. Age-based condition assessment has **the least level of confidence to determine the current State of Infrastructure**. The graphs below show the age-based analysis (life used for each asset depending on their total useful life).



2.6 CONDITION RATING REPORT CARD

Asset Group	Overall Condition Rating	Rating	Range	Comments
Road Network	B	A Good	80 to 100	Condition rating based on Pavement Condition Index
		B Fair	50 to 79.9	
		C Poor	0 to 49.9	
Sidewalks	C	A Good	0 to 8 years	Condition rating based on age-based analysis
		B Fair	9 to 16 years	
		C Poor	>17 years	
Bridges	B	A Good	70-100	Condition rating based on bridge condition index
		B Fair	60-69	
		C Poor	>60	
Culverts	A	A Good	70-100	Condition rating based on condition index
		B Fair	60-69	
		C Poor	>60	
Water Network	A	A Good	Different ranges based upon total useful life for each asset type	Condition rating based on age-based analysis
		B Fair		
		C Poor		
Sewer Network	A	A Good	Different ranges based upon total useful life for each asset type	Condition rating based on age-based analysis
		B Fair		
		C Poor		



2.7 SOTI CONCLUSION

As highlighted in the Report Card above, the current state of the linear infrastructure, based on available condition rating analysis, presents a picture of the Township's linear assets. The condition analysis according to the asset type is as follows:

- Gravel roads are in mostly in poor condition, Surface Treated roads and Paved (HCB) are in fair condition.
- Sidewalks overall are in poor condition
- Water Network overall is in good condition
- Sewer Network overall is in good condition
- Bridges are in fair condition
- Culverts are in good condition

The Township should continue to be proactive in their strategies, so as to extend asset useful life and avoid major rehabilitation/reconstruction or replacement costs.

3 CAPITAL PLAN

3.1 BACKGROUND

Managing the Township's capital assets requires an assessment of the long-term capital project requirements and the establishment of the funding for high-priority projects in an efficient, timely and cost-effective manner. As a result of this analysis, the Township will be able to more effectively monitor, track and manage infrastructure assets, to ensure that policy makers obtain sufficient funding in order to maintain, at minimum, and potentially enhance future service levels. Through capital planning, the Township of St. Joseph can plan the future operating budget expenses and reserve funds to manage the financial position over a long term period. Capital planning also provides the core information needed for implementing the Council's planning and fiscal policies.

Support has been provided by the Province of Ontario through its MIII Capital program, designed to help municipalities address necessary road, bridge, and other priority projects identified through their asset management plans. This program is the second phase of the Province's recently released Municipal Infrastructure Strategy which aims to:

- Further strengthen municipal asset management practices;
- Support the most critical roads, bridges, and drainage projects; and
- Provide funding to municipalities that are unable to undertake projects without provincial support.

The Provincial strategy relies heavily on the requirement for municipalities to demonstrate how proposed projects fit within an asset management plan, which is a key component to ensuring infrastructure sustainability. An Asset Management Plan provides many benefits including:

- A systematic evaluation of all potential projects at the same time.
- The ability to stabilize debt and consolidate projects to reduce borrowing costs.
- To serve as a public relations and economic development tool.
- A focus on preserving a municipal government's infrastructure while ensuring the efficient use of public funds.



- An opportunity to foster cooperation among departments and an ability to inform other units of government of the Township's priorities.

3.2 OVERVIEW

The Capital Plan, an integral part of an Asset Management Plan, is a blueprint for planning a community's capital expenditures and is one of the most important responsibilities of local government officials. It coordinates community planning, financial capacity and physical development. It is a tool to assess the long-term capital project requirements of a township and to establish funding of high-priority projects in a timely and cost-effective fashion. The development of a Capital Plan is intended to ensure that policy makers are responsible to residents and businesses of the community with respect to the expenditure of public funds. It also promotes the provision of continuous efficient services. This plan identifies and describes capital projects, the years in which funding each project is likely to occur and the method of funding. While a Capital Plan may be designed to forecast any period of time, it generally extends beyond the current operating cycle and usually covers a five to ten year time frame. The Township of St. Joseph has requested a 10 year Capital Plan.

The Capital Plan provides a detailed understanding of anticipated investments into tangible capital assets. These assets include basic facilities, services and installations needed for the functioning of the community. The development of a CIP that will insure sound fiscal and capital planning requires effective leadership and the involvement and cooperation of all municipal departments. A complete, properly developed CIP has the following benefits:

- Facilitates coordination between capital needs and the operating budgets
- Enhances the community's credit rating, control of its tax rate, and avoids sudden changes in its debt service requirements
- Identifies the most economical means of financing capital projects
- Increases opportunities for obtaining federal and provincial aid
- Relates public facilities to other public and private development and redevelopment policies and plans
- Focuses attention on community objectives and fiscal capacity
- Keeps the public informed about future needs and projects
- Encourages careful project planning and design to avoid costly mistakes and help a community reach desired goals

A municipal government must take care of two key responsibilities in managing its infrastructure:

- The first major responsibility is the maintenance and repair of existing infrastructure. Given the high cost to replace linear assets and the fact that they are essential to providing programs and services to the public, it is extremely important that regular maintenance and periodic refurbishments be done to keep facilities and other assets in good working condition for as long as possible.
- The second major responsibility that municipal governments have is to plan and construct new community infrastructure. This involves several steps including deciding what services are to be provided, identifying community needs, careful planning, determining priority investments, figuring out how to finance projects and good management to ensure projects are completed on time and on budget.

Typically, a municipal government manages many diverse assets. Each asset type is considered a "capital" asset if it has the following characteristics:



- It is held for the purposes of delivering a program or service or to produce something
- It is to be used on a continuing basis and is not intended for sale
- It has a life expectancy of greater than one year
- It has as a value greater than a certain minimum threshold (as established in the TCA policy)

Common examples, such as roads, buildings and equipment, all meet these criteria and are considered capital assets from a planning and financial perspective. Other types of expenses, such as salaries, purchased services (e.g. janitorial), consumable items (coffee, office supplies etc.) or regular maintenance, do not meet these criteria and are categorized as expenses. These types of expenditures are paid for from operations budgets.

Local governments can make significant capital expenditures, sometimes undertaking projects without first analyzing the impact such expenditures may have on future operations and expenditures for other important capital projects. A Capital Plan is intended to assist municipalities in making choices about which projects should be implemented, how they should be financed and when, to establish priorities for its spending on services, while controlling the ultimate impact on the tax rate or user fees. It also provides a mechanism for controlling future debt levels, thereby ensuring that a reasonable amount of financial flexibility is maintained.

Although the Capital Plan is generally maintained separately from the operating budget, they do work in unison since the debt charges on funds borrowed for capital expenditures become expense items in the annual operating budget. In addition, operating and maintenance costs of capital assets have an impact on the operating budget. In order to have a realistic, workable Capital Plan, therefore, it is necessary to estimate the effect that debt service and operating costs will have on future tax rates. In this way, non-essential capital expenditures will not be undertaken at the expense of pending essential capital projects and the Township will thus be in a better position to control future debt levels.

To determine how much money should be allocated to existing infrastructure, the following factors need to be considered:

- **Inventory** – keep an up-to-date inventory of all physical assets that the municipal government owns or manages including fixed assets (buildings, facilities, etc.) and mobile assets (heavy equipment, trucks, smaller equipment.)
- **Condition rating** – complete an assessment of the condition of each significant asset and determine what needs to be repaired and when.
- **Upgrades** – existing facilities may need to be upgraded to meet new standards or legislative requirements or to meet demands due to population growth, etc.
- **What does the community need for new infrastructure?** This can be a tricky subject to resolve as a Council and community residents may have very different opinions about what the community needs most. This stage of the process requires community consultation which can include meetings, surveys etc. One approach is to organize needs starting with the basics (survival, safety, and shelter) and moving to more advanced needs (recreation, social / cultural, leisure). Once an initial list of potential projects is identified, it can be further refined on the basis of urgency:
- **Immediate or short term** – these are needs that won't wait such as water shortages, equipment breakdowns etc.
- **Predictable growth** – these are needs driven by population growth and increasing demands on infrastructure that will need to be addressed in the next few years. Examples



include housing supply, water treatment and delivery capacity, need for expanded recreation facilities etc.

- **Future** – these are long term needs that will occur in the next 20 years, often as a result of priorities established in other community plans (Strategic Plan, Recreation Plan, Land Use Plan etc.). An example may be the development of new residential lots or the refurbishment or replacement of an old building.

3.3 METHODOLOGY

The Township of St. Joseph's Capital Plan addresses infrastructure deficiencies and future capital expenditures. It includes existing service infrastructure not meeting engineering standards, the cost of renovation or replacement of infrastructure which has exceeded its service life and which as a consequence, is not meeting required service standards. Provision is required to renovate or replace infrastructure constructed previously, when it reaches the end of its service life. These costs do not include on-going operational and regular maintenance (which typically represent the greatest cost component of a facility's service life, for example). Unless informed by the Township, requirements such as investments required to support industrial, commercial and residential development in accordance with the growth projections required to serve the community and social needs as well as supply the increasing population and to service to the boundaries of new subdivisions have not been analyzed.

The Township's Capital Plan includes:

- Development of parameters for each asset class
- Development of rehabilitation and replacement unit costs
- Identifying the asset types to be included in the Capital Plan and determining and confirming the components of each asset class
- Identification of services to be provided and the capital expenditures to be incurred
- Determination of secondary cost estimates of capital expenditures (consideration of such cost elements as remoteness of the Township, land, architect/engineering fees, construction, legal fees, taxes, etc.) The non-rebatable portion of HST at 1.76% has been applied, for example
- Determination of the time periods over which the asset is to be constructed or acquired and the costs prorated accordingly

Municipal DataWork's Capital Infrastructure Planning (CIP) module allows municipalities to plan necessary rehabilitation work on the right asset at the right time. The CIP module also allows municipalities to produce a Capital Expenditure Plan for all asset types included in the Township's MDW asset repository. The CIP allows different work or renewal strategies to be selected for each asset type or category.

The trigger for a strategy within the Municipal DataWork's capital planning tool can be age-based or condition-based. For roads and buildings, condition-based triggers have been used, whereas for the sewer, water network, and other assets, age-based analysis have been used. The Capital Planning parameters, subsequent to the timeline within the road needs studies were condition-based on degradation curves developed by OGRA and the Ministry of Transportation.

The Life Expectancy parameters, the estimated useful life or number of years before an asset needs to be replaced, were provided by the Township. The Condition Trigger Point, the number of years after initial installation that the renewal strategy is triggered or the rehabilitation work is to



take place, were thoroughly researched, based on engineering principles and established standards.

All analysis to measure the impact of this Capital Plan on future operating budgets will be considered in the final report taking into consideration the average current contribution and the average required contribution to be able to sustain current infrastructure and service levels. The capital costs required for each year were determined using MDW's Capital Investment Plan (CIP) module.

The methodology used for building this Capital Plan was to:

- 1) Use the tools within MDW for error checking and data gap analysis
- 2) Determine the "unconstrained" rate of capital expenditure (assuming an unlimited budget). A constrained rate of capital expenditure will be provided in the final report.
- 3) Identify the Township's current infrastructure deficit.
- 4) Determine the Township's future requirements using MDW's Capital Investment Plan module.
- 5) Prepare a report detailing the capital required for each asset class based on current rehabilitation and replacement unit costs
- 6) Establish the cost of maintaining existing infrastructure while addressing the infrastructure deficit.

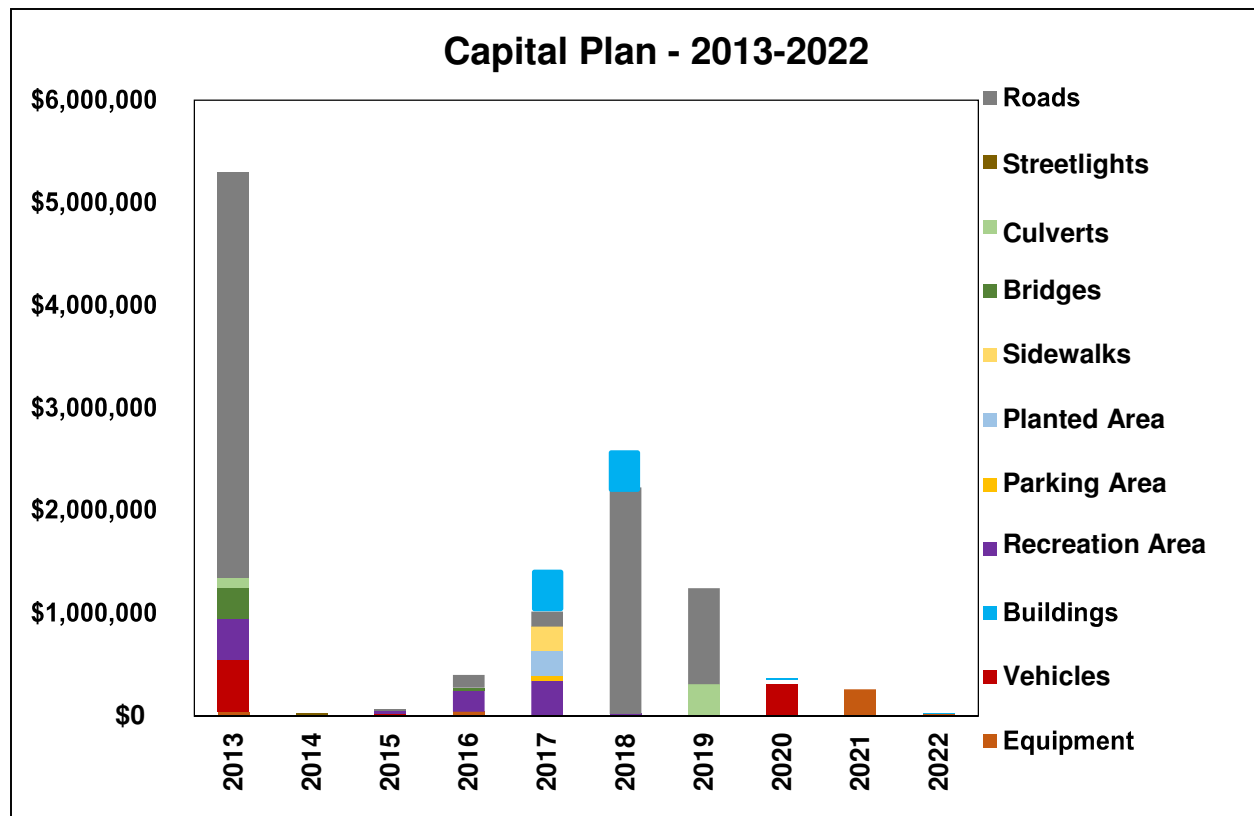
3.4 RESULTS

The Township of St. Joseph's infrastructure deficit for 2013 is determined to be approximately \$4,600 per person. The vast majority of the deficit is in dealing with the roads infrastructure. Like most other local governments in this province, St. Joseph is struggling with aging infrastructure and constrained budgets.

Upon completion of the collection of all the pertinent data, the capital plan was generated using MDW's Capital Investment Plan (CIP) module. A 10 Year Capital Plan, broken down by asset class for the years 2013 to 2022 (with non-rebatable HST and without inflationary factor), was developed. Inflation will be incorporated in the financial analysis. The results are as follows:

Timeframe	Year	Total Capital Projects
Year 2013-2022	2013	\$5,479,432
	2014	\$20,830
	2015	\$86,825
	2016	\$412,647
	2017	\$1,509,443
	2018	\$2,617,997
	2019	\$1,260,476
	2020	\$332,124
	2021	\$215,597
	2022	\$36,764
Total		\$11,437,200





Asset Type	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Equipment	\$33,702			\$39,522					\$164,717	\$17,429
Vehicles	\$516,475		\$27,410					\$310,653		
Buildings	\$82,451		\$26,051	\$14,887	\$352,940	\$389,741	\$15,264	\$21,471	\$50,880	\$19,335
Recreation Area	\$393,944		\$20,799	\$204,726	\$344,427	\$21,097				
Parking Area					\$43,541					
Planted Area					\$245,675					
Sidewalks					\$237,302					
Bridges	\$304,857			\$28,580						
Culverts	\$89,975				\$105,830		\$311,208			
Streetlights		\$20,830			\$31,000					
Roads	\$4,058,028		\$12,565	\$124,930	\$148,727	\$2,207,159	\$934,004			
Total	\$5,479,432	\$20,830	\$86,825	\$412,647	\$1,509,443	\$2,617,997	1,260,476	\$332,124	\$215,597	\$36,764

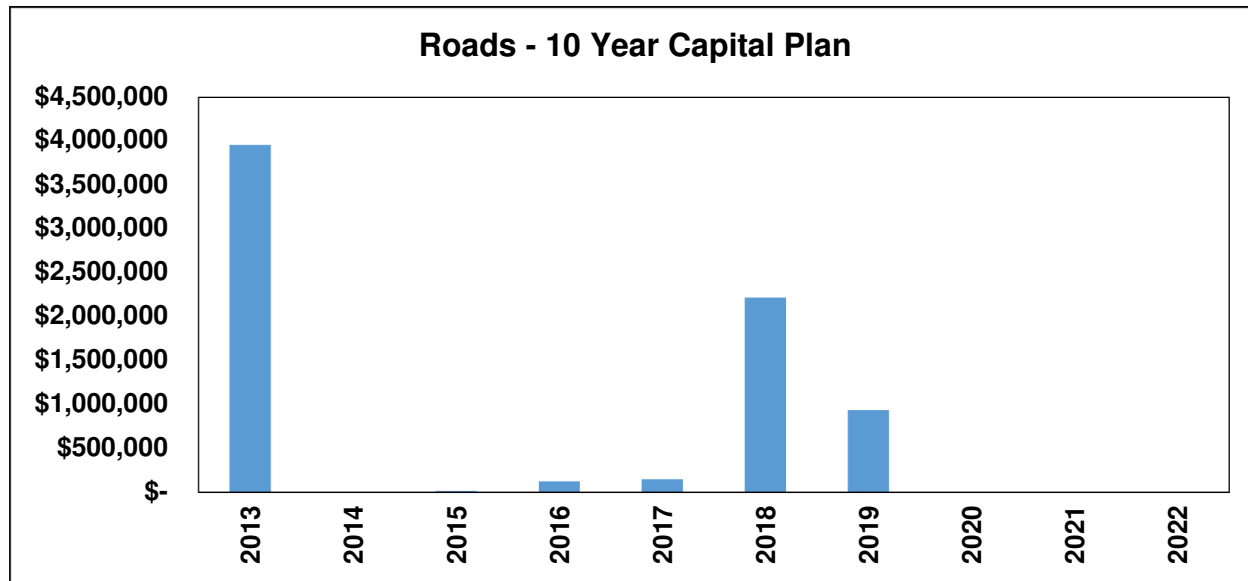
A detailed, project-by-project breakdown of this Capital Plan, and all proposed or study recommended projects are included in the detail capital project list in the Appendix A.



3.5 BREAKDOWN BY ASSET TYPES

3.5.1 ROADS

The road replacement costs are based on contractor costs for the region. ISI used numerous deterioration curves for the various types of roads. The gravel road expenses are treated as operating expenses and are not included in the Capital Plan.



Lifecycle Activities – Loosetop (unpaved):

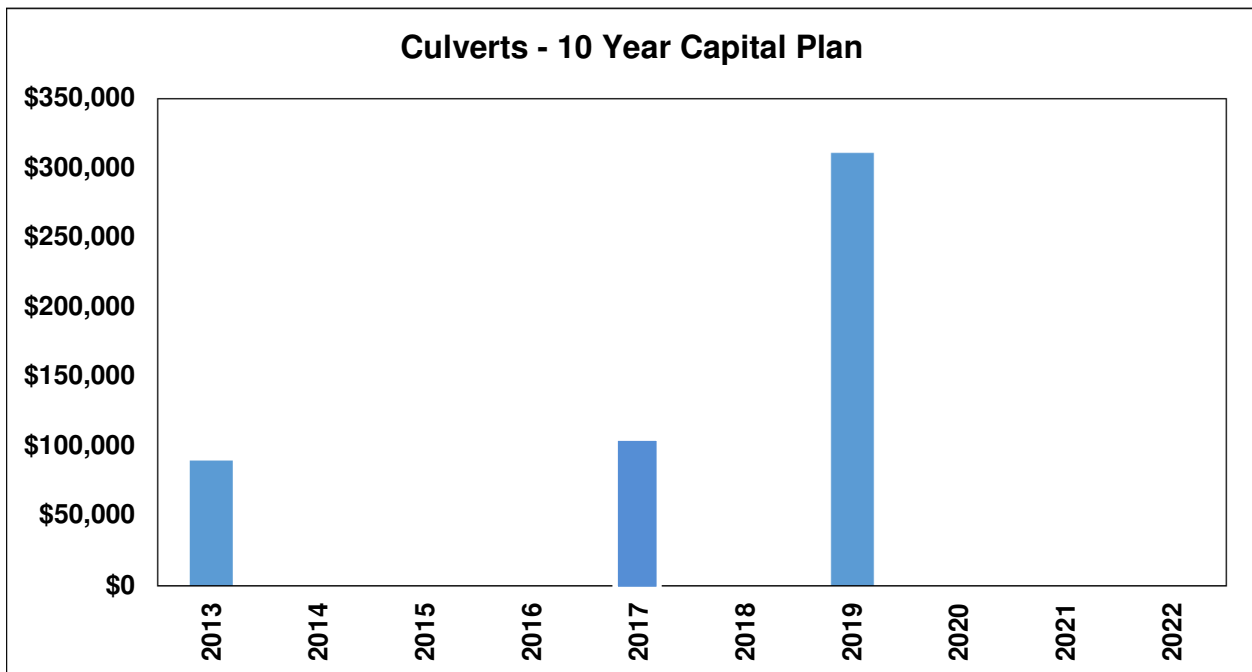
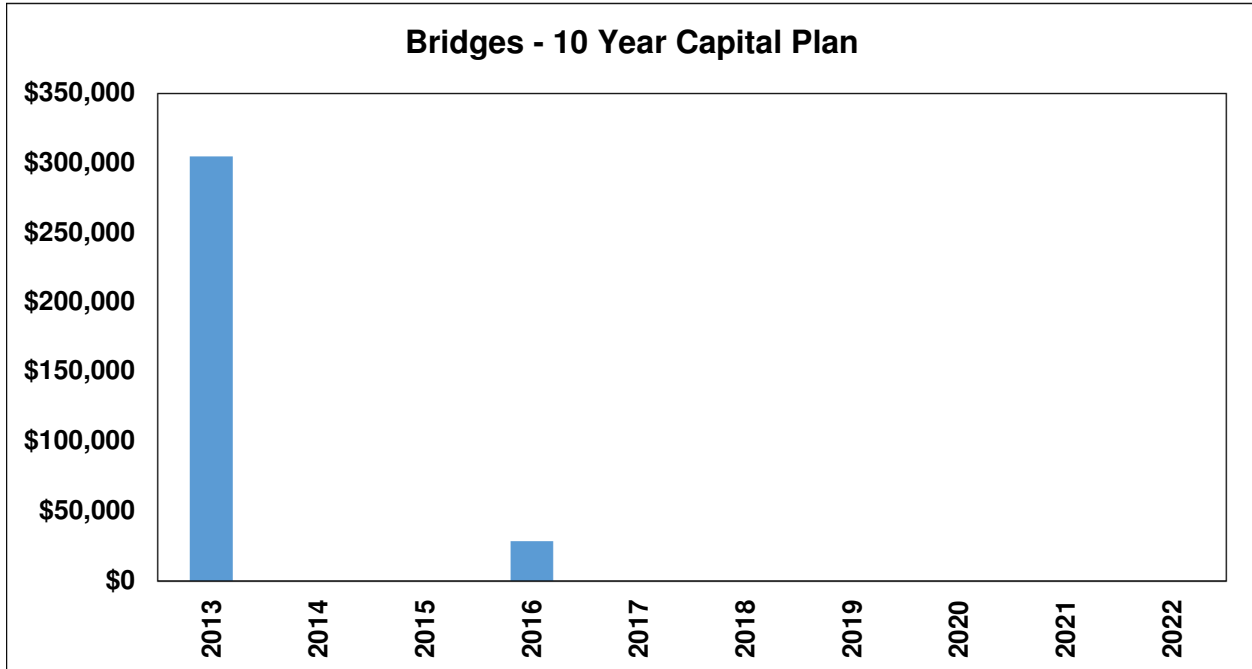
We are only dealing with Surface Treated and Paved (HCB) roads in this Capital Plan. Gravel road expenses are being captured in your operating expenses, and inserting them into your Capital Plan would be a redundant entry. The OGRA strategy for gravel roads is to re-gravel roads 75 mm every 3 to 5 years depending on the AADT. Every township we work with does annual maintenance rather than a 5 year resurfacing to 75 mm Granular A.

Timing	Activity	Activity Quantity		
		Class of Road		
		4	5	6
Annual	Grading	8 x per year	6 x per year	6 x per year
	Dust suppression	4t per kilometer	4t per kilometer	4t per kilometer
3 years	Ditching	1 x per year	1 x per year	1 x per year
	Culvert cleaning	as required	as required	as required
5 years	Safety devices			
	75mm Granular A	All roads	All roads	All roads
6 years	75mm Granular A			
	Spot repairs	All roads	All roads	
10 years	Drainage replacement	10%	10%	
	75mm Granular A			All roads
	Spot repairs			10%
	Drainage replacement			12%



3.5.2 STRUCTURES – BRIDGES AND CULVERTS

This group comprises of 4 bridges and 2 culvert structures. The replacement cost is based on the Township’s structure inspection report for 2012 which is indexed to 2013 using the Municipal Cost Index.



3.5.3 WATER NETWORK

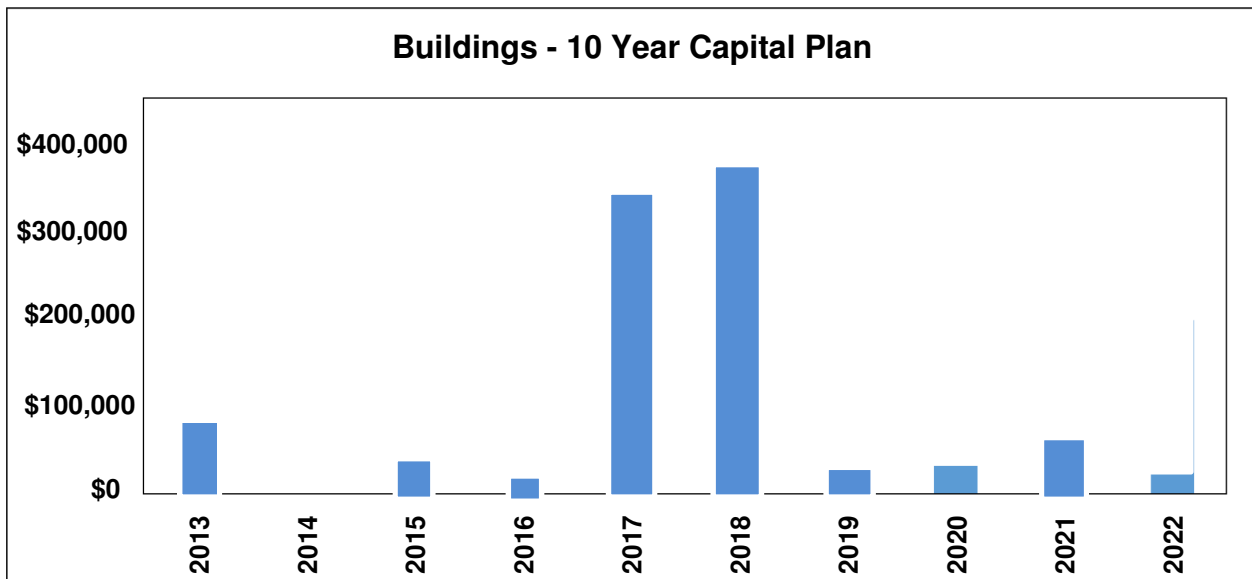
The group comprises of water lines with total length of 4,797 meters, 26 hydrants, and one water reservoir. The replacement cost for the waterlines for various pipe sizes ranging between the diameter of 150 mm and 200 mm is taken from the region and have been indexed using the Municipal Cost Index. For the water reservoir, the historical costs have been indexed using CPI and the Municipal Cost Index. The replacement cost for hydrants is provided by the Township (2012), which is indexed using the Municipal Cost Index. **No lifecycle events for waterlines, hydrants and water reservoir fall in the window of this ten year Asset Management Plan.**

3.5.4 SEWER NETWORK

This group comprises of 4,056 meters of sewerline (wastewater) with diameter sizes ranging between 200 mm to 300 mm, 1,114 meters of sanitary force mains, one pumpstation (waste water) and one outfall. The replacement cost for the sewerline pipes and sanitary forcemain are taken from the region. For the outfall and pumpstation (waste water), the historical costs have been indexed using CPI and Municipal Cost Index. **No lifecycle events fall for sewerline (wastewater), sanitary force mains and outfall in the window of this ten year Asset Management Plan.**

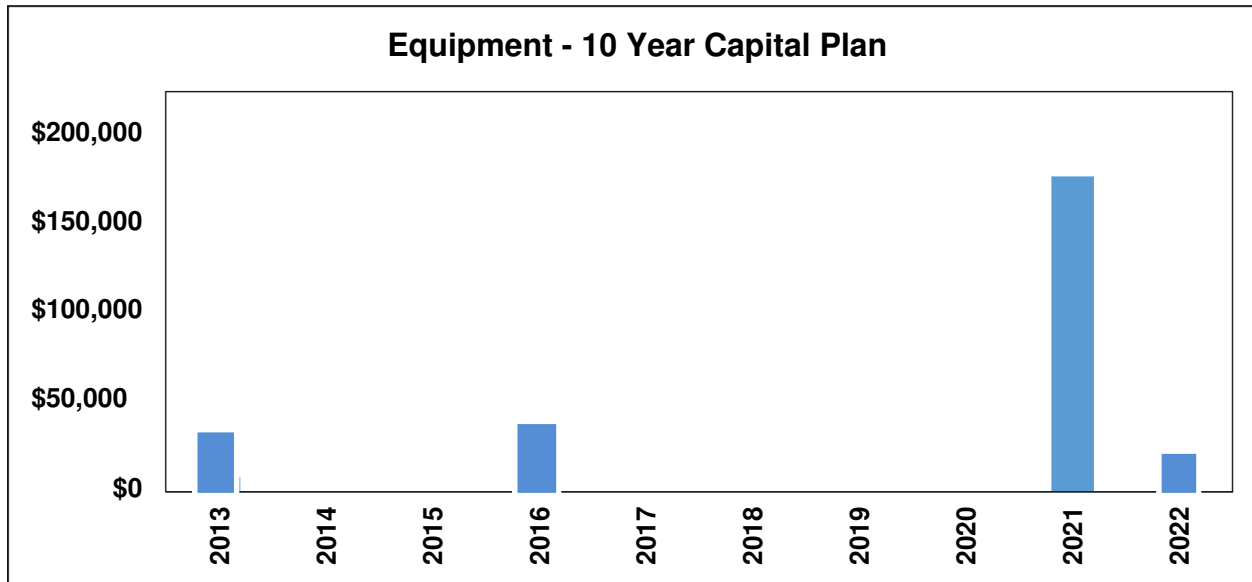
3.5.5 BUILDINGS

This asset group consists of 31 buildings, including the waste water and water treatment plant facilities (32 buildings if the Fire Hall and Roads Garage are counted separately). The replacement cost of the buildings is taken from the insurance document (2013) provided by the Township. For the Township’s facilities, ISI conducted building inspections in the fall of 2014 and determined accurate condition assessments and suggested rehabilitation strategies to maintain the current portfolio. **All recommended capital improvement projects that are above the \$5,000 threshold limit, are placed in the Appendix A in their respective years. All maintenance projects below the threshold limit are not included in the capital projects in the asset management plan.**



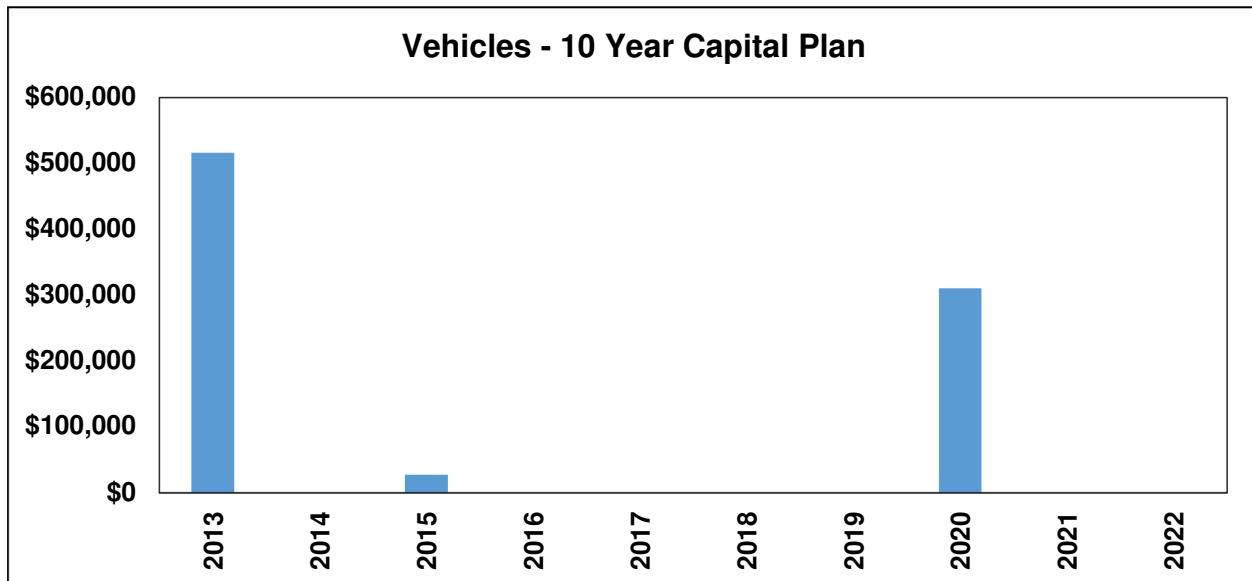
3.5.6 EQUIPMENT

The replacement cost for some equipment is calculated using the Township’s insurance document (2013), and in the case of the costs not being provided, the historical costs have been indexed using the CPI and Municipal Cost Index. Further review and discussion with the Township is required to ascertain the accuracy of the Township’s equipment requirement.



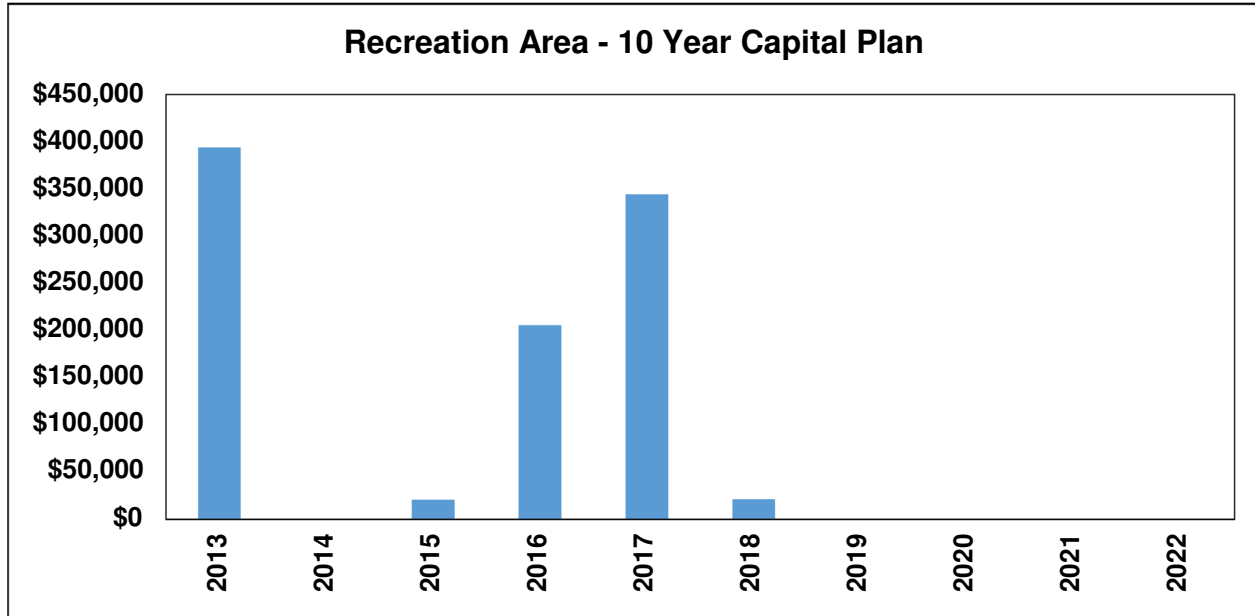
3.5.7 VEHICLES

The vehicle group comprises of trucks, pumpers etc. The replacement cost is based on the historical costs that are indexed using the CPI and Municipal Cost Index. Further review and discussion with the Township is required to ascertain the accuracy of the Township’s vehicle requirements.



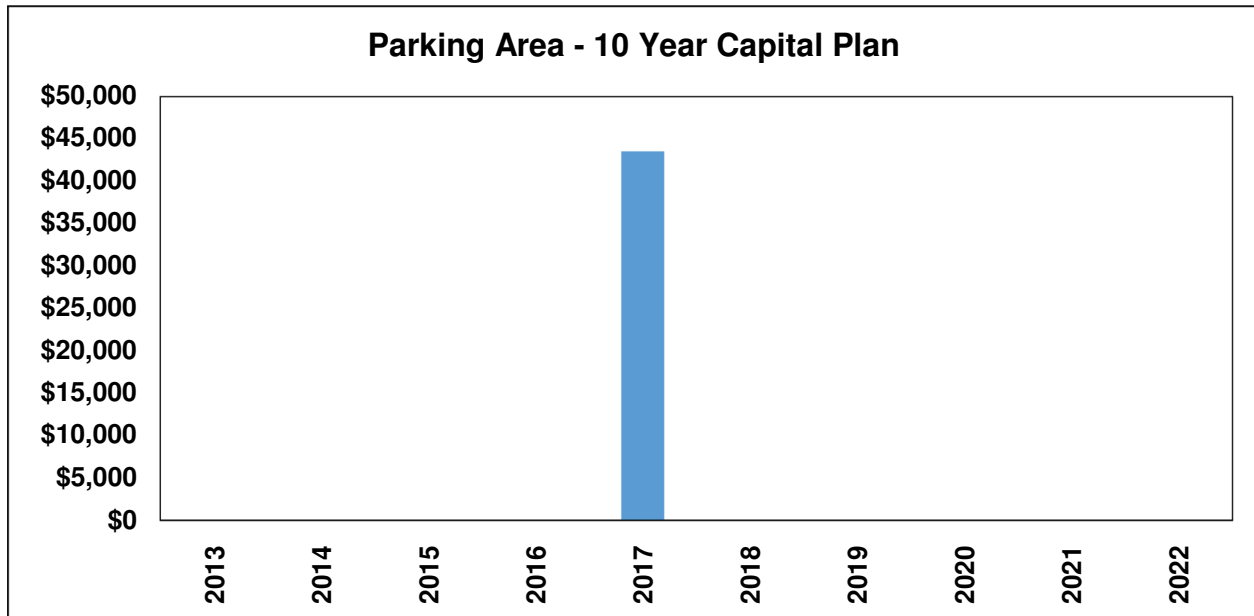
3.5.8 RECREATION AREA

This group comprises of recreation facilities belonging to the Township. The replacement cost is based on the historical costs that is indexed using the CPI and Municipal Cost Index.



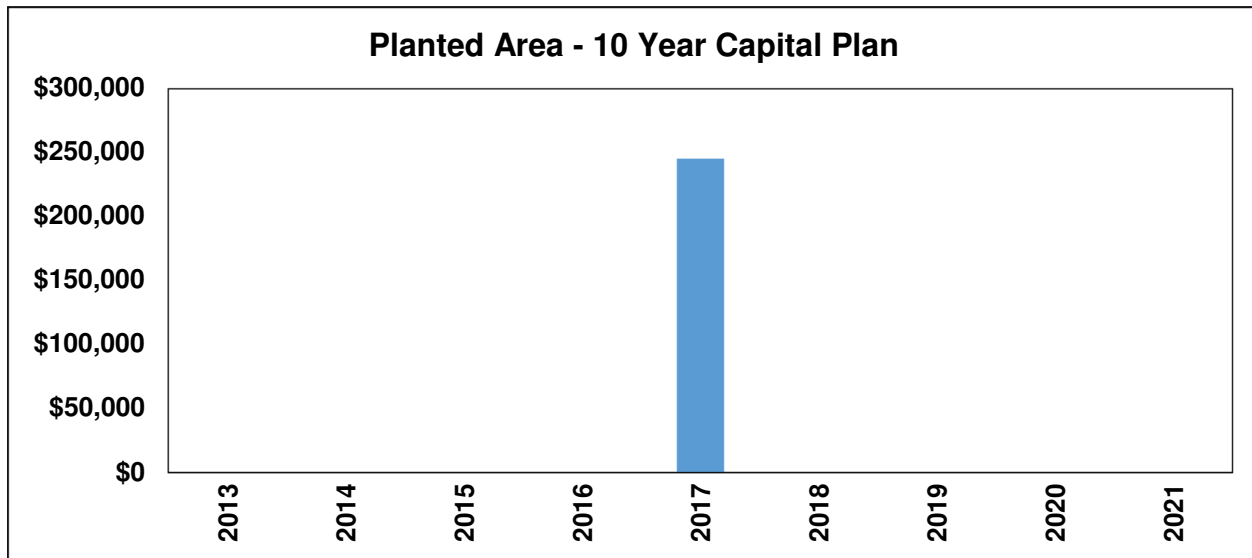
3.5.9 PARKING AREA

There are 4 parking lots in the Township. The replacement cost is based on the historical costs that are indexed using the CPI and Municipal Cost Index.



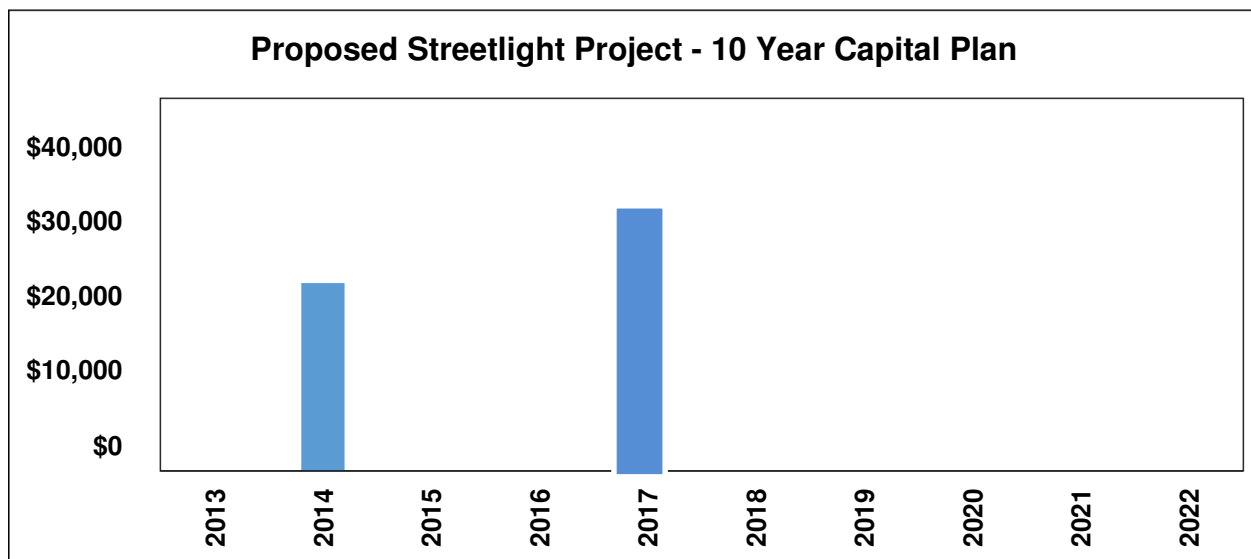
3.5.10 PLANTED AREA

The group comprises of one planted area belonging to the Township. The replacement cost is based on the historical costs that are indexed using the CPI and Municipal Cost Index.



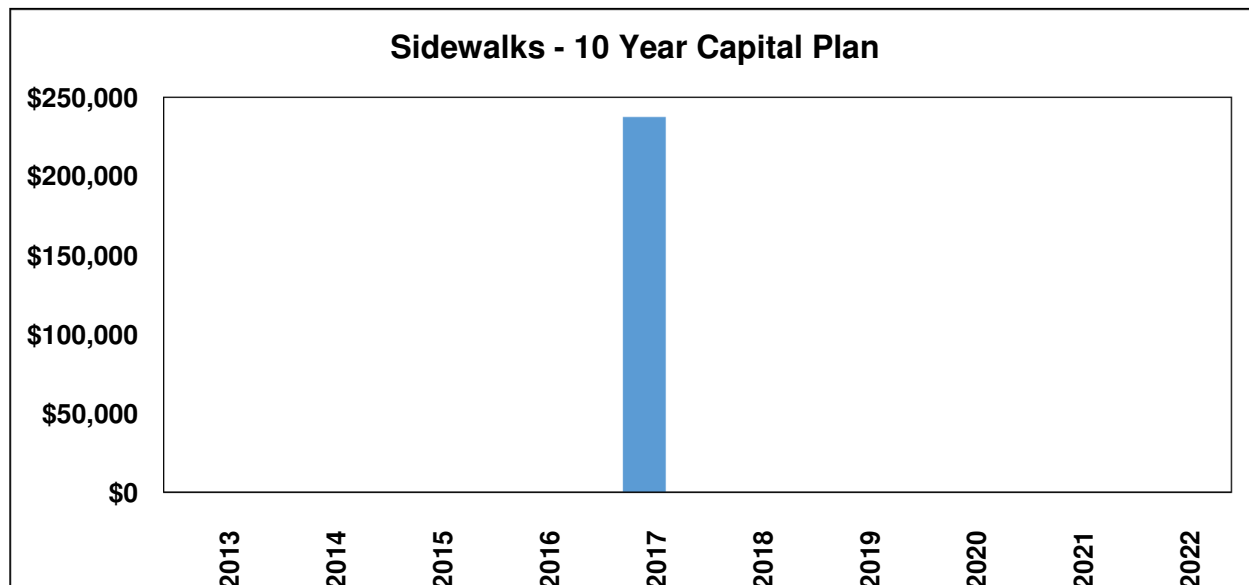
3.5.11 STREETLIGHTS

The group comprises of a pooled entry for streetlights belonging to the Township. The replacement cost is based on the historical cost that is indexed using the CPI and Municipal Cost Index. The Township has proposed to retrofit all of its cobra style streetlights to LED in 2014 under the SRNMIF Capacity Funding Project which is placed as a project in Appendix A. The remaining streetlights are decorative fixtures and are planned to be retrofit to LED in 2017.



3.5.12 SIDEWALKS

This group comprises of a pooled entry of sidewalks. The replacement cost is based on the historical costs that are indexed using the CPI and Municipal Cost Index.



4 LEVELS OF SERVICE

4.1 OVERVIEW

Levels of Service (LOS) are statements of service performance delivery. LOS is established based on Council direction, the needs or wants of the community as well as legislative and regulatory requirements. This report includes Operating Performance Indicators (OPI's) for current levels of service. Through the ongoing Asset Management process LOS will be further defined for the Township, the Township's assets, and the community. All are interconnected.

There is likely further effort required by the Township to address and formally define levels of service from a customer perspective. Asset management, at its root, is really about balancing between the full life cycle costs of various services and the levels of service being provided. It is about knowing what levels of service customers expect and what they are willing to pay. The level of service is a reflection of the quality, function and capacity of the services being provided. As a township, you might consider:

- The level of service you are currently providing to users
- The annual cost to continue to provide the current level of service
- How the current level of service is expected to change in the future given current funding levels
- If you are meeting the level of service expectations of your users given the costs to provide current, increased or decreased levels of service

Many municipalities cannot currently answer these questions, although many are working towards this goal. If you can't answer questions about the current, future and desired levels of service (with associated costs), then it will be difficult to understand the financial implications of owning



the asset going forward. The levels of service that you provide as a township directly impact many parts of asset management including both life cycle costs and risk management.

As a rough generalization, the higher the level of service provided, the higher the life cycle costs of providing that service. Levels of service drive the expected treatments in the management of infrastructure. Customer levels of service outline the overall quality, function, capacity and safety of the service being provided. Technical levels of service outline the operating, maintenance, rehabilitation, renewal and upgrade activities expected to occur within the Township. When practicing asset management it is important to first document the current level of service being provided. As asset management becomes more established within your Township, levels of service may be set through consultation with the community. However, it is critical that prior to consulting with the public, the current levels of service along with associated life cycle costs are understood.

It is also important to discuss how various levels of service may have different risks associated with them. These risks may play an important role in determining if certain levels of service are acceptable. As with all economic analysis, a sensitivity analysis should be carried out on those parameters which are more likely to be beyond the control of the organization, such as market forces affecting the opportunity cost of capital, community expectations/perception on risk and factors in the long-term, health and safety effects, community economic effects, environmental and social effects, feasibility including public support and the Township's readiness.

4.2 METHODOLOGY

The implementation of a formal Maintenance Management System (MMS), among many other items, measures the response time, lag time, total time to resolution, resources involved, and communication logs for all issues identified internally and by customers. Going forward, this type of information not only provides the basis of resource and program management decisions, but is key information that will provide council and the public with the service level information in relation to the cost of service. Historically a significant portion of activities have been provided at a 'best we can do with what we have' basis. Through a review of design guidelines, and metrics being captured by the MMS, the Township of St. Joseph can re-orientate service delivery that is driven by service level expectations that incorporate Level of Service factors. To assist in better establishing Levels of Service, the Township should also consider collecting technical performance measures needed to provide information on:

- the types of failure
- the number of customers affected
- the duration of the failure
- the severity of the failure

This kind of technical performance measurement and monitoring is undertaken to support decision-making by the asset managers within an organization. It addresses issues for consideration in effective management of the assets, such as:

- Assessing the effectiveness of the operational, maintenance and capital works program
- Review and refinement of maintenance and rehabilitation strategies and standards
- Assistance in strategic decision-making through definition of remaining life, based on the measure being assessed e.g. capacity of a pipe versus demand.



Benchmarking and other comparison management techniques are used both internally and for external regulation and monitoring, to assess the performance of infrastructure groups and asset owners. Each Township needs to consider developing rating systems to judge the assets from both a township's perspective with the values that it brings to the organization, and also from a user's or regulator's perspective, in terms of the functionality, suitability, cost and service performance of the asset.

4.3 LEVELS OF SERVICE PROCESS

Some Levels of Service (LOS) for the Township can be attained through documents developed in the industry and by internally focusing on technical requirements that meet generally expected levels of operation and safety:

- Provincial Minimum Maintenance Standards (MMS) for roads, street lighting, water and drainage
- Drinking Water Quality Management System (DWQMS)
- Engineering Standards Manuals

Operating Performance Indicators – These are the main activities within each operating budget cost center. These activities (OPI's) link directly to the Level of Service provided by the Township. The OPI's also include maintenance tasks that help extend asset life. A good balance between asset replacement through capital funding and ongoing maintenance provides the best-cost efficiency and service productivity. The process is outlined in **Appendix D**.

5 FINANCIAL PROJECTIONS

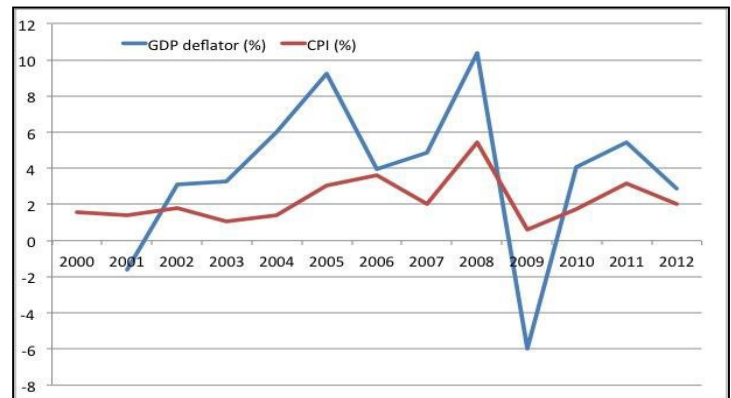
Our first steps in Financial Forecasting include compounding/inflating historical costs to Present Value (2012/13) number and then further compounding/inflating these numbers to meet future requirements. To maximize the accuracy of our projections, we have developed a comprehensive "*Municipal Cost Index (MCI)*". To further fine-tune our projections, we do a micro analysis of your geographic region.

Our basic assumptions and calculations, included within this document, are key to the planning process and serve as the base for the forecasting and predicting your future budgetary requirements and needs.



5.1 CONSUMER PRICE INDEX: OUR PERSPECTIVE

A price index measures the change in the costs of purchasing a fixed basket of goods and services in the current period, compared to a base period, typically month-over-month or year-over-year. The most widely applied measure of inflation/price index is the Consumer Price Index (CPI). Given its pervasive use in setting cost-of-living adjustments, it can be the appropriate metric when calculating the rate of consumer inflation at the national level. Major components within the CPI include housing, food, and transportation.



Source: www.marketmonetarist.com

Extending the use of the CPI into discussions about the appropriate level of tax and fee rate increases becomes problematic, however, because a government's actual experience with inflation can differ greatly from the CPI. This is because the largest expenditures for governments are typically labor, materials, and contractual services — different factors than those found in the CPI. Spending patterns that are different than those of other economic sectors. A price index that does not reflect the municipal purchasing structure does not truly reflect changes in the cost experience, and thus the purchasing power, of local governments. For instance, the CPI reflects household spending patterns that focus on shelter (27.7 percent of the Statistics Canada CPI basket), transportation (19.5 percent), food (15.5 percent), and recreation (12.9 percent) — none of which registers as leading purchase categories for local governments.

There are two main parts to the MCI calculation: the weightings of the expenditure categories (showing the relative importance of items in the index), and the inflation factor used for each component. The inflation factors for expected price changes are based on economic data from two main sources, the Conference Board of Canada (CBOC) and Statistics Canada. The key issue is to match an appropriate inflator from these external sources to the types of expenditures in each budget category. MCI can be used in the following ways:

- To measure the increase in overall municipal expenditures attributed to inflation;
- To allow managers to more closely monitor the increase in spending by expenditure category, thus making inflationary price increases or decreases more visible;
- To provide an indication of the historical, current, and future direction of prices relative to municipal expenditures;
- To explain increased expenditures attributed to inflation when submitting annual budgets.

5.2 MUNICIPAL COST INDEX

Municipal Cost Index (MCI), entails both inflationary and non-inflationary components along with their Weight and Inflators. MCI has been created in such a way that it focuses on the overall yearly impacts of basket of goods that our clients has maximum exposure to and represents the operational/working capital needs on an ongoing basis. MCI will be used to a part of the assumptions in the following calculations:



- Municipal Cost Index is used as an integral part of Capital Planning Module, MCI served as the base for inflating/compounding historical costs to Present Value
- Financial Forecasting Municipal Cost Index will be used as an compounding/inflation factor till the 2013 financial year and then the compounding/inflationary factor will be based upon the reliable research reports like RBC, TD, Scotia Bank, Stats Canada to predict the rest of the years (basis Inflation rate, GDP growth rate, Population, Risk Free Rate, Market Premium Rate etc. will be considered for a constant growth rate)
- Break down of revenue and expenditure and predicting the sources of funds and expenses

St. Joseph's Municipal Cost Index is attached as Appendix E.

5.3 FINANCIAL STRATEGY ASSUMPTIONS

The following summarizes the key assumptions used in the preparation of the financial strategy for water, wastewater, roads and culverts:

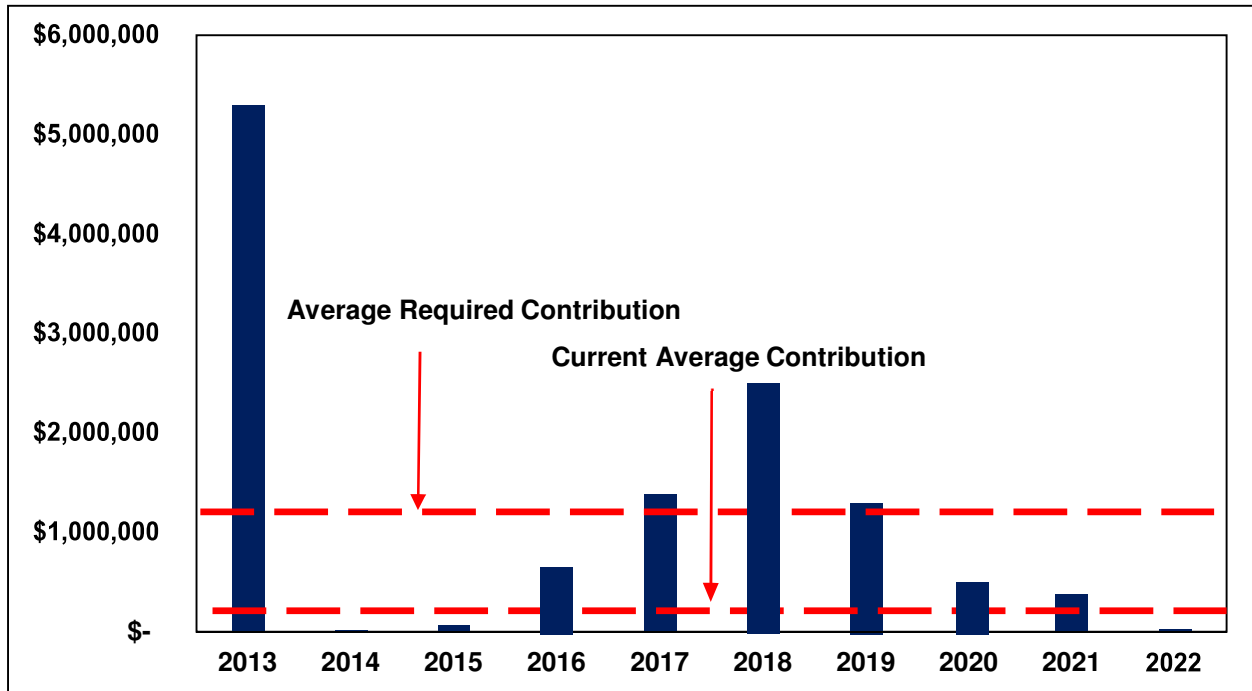
- 2.3% annual operating income increase (property taxation, base scenario)
- 2% annual increase in User fees and 1% increase in other revenues
- 2% annual operating expenditure increase
- 2% annual increase in capital replacement costs
- Gas Tax Fund \$69,264 (not inflated)
- Existing funding sources, as identified in the 2012 FIR
- No growth related capital has been included in analysis as the financial strategy relates to the replacement of existing assets.
- Capital replacement needs as identified in the previous section of this report

It is important to keep in mind that assumptions may significantly change over time. In addition, capital replacement cost estimates may vary from current projections. As such, there is a need to monitor the financial strategy over time.

5.4 FUNDING REQUIREMENTS

By our calculations, the average annual capital requirement is \$1.20 MM, and the existing contribution to the capital program is \$119,917. The Township is facing a growing infrastructure deficit like many other similarly sized municipalities. The Township needs to substantially increase its current contribution and continue to build reserves so that it can prepare to maintain service levels and meet capital requirements in the future. The Township's strategies to close/reduce the gap will be discussed in the next section of the report.





5.5 FINANCIAL STRATEGIES – THE INFRASTRUCTURE GAP

Financial sustainability requires that a township ensure that there are sufficient resources to support the delivery of services for which the township bears responsibility. Given the need and benefit for further infrastructure investment in order to protect, sustain, and maximize the use of St. Joseph’s infrastructure assets, a number of options and strategies have been considered.

5.5.1 STRATEGY 1: SPECIAL LEVY

General Infrastructure

An option that could be implemented is to establish a special infrastructure levy for the replacement of existing infrastructure. For example, a special infrastructure annual levy increase of 8% would generate sufficient revenues to reduce the tax related infrastructure gap beyond 10 years. The Township should continue using additional funds to create healthy reserves to sustain infrastructure and service levels. These contributions would be dedicated to the replacement of the existing infrastructure. Increasing the levy by an additional 8% annually will increase the funds available over the 10-year period by approximately \$7.58 MM. This reflects the significant power of compounding:

- In year one, the additional 8% special levy would generate an additional \$119,604
- In year 10, with an assumed 8% special infrastructure levy, this would generate an additional \$1.78 MM

The following table is provided for illustrated purposes to help explain the significant potential through a modest levy increase to address the tax infrastructure gap:



8% Special Infrastructure Levy	
2014	\$119,604
2015	\$254,279
2016	\$405,639
2017	\$575,469
2018	\$765,736
2019	\$978,613
2020	\$1,216,498
2021	\$1,482,039
2022	\$1,778,157
Total income	\$7,576,035
Average income	\$841,782

5.5.2 STRATEGY 2: RETHINKING INFRASTRUCTURE

There is the potential to reduce infrastructure costs by determining the most cost-effective options for all capital programs for new or rehabilitated infrastructure by pursuing life cycle costing analysis which was discussed earlier in the report. Further, as indicated previously, the timing to replace assets is based on the analysis undertaken using theoretical assumptions in some cases. Due to the limited funds available, there will be a need to identify where the replacement of some assets may be deferred. A strategy frequently used by municipalities is to establish priorities based on funds available and to gradually increase contributions to reserves.

Many municipalities develop rehabilitation and replacement programs on a system wide program basis versus annual project by project basis. This will allow for improved prioritization and co-ordination of required works within similar geographic areas.

5.5.3 STRATEGY 3: STRATEGIC USE OF DEBT

Due to the backlog in the tax-supported programs, there is a need to examine the cost/benefit of addressing these needs through the issuance of debt. Using debt strategically can provide capital funding flexibility by allowing certain infrastructure to be built and used before sufficient revenue has accumulated to offset the needed investment. Debt is frequently issued and considered a standard practice in municipalities for capital projects that are long term in nature and that benefit future taxpayers, thereby spreading the costs across future years. As such, debt promotes inter-generational equity in that infrastructure is paid for by those who use it. With favorable interest rates and a significant backlog, the Township may wish to consider the need to issue debt to expedite capital replacement. Infrastructure Ontario interest rates at the time of this report are as follows:

- 10 year – 3.12%
- 15 year – 3.62%
- 20 year – 3.93%

For example, if the Township were to issue \$1 million in debt to address a portion of the backlog deemed to be highest priority that was beyond reserve availability, the debt payments would be approximately \$88,000 (assuming 15 year term).

A debt management policy improves the quality of decisions, identifies policy goals and demonstrates a commitment to long-term financial planning, including a multi-year plan. Adherence to a debt management plan signals to rating agencies and capital markets that the township is well managed and is well positioned to meet its obligations in a timely manner. The



Province regulates the amount of debt municipalities issue by setting an annual repayment limit for each township (25% of a township's own source revenues). Based on our experience, municipalities typically establish thresholds below the Provincial limit to take into consideration taxpayer affordability and to ensure flexibility.

In addition to a debt guideline, monitoring also becomes important when considering the idea of the increased use of debt as a funding source to ensure that it is being used in a fiscally responsible manner. Government Finance Officers Association recommends that municipalities adopt policies that specify appropriate uses for debt.

The following strategies are recommended to determine the most appropriate time to issue debt:

- Debt will be proportionate to the Township's tax base and will not put an excessive burden on operating expenditures.
- Outstanding and planned debt levels will not exceed an amount that can be supported by the existing and projected tax revenue base. Debt policies will focus on:
 - projected debt requirement
 - limits and benchmarks
 - term and structure of debt
 - use of reserves to offset debt issuance
- Long term debt for the replacement and refurbishment of existing capital assets will be reduced and a planned process will be developed whereby an annual contribution will be made to meet lifecycle needs of all assets.

The following policies are recommended to manage debt within the Township:

- Tax Debt Charges as a percentage of Tax Own Source Revenues will not exceed 10%.
- Long term debt financing will be restricted to specific project types:
 - Increased/new services to residents for new initiatives
 - New, non-recurring infrastructure requirements
 - Projects which are supported by a business plan that show revenues will cover capital and interest costs
 - Projects where the cost of deferring expenditures exceeds debt servicing costs
 - Project costs not recovered from Development Charges
 - Projects tied to third party matching funding(Note: These restrictions may have to be phased in to meet short term budget challenges.)
- The length of the term of debt will not exceed the useful life of the underlying asset.
- The Township will monitor and report on all forms of debt annually.



5.5.4 STRATEGY 4: USE OF GRANTS

It is well established that the condition of Canada's municipal infrastructure is one of the keys to underpinning, maintaining and enhancing Canada's economic productivity and competitiveness. It is therefore clearly in the national and provincial interests for the federal and provincial governments to institute permanent and sustainable infrastructure funding. Along with the strategic use of debt, the Township can also apply for the grants available from the Provincial and Federal governments. Some significant components of the infrastructure deficit can be dealt with through close monitoring of grant programs and a careful expression of interest to access these funds.

Kathleen Wynne's Provincial Liberal majority government passed its budget bill this past spring, with plans to continue to revitalize infrastructure in Ontario with programs like the Building Together and the Small, Rural and Northern Municipal Infrastructure Fund. Ontario's projected population growth will result in significant demand for all types of infrastructure, including:

- Dedicating funding to make nearly \$29 billion available over the next 10 years for transportation infrastructure across the province.
- Investing a total of \$2.5 billion in 2014–15 for highway rehabilitation and expansion projects across the province.
- Supporting municipal roads and bridges through a new permanent \$100 million fund.

Steven Harper's Conservative majority government has recently announced the New Federal Building Canada Plan with \$53 billion over the next 10 years, including over \$47 billion in new funding including the Gas Tax Fund (\$21.8 billion) which is now indexed and will give municipalities flexibility for a broader range of infrastructure priorities, an incremental Goods and Services Tax Rebate for Municipalities (\$10.4 billion), a new Building Canada Fund with two components:

- A \$4-billion, merit-based, National Infrastructure Component
- A \$10-billion Provincial-Territorial Infrastructure Component

Finally, the Federal Government is adding an additional \$1.25 billion in funding for **P3 Canada**, which will continue to be administered by [PPP Canada Inc.](#)

6 RECOMMENDATIONS

6.1 SOTI RECOMMENDATIONS

The SOTI/Capital Plan identifies a number of asset-specific recommendations. However, there are six recurring recommendations that should be addressed in future strategic asset management initiatives:

1. Develop, through more detailed analysis, a plan for allocating the additional funds to the operating and/or capital budgets, as required, in order to successfully develop, implement, and maintain the required asset management plans;
2. Develop a policy and implement a strategy to reach long term sustainable funding for each of the assets covered in this SOTI Report;



3. Implement a comprehensive budget structure along service delivery lines, so that service managers can adequately know what the true total cost of their service is (including asset management, operations, capital, and borrowing costs).
4. Review the selection and use of rehabilitation strategies on life-cycle costing and on a return-on-investment (ROI) basis.
5. Review operating and maintenance practices, balancing least life-cycle cost against level of service and risk exposure, on a business-case basis using InfraGuide Best Practices and other industry sources;
6. Provide regular updates to the SOTI Report Card and Analysis

6.2 CAPITAL PLAN RECOMMENDATIONS

1. That asset condition assessment of capital assets should be considered wherever feasible. The application of a standard life expectancy of an asset reflects a financial approach (PSAB 3150). Age-based condition assessment has **the least level of confidence for building a capital plan**.
2. That the Township of St. Joseph could consider releasing a policy defining its strategy and intention as it pertains to the infrastructure deficit, including communications to the general public.
3. That the Township address their infrastructure deficit.
4. That the Township proactively define organizational responsibilities to maintain the asset inventory including proposed and actual project cost information, updating the data as assets are acquired or betterments are added to existing assets and projects are started and completed. In this manner, the accuracy of future Capital Plans will increase over time.
5. That the Township consider establishing as policy the following guiding principles, that it be:
 - a) **Customer Focused:** To have clearly defined Levels of Service and applying asset management practices to maintain the confidence of residents in how the Township of St. Joseph assets are managed.
 - b) **Forward Looking:** To make the appropriate decisions and provisions to better enable its assets to meet future challenges, including changing demographics and populations, customer expectations, legislative requirements, technological and environmental factors.
 - c) **Service Focused:** To consider all the assets in a service context and taking into account their interrelationships as opposed to optimizing individual assets in isolation.
 - d) **Risk-based:** To manage the asset risk associated with attaining the agreed levels of service by focusing resources, expenditures, and priorities based upon risk assessments and the corresponding cost/benefit recognizing that public safety is the priority.
 - e) **Value-Based/Affordable:** To choose practices, interventions and operations that aim at reducing the life cycle cost of asset ownership, while satisfying agreed levels of service. Decisions are based on balancing service levels, risks, and costs.
 - f) **Holistic:** To take a comprehensive approach that looks at the “big picture” and considers the combined impact of managing all aspects of the asset life cycle.
 - g) **Systematic:** To adopt a formal, consistent, repeatable approach to the management of its assets that will ensure services are provided in the most effective manner.



- h) **Innovative:** To continually improve its asset management approach, by driving innovation in the development of tools, practices, and solutions.
6. To meet the goals and objectives of this policy, senior management could consider:
- a) The creation and maintenance of a Comprehensive Asset Management (CAM) governance structure to lead the development of AM tools and practices and to oversee their application across the organization.
 - b) Adopt a Comprehensive Asset Management Strategy (AMS) to:
 - Establish, document and continually adhere to industry recognized asset management protocols;
 - Develop asset management knowledge and competencies aligned with recognized competency frameworks;
 - Entrench lifecycle costing when evaluating competing asset investment needs across the Township assets;
 - Monitor the performance of the assets and track the effectiveness of AM practices with a view to continuous improvement;
 - Where practical, strive to go beyond minimum legislative requirements as an enabler to make the Township of St. Joseph assets more resilient to changing social, environmental and economic conditions.
 - **Establish a capital projects prioritization matrix, as per Appendix C**

6.3 LEVEL OF SERVICE RECOMMENDATIONS

1. We recommend that the Township incorporate a Level of Service analysis prior to resolving the infrastructure deficit in order to maximize the impact of their capital investments with the objective to:
 - Refine levels of service that balance customer expectations with risk, affordability and timing constraints as it pertains to the Township's unique requirements;
 - Adopt risk-based decision-making processes that consider the likelihood of asset failure and the consequence of a failure with regards to impacts on safety and levels of service;
2. To assist in better establishing Levels of Service, the Township should consider collecting technical performance measures required to provide information on:
 - the types of failure
 - the number of customers affected
 - the duration of the failure
 - the severity of the failure
3. To support decision-making for effective management of the assets, the Township should consider technical performance measurement and monitoring, undertaken by the Township such as:
 - Assessing the effectiveness of the operational, maintenance and capital works program
 - Review and refinement of maintenance and rehabilitation strategies and standards
 - Assistance in strategic decision-making through definition of remaining life, based on the measure being assessed
 - **The Township should use the Appendix D document as an example of how they might establish reasonable Levels of Service for the community.**



6.4 FINANCIAL STRATEGY RECOMMENDATIONS

It is well recognized that a Financial Strategy to support the asset management plan is a dynamic document that should be updated and re-evaluated on an ongoing basis. The Township should give due consideration to the following points:

1. The Township has insufficient funds from existing sources to proactively manage its infrastructure and will need to prioritize its requirements to maximize the impact of existing financial resources.
2. The Township has a growing infrastructure deficit which is serious considering its population and tax base. A special infrastructure levy will help the Township to reduce the gap over time and should be taken into consideration.
3. In the event that the Township implements an infrastructure levy, a percentage of the additional funds should be transferred into a reserve so that the Township has some flexibility to prioritize and sustain future infrastructure and service level requirements.
4. The Township requires a rate review and should consider a special infrastructure levy for its Water Projects based on a detailed analysis, so as to create reserves to be able to sustain the current and future service levels and begin to close the infrastructure deficit.
5. The Township needs to be proactive in reviewing and capitalizing on the upcoming Provincial and Federal programs, as the Township will need financial assistance to close its infrastructure deficit. It should seek government grants to be able to undertake the capital projects outlined in this Asset Management Plan.
6. The Township needs to be proactive in reviewing funding options including Infrastructure Ontario Lending Policies, Private Public Partnerships, user fees and other funding options to have an understanding of financing options.
7. The Township needs to embrace the principles of Asset Management to formulate assumptions, projections and strategies going forward. The Plan should be modified on an ongoing basis based on changes in the municipal environment.
8. The Township should track and build awareness of the results of its projections on current operating and capital spending and funding levels with the objective of fine tuning the forecasting process.
9. The Township should continue the analysis and examination of key financial goals and strategies that guide future priorities and expenditures.



7 CONCLUSION

As a general comment, the Township of St. Joseph is hampered by limited revenue and extensive infrastructure. ISI worked with staff who were knowledgeable and committed. The information we received was, by in large, accurate and well organized. The overall state of the linear infrastructure at the Township of St. Joseph is in line with the vast majority of municipalities in this Province.

As highlighted in the Report Card, the current state of the linear infrastructure, based on available condition rating and age analysis, presents a picture of the Township's linear assets to be in need of substantial work, and the Township should continue to be proactive in their strategies, so as to extend asset useful life and avoid major rehabilitation/reconstruction or replacement costs.

It is highly recommended that the Township of St. Joseph embrace the principles of Asset Management. Managing existing infrastructure, doing the right thing, at the right time, involves knowing and actually doing the most cost-effective maintenance, repair, rehabilitation or replacement activity at the right time throughout the entire life cycle of the asset. Beyond cost savings, assets need to be viewed in terms of their ability to enhance quality, function, capacity and safety of the service being provided.

The process of implementing Asset Management is rife with challenge. It requires clear direction from Council. It requires significant cross-departmental cooperation. It requires the allocating of time, energy, and resource to assume new responsibilities. It requires consultation with the community. It requires working with constrained budgets to balance priorities. Because infrastructure management deals with assets that have long lifespans, it may take years before a substantial financial return on investment (ROI) becomes apparent. Still, managing existing, capital intensive, public sector infrastructure asset could provide very significant benefits (i.e. 20 – 40% reductions in life cycle costs).

Finally, the Township will likely be faced with difficult decisions over the next years, and the infrastructure deficit will continue to widen without corrective action. The Council should put together a public communication program to engage the community in discussing the true cost of services and the assets required to provide those services. Develop and implement service levels that are in line with public expectations and willingness to pay.

We appreciate having been awarded the contract to build your Asset Management Plan and trust that this work is the beginning of a long and positive relationship with St. Joseph. **Infrastructure Solutions Engineering provides Strategic Plans, Water and Wastewater Rate Studies, Water and Wastewater Financial Plans, Condition Assessments, Financial Analysis, and a wide range of consulting services in both finance and engineering.** Please consider us a resource.



APPENDIX A - DETAILED LIST OF CAPITAL PROJECTS

Capital Plan: List of Projects - 2013 to 2022

Project Name	Lifecycle Event Type	Total Cost (Incl. non-rebatable HST)	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1 Streetlight LED Retrofit	Replacement	\$ 51,830		\$20,830			\$ 31,000					
2 Facility: Public Library Roof Replacement	Rehabilitation	\$ 11,702								\$ 11,702		
3 Facility: Old Town Jail Roof Replacement	Rehabilitation	\$ 6,106										\$ 6,106
4 Facility: Water Treatment Plant Rehabilitation	Rehabilitation	\$ 342,321	\$ 50,371		\$ 26,051	\$ 7,632	\$ 34,293	\$ 134,832	\$ 15,264	\$ 9,769	\$ 50,880	\$ 13,229
5 Facility: Sanitary Pumping/Treatment System Rehab	Rehabilitation	\$ 612,891	\$ 32,080			\$ 7,255	\$ 318,647	\$ 254,909				
6 Road Section: A Line Rd south K Line to D Line	Single Surface Treatment	\$ 713,888	\$ 356,944					\$ 356,944				
7 Road Section: A Line Rd north D Line to Boyles	Single Surface Treatment	\$ 475,926	\$ 237,963					\$ 237,963				
8 Road Section: B Line south C Line to Boyles	Single Surface Treatment	\$ 237,963	\$ 118,981					\$ 118,981				
9 Road Section: B Line north Boyles to Lewellyn	Single Surface Treatment	\$ 237,963	\$ 118,981					\$ 118,981				
10 Road Section: D Line Rd Huron Line to 10th SR	Single Surface Treatment	\$ 880,571	\$ 440,286					\$ 440,286				
11 Road Section: D Line Rd Huron Line to 10th SR	Realignment	\$ 101,760	\$ 101,760									
12 Road Section: F & G Line 5th SR to 10th SR	Single Surface Treatment	\$ 237,963	\$ 118,982						\$ 118,982			
13 Road Section: F & G Line Hwy balance	Single Surface Treatment	\$ 868,565	\$ 434,283						\$ 434,283			
14 Road Section: K Line West A Line to Huron Line	Single Surface Treatment	\$ 237,963	\$ 118,981					\$ 118,981				
15 Road Section: 10th Side Rd D Line to I Line	Single Surface Treatment	\$ 475,926	\$ 237,963					\$ 237,963				
16 Road Section: 10th Side Rd I Line to K Line	Single Surface Treatment	\$ 237,963	\$ 118,981					\$ 118,981				
17 Road Section: 20th Side Rd centre	Single Surface Treatment	\$ 237,963	\$ 118,981					\$ 118,981				
18 Road Section: 20th Side Rd balance	Single Surface Treatment	\$ 475,926	\$ 237,963					\$ 237,963				
19 Road Section: Canoe Pte Road Shale to K Line	Single Surface Treatment	\$ 475,926	\$ 237,963						\$ 237,963			
20 Road Section: Canoe Pte Road Hwy 548 to Shale	Single Surface Treatment	\$ 178,472	\$ 89,236						\$ 89,236			
21 Road Section: Gawas Bay Road	Single Surface Treatment	\$ 107,083	\$ 53,542						\$ 53,542			
22 Road Section: Shore Road	Single Surface Treatment	\$ 178,472	\$ 89,236					\$ 89,236				
23 Road Section: Boyles Side Road	Single Surface Treatment	\$ 124,930				\$ 124,930						
24 Road Section: Humes Rd	Single Surface Treatment	\$ 148,727					\$ 148,727					
25 Road Section: Arthur Street	Pulverizing/Resurfacing - single lift	\$ 37,330	\$ 37,330									
26 Road Section: Catherine Street Lucy to Lake	Pulverizing/Resurfacing - double lift	\$ 49,832	\$ 49,832									
27 Road Section: Catherine Street Arthur to Lucy	Pulverizing/Resurfacing - single lift	\$ 37,330	\$ 37,330									
28 Road Section: Catherine Street Lake to Russell	Pulverizing/Resurfacing - single lift	\$ 55,995	\$ 55,995									
29 Road Section: Elizabeth Street	Pulverizing/Resurfacing - single lift	\$ 93,326	\$ 93,326									
30 Road Section: Gore Street	Pulverizing/Resurfacing - single lift	\$ 37,330	\$ 37,330									
31 Road Section: Lake Street	Pulverizing/Resurfacing - single lift	\$ 37,330	\$ 37,330									
32 Road Section: Lewellyn Street	Pulverizing/Resurfacing - single lift	\$ 55,995	\$ 55,995									
33 Road Section: Littleton Street	Pulverizing/Resurfacing - single lift	\$ 149,321	\$ 149,321									
34 Road Section: Lucy Street	Pulverizing/Resurfacing - single lift	\$ 93,326	\$ 93,326									
35 Road Section: Marguerite Street	Single Surface Treatment	\$ 23,796	\$ 11,898					\$ 11,898				
36 Road Section: Richards Street	Resurfacing - single lift	\$ 94,240	\$ 94,240									
37 Road Section: Russell Street	Pulverizing/Resurfacing - single lift	\$ 44,999	\$ 44,999									
38 Road Section: Shore Road	Resurfacing - single lift	\$ 12,565			\$ 12,565							
39 Road Section: Spring Street	Resurfacing - single lift	\$ 25,131	\$ 25,131									
40 Road Section: The Lane	Pulverizing/Resurfacing - single lift	\$ 3,620	\$ 3,620									
41 Planted Area: RL Landscaping (Streetscape)	Reconstruction	\$ 245,675					\$ 245,675					
42 Sidewalk: RL Sidewalks	Reconstruction	\$ 237,302					\$ 237,302					
43 Bridge: Campment D'Ours Bridge	Rehabilitation	\$ 14,819				\$ 14,819						
44 Bridge: Sucker Creek Bridge	Rehabilitation	\$ 103,736	\$ 89,975			\$ 13,761						
45 Bridge: Two Tree River Bridge 10th SR	Rehabilitation	\$ 103,736	\$ 103,736									
46 Bridge: Two Tree River Bridge A Line Rd	Rehabilitation	\$ 111,146	\$ 111,146									
47 Culvert: Richardson Creek Culvert	Reconstruction	\$ 311,208							\$ 311,208			
48 Culvert: Two Tree River Bridge F&G Line	Rehabilitation	\$ 89,975	\$ 89,975									
49 Culvert: Two Tree River Culvert F&G Line # 2	Rehabilitation	\$ 52,915					\$ 52,915					
50 Culvert: Two Tree River Culvert 5th Side Rd	Rehabilitation	\$ 52,915					\$ 52,915					
51 Equipment: Fire Equipment Turn out gear	Purchase	\$ 12,006				\$ 12,006						
52 Equipment: Fire Fight Equipment Compressor	Replacement	\$ 10,933	\$ 10,933									
53 Equipment: Fire Fight Equipment Air Paks	Replacement	\$ 22,769	\$ 22,769									
54 Equipment: Fire Fight Equipment Air Paks	Replacement	\$ 17,429										\$ 17,429
55 Equipment: Heavy Equip Grader Bridges Culverts	Replacement	\$ 8,236									\$ 8,236	
56 Equipment: Heavy Equip Grader Paved	Replacement	\$ 8,236									\$ 8,236	
57 Equipment: Heavy Equip Grader Traffic Operation	Replacement	\$ 16,472									\$ 16,472	
58 Equipment: Heavy Equip Grader Unpaved	Replacement	\$ 65,887									\$ 65,887	
59 Equipment: Heavy Equip Grader Winter Control	Replacement	\$ 65,887									\$ 65,887	
60 Equipment: Software	Replacement	\$ 27,516				\$ 27,516						
61 Parking Area: Parking Lot W1 Park	Reconstruction	\$ 12,137					\$ 12,137					
62 Parking Area: Richard St Parking lot	Reconstruction	\$ 15,702					\$ 15,702					
63 Parking Area: Parking Lot Gore Street	Reconstruction	\$ 15,702					\$ 15,702					
64 Recreation Area: RL Marina Boardwalk	Reconstruction	\$ 158,926				\$ 158,926						
65 Recreation Area: Cent Grnds Pec Facilities	Reconstruction	\$ 369,403	\$ 369,403									
66 Recreation Area: Cent Grnds Add'l Pec Facilities	Reconstruction	\$ 45,800				\$ 45,800						
67 Recreation Area: Cenotaph Walkway Pec Facilities	Reconstruction	\$ 21,097						\$ 21,097				
68 Recreation Area: SJI Marine Prk Pec Facilities	Reconstruction	\$ 344,427					\$ 344,427					
69 Recreation Area: Tranter Pk Pec Fac Pre	Reconstruction	\$ 24,541	\$ 24,541									
70 Recreation Area: W1 Park Walkways	Reconstruction	\$ 20,799			\$ 20,799							
71 Vehicle: Rescue Truck	Replacement	\$ 310,653	\$ 310,653									
72 Vehicle: Fire Tanker	Purchase	\$ 310,653									\$ 310,653	
73 Vehicle: Fire Pumper	Replacement	\$ 205,822	\$ 205,822									
74 Vehicle: Public Works Pick-up Truck	Purchase	\$ 5,482			\$ 5,482							
75 Vehicle: Public Works Pick-up Truck	Purchase	\$ 5,482			\$ 5,482							
76 Vehicle: Public Works Pick-up Truck	Purchase	\$ 5,482			\$ 5,482							
77 Vehicle: Public Works Pick-up Truck	Purchase	\$ 5,482			\$ 5,482							
78 Vehicle: Public Works Pick-up Truck	Purchase	\$ 5,482			\$ 5,482							
	Total (Incl. non-rebatable HST)	\$ 11,972,135	\$5,479,432	\$20,830	\$ 86,825	\$412,647	\$1,509,443	\$2,617,997	\$1,260,476	\$332,124	\$215,597	\$36,764
	Total (Incl. non-reb HST+inflation)	\$ 12,101,989	\$5,479,432	\$21,247	\$ 88,562	\$420,900	\$1,539,632	\$2,670,357	\$1,285,686	\$338,766	\$219,909	\$37,499
	<small>Inflation @ 2% from 2014-2022</small>											

APPENDIX B – ASSET USEFUL LIFE

Departments	Assets	Useful Life as per CIP (Years)	Source
Transportation Network	HCB Roads	50 (Total Reconstruction)	Infrastructure Report
	LCB Roads	50 (Total Reconstruction)	Infrastructure Report
	Gravel Roads	(Recurrent Resurfacing)	Infrastructure Report
	Sidewalks	25	As per the TCA Policy
	Streetlights	60	Infrastructure Report
Traffic	Parking Area	Varies	As per the TCA Policy
Structure	Bridges	Metal 75 & Wood 50	Infrastructure Report
	Culverts	50	Infrastructure Report
Facility	Buildings	Varies	As per the TCA Policy
Sewer Network	Pumpstation WW	Varies	As per the TCA Policy
	Sewerline (Waste Water)	80	Infrastructure Report
	Sanitary Forcemain	80	Infrastructure Report
	Outfall	Varies	As per the TCA Policy
Water Network	Waterlines	75	Infrastructure Report
	Water Reservoir	50	Infrastructure Report
	Hydrants	50	Infrastructure Report
Equipment	Equipment	Varies	As per the TCA Policy
Fleet	Vehicle	Varies	As per the TCA Policy
Parks	Recreation Area	Varies	As per the TCA Policy
	Planted Area	Varies	As per the TCA Policy

APPENDIX C – CAPITAL PLAN PRIORITIZATION MATRIX

Definition		Maximum Points	Percentage Weightage
Goals/Objectives	Extent to which project meets goals & objectives of the Township's council	25	15.9
Safety	Extent to which project eliminates, prevents, or reduces an immediate hazard to safety	14	8.9
Mandates	Extent to which project helps council meet existing or new mandates	13	8.3
Timing/Linkages	Extent to which project is timely, a continuation of project currently underway, related to other high priority projects etc.	12	7.6
Economic Impact	Extent to which project enhances economic development in the Township or directly/indirectly adds to tax base	11	7
Efficiencies	Extent to which project contributes to savings in the Township's operating/capital expending	10	6.4
Maintain Current Level of Service	Extent to which a project is necessary for the Township to continue to provide one or more services at current standards	9	5.7
Improving Access	Extent to which project improves citizen access to current services	8	5.1
Service Improvement	Extent to which project improves the quality of exiting services	7	4.5
Service Addition	Extent to which project increases the quantity of exiting services	3	1.9
Operating Budget Impact	Projects that lower future operating expenses receive a positive score, ranging from 0 to 15. Projects that have no effect on operating expenses receive a score of 0. Projects that increase operating expenses score anywhere from 0 to -15	0-15, 0, 0-(15)	9.5
Community Support	Extent to which project has broad and/or strong support from the community	10	6.4
Financing	Extent to which project can be financed with non-general fund revenue sources	15	9.5
Timeliness of Submission	Extent to which project request is submitted in a timely way	5	3.2
		142	100



APPENDIX D - OPERATING PERFORMANCE INDICATORS EXAMPLES

ROADS				
Service	Operating Performance Indicators (OPI)	Current Performance	Target Performance	Timeframe
Examples for Roads below:				
Road Maintenance & Repairs	Complete approximately X work orders per year for service requests including pot hole repair, minor asphalt patching, sightline improvement, MVA clean-up.	1500	500	3 Years
Brushing and Roadside Mowing	Complete approximately X km's of brushing on roadsides annually.	N/A	50 km	2 Years
	Complete roadside mowing X times annually	2	3	3 years
Boulevard Maintenance	Twice per year cut every boulevard in the Township.	2	3	3 Years
	Annual weeding, cleaning and caulking of X km of sidewalk and curb.	7	7	
	Maintain sight lines at intersections for vehicle and pedestrian safety.	14 Days	14 Days	Timeline Achieved
	Roads Recapped ____ km's - Annual Average	8	30	2 Years
	Gravel Roads Surface Treated ____ km's - Annual Average	3.5	20	2 Years
Curbing/Shoulders	Annual repair, by August, of all curbing damage in previous winter.	September	July	1 Year
Sidewalks & Walkways	Completed Inspections ____ times per year	1	1	Timeline Achieved
	Sidewalks / Walkways swept ____ times per year	1	1	Timeline Achieved
Vandalism	Within X hours of notification, remove graffiti.	48	24	1 Year
Street Lighting	Service requests for street light repair completed within X hours.	5 days	48 hours	1 Year
Signs	Annual inspection and maintenance of all X stop signs.	1225	1225	Timeline Achieved
	Annual inspection of crosswalk, pedestrian, school and playground signs and beacons.	September	July	1 Year



	Annual Upgrade of X signs to diamond grade	12	25	1 Year
Snow and Ice Control	Major roads including emergency routes during winter events.	16 Hours	16 Hours	Timeline Achieved
	Residential areas – through roads first then cul-de-sacs and dead ends.	16 Hours	16 Hours	Timeline Achieved
	Residential areas will be ploughed and maintained within 96 hours unless snow and icy conditions return crews back to major roads.	16 Hours	16 Hours	Timeline Achieved

VEHICLES - FLEET

Service	Operating Performance Indicators (OPI)	Current Performance	Target Performance	Timeframe
Fleet Maintenance	Undertake preventative maintenance and repairs to meet industry standards for safety and operation.	Daily	Daily	Timeline Achieved
	Maintain fleet availability at X%.	80	100	3 Years
Small Equipment	Inventory, maintain and repair X pieces of small equipment for use by all departments.	40	40	Timeline Achieved
Preventative Maintenance Services	X units inspected every X months to maintain safety and fleet efficiency.	32 Units every 250 Hours	32 Units every 250 Hours	Timeline Achieved

WATER

Service	Operating Performance Indicators (OPI)	Current Performance	Target Performance	Timeframe
Valves & Air Valves	Exercise all line valves X per year with monthly/quarterly/yearly reporting	1	1	present
Water Main Breaks	Upon notification emergency response and water shut down within X minutes.	60	60	present
	Repair completed and water service re-instated within X hours.	12	12	present
	Currently experiencing X breaks per year on average	0	>2	present
Service Connection	X renewals completed each year on average.	0		
Renewals	Service connections associated with Road Rehab Program and capital projects are checked and replaced as necessary.	at that time	at that time	present



Pump Stations	Annual painting	no	yes	2014
	Annual vegetation control	yes	yes	present
	X year cycle – rebuild control valves.	as necessary	10 years	2014
	X year cycle – rebuild or replace pumps.	as necessary	15 years	2014
	Weekly trouble shooting and repairs	yes	yes	present
	X weekly visual inspections	7	7	present
Stations	Maintain all pressure reducing stations to operate without failure.	as necessary	every 5 years	2015
	X year cycle - complete replacement of each station	as necessary	as necessary	present
	X year cycle - complete rebuild of system.	as necessary	every 10 years	2015
	Annual painting and vegetation control.	n/a	n/a	n/a
Water Testing	100% of water samples contain no bacteriological contaminants.	100%	100%	present
	Monthly reporting	no	no	present
WPC Chlorination	Disinfects X% of Township supply.	100%	100%	present
	Daily data acquisition and inspection	yes	yes	present
	Daily water testing	yes	yes	present
	Monthly chlorine cylinder replacement.	n/a	n/a	n/a
	Semi-annual chlorination equipment replacement and repairs	n/a	n/a	n/a
	Annual painting and vegetation removal	n/a	n/a	n/a
	X year cycle - replacement of small piping and control valves.	as necessary	every 10 years	2014
Reservoir Chlorination	Disinfects X% of Township supply	n/a	n/a	n/a
Water Main Flushing	Annually flush all supply lines.	annual	annual	present
Service Call-outs	Provide 24/7 on call coverage for emergency response.	yes	yes	present
DRAINAGE				
Service	Operating Performance Indicators (OPI)	Current Performance	Target Performance	Timeframe
Examples for Drainage below:				
Flushing	Annual flushing of 100 m of the 236 m storm system	50	100	2014
Video Inspections	Annual video inspection of 10m of the storm system.	5	10	2014



Manholes / Cleanouts	Install and repair manholes and cleanouts.	yearly	yearly	present
Catch Basins	Annual inspection and cleaning of all 793 catch basins	150	250	2014
Detention Systems	Annual inspection of all X detention systems.	N/A		
Inlet / Outlet Structures	As needed Inspect and clean all critical inlet and outlet structures and service before, during and post-storm events.	yes	yes	present
	Annual inspection and maintenance of inlet and outlet structures.	yes	yes	present
Ditch Cleaning	Annual inspection of all ditches and clean as needed.	yes	yes	present
Culverts	Repair driveway and road crossing culverts as assigned through work orders.	yes	yes	present
Service Call-outs	Provide 24/7 on call coverage for sewer and drainage emergency response.	yes	yes	Present



APPENDIX E – MUNICIPAL COST INDEX

MCI(Region 5)								
COMPONENTS	Weights	Inflators for Each Component						
		2006	2007	2008	2009	2010	2011	2012
Wages and Salaries and Benefits	22%		0%	5%		8%	4%	
Interest on Long Term Debt	1%				-12%			
Materials	25%		-3%	13%		-4%	4%	
Contracted Services	19%				-3%	3%	9%	
Rents and Financial Expenses	5%							
External Transfers	18%			-2%	19%		-14%	
Amortization	11%					13%	4%	
Average MCI		4.02%						

Notes:

- Municipal Cost Index, is calculated to better represent the municipal purchasing power and cost experience, so ISI will use 4.02% as the compounding/inflationary factor up until 2013
- Municipal Cost Index represents the basket of goods and services which is consumed/used by municipalities and represents the operational/working capital needs on an on-going basis
- Assigned weights represents the percentage of services/goods consumed out of total spend
- Inflators represent the year on year changes in the components
- Component's weight and inflators, sum all represents the overall cost experience for the municipalities/region as compared to CPI
- MCI is created as to minimize the variation/deviations of cost/purchasing experience in the region
- The source of Municipal Cost Index are the Financial Statements for your specific region
- Outliers have been removed from the data for Municipal Cost Index calculation to average out/standardized data

