Asset Management Plan

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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, bridges,; and
- Provide funding to municipalities that are unable to undertake projects without provincial support.

Infrastructure Solutions (Engineering) Inc., was contracted to develop the initial Asset Management Plan for the Township in 2013. This version represents the first update to the plan (by the Treasurer) which now includes all of the Township's asset classes and updated valuations. The plan has been edited to better meet the Township's needs.

The replacement/repair values have been updated by management and are used to calculate 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. According to the enclosed calculations, the Township needs to make an average annual investment in its capital assets of $ 2.4 million per year over the next 10 years.

Over time, the Township has built up an infrastructure deficit of about $6.5 million. The Township`s infrastructure deficit is determined to be $698 per person, well below the national average, but in need of serious attention for a smaller community.

As highlighted in the Report Card within, the Township's major linear asset, its roads, are generally in fair to good condition. On average, bridges are in good condition.

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.

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

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 municipalities 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 Government. Municipalities 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 is in excess of $10,000 for every man, woman and child. Much of this deficit is found in the major urban centers, but the national deficit is projected to 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 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 begin the education/communication process for the Township's asset management strategy. The document was written in plain language, with explanatory text; it is a communication document, which is based upon proven engineering and carefully calculated financial assumptions.

2.2 STATE OF THE INFRASTRUCTURE REPORT (SOTI)

Dealing with aging infrastructure requires that the Township assess long-term capital project requirements and establish the funding of high-priority projects in an efficient, timely and cost-effective manner. With adequate Asset management training and experience, Township management 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 Rideau Lakes can plan the future operating budget expenses and reserve funds to manage its financial position over a long term period. Capital planning also provides the information needed for the Council's planning and fiscal policies.

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.

The draft Capital Plan contains a more detailed asset data and calculation process. All source information is readily available within the Township's asset inventory database, including PSAB data, the year constructed/purchased, estimated useful life, general description of asset, and other asset specific geometrics.

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? (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 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.

2.3 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. 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 existing assets
- 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:

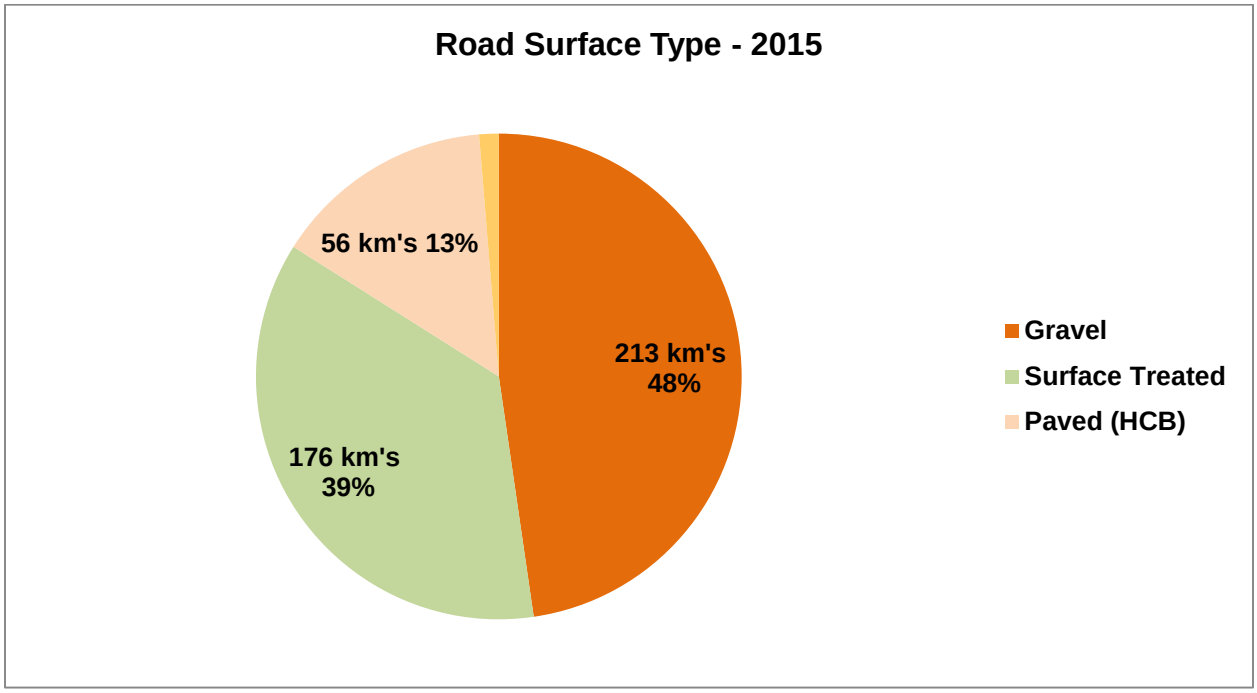
- Roads - Paved (HCB), Surface Treated, Gravel
- Bridges and Large Culverts
- Vehicles
- Buildings
- Equipment
- Land Improvements (ball fields, septic systems, parking lots)

2.3.1 ROADS

The Township of Rideau Lakes has a total of 445 km's of roads. The following summarizes the road surface types within the Township.

Road Surface Type:

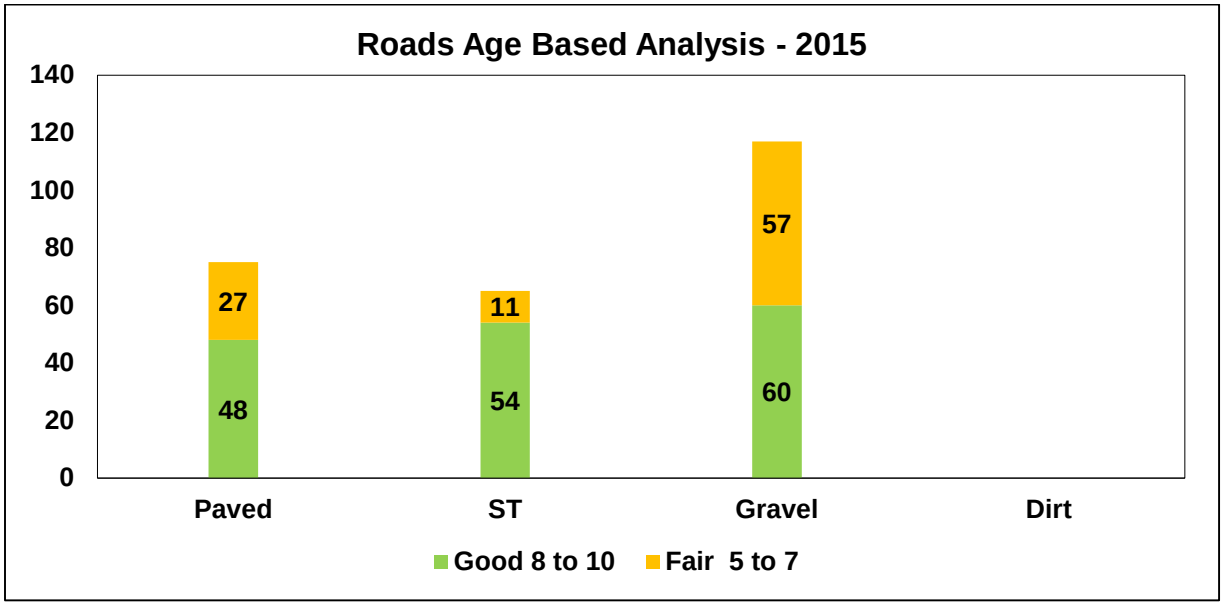
Road Surface Type	Length (km's)	Percentage
Gravel	213	48%
Surface Treated	176	39%
Paved (HCB)	56	13%
Total Km's	**445**	**100%**



Condition-Based Analysis for Roads

The Township has three type of roads- Paved (HCB), Surface Treated and Gravel. State of Infrastructure for roads is done upon condition based analysis.

Road Average Condition:



2.3.2 BRIDGES

This group comprises:

- Bridges - There are 23 bridges in the inventory

The inspection was completed by the Township in 2015. There are number of common repairs and reconstruction recommended for installing the guide rails, repair deck, abutments wearing surface etc.

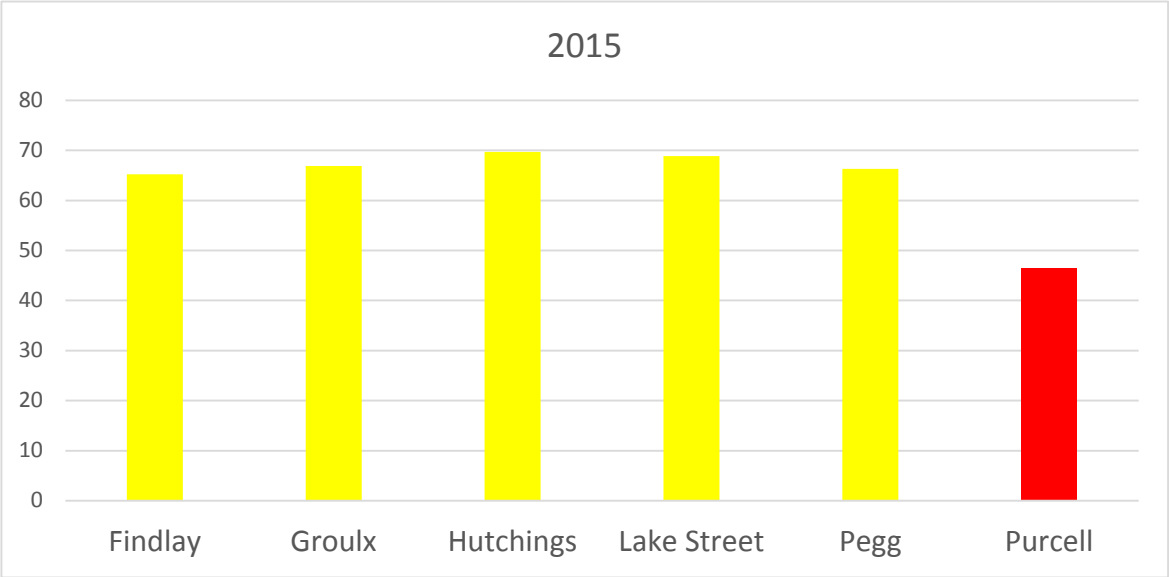
Bridge Condition Index

The updated bridge report calculates the Bridge Condition Index based on the consultant's report and condition assessments. For the current year conditions of the structures, 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, in the Township of Rideau Lakes one bridge is in poor condition and five are in fair condition.

BRIDGES IN FAIR TO POOR CONDITION - 2015



2.4 CONDITION RATING REPORT CARD

Asset Group	Overall Condition Rating	Rating		BCI Range	Comments
Bridges	**A**	A	Good	70 to 100	Condition rating based on bridge inspection reports
		B	Fair	60 to 69	
		C	Poor	0 to 59	
Road Network	**A**	A	Good	0-12	Condition rating based on surface condition-based analysis
		B	Fair	13-19	
		C	Poor	>20	

2.5 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 roads are reported in good condition. The condition analysis according to the Paved, surface treated, gravel and earth is as follows:

- Paved roads are in fair to good condition
- Surface treated roads are in fair to good condition
- Gravel roads are in fair to good condition

The bridges are mostly rated 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. Capital planning also provides the core information needed for implementing the Council's planning and fiscal policies.

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, 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. The Township of Rideau Lakes 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
- Increases opportunities for obtaining federal and provincial aid

- 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 or commission 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 increasing demands due to population growth or new programming.
- **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.

3.3 METHODOLOGY

The Township of Rideau Lakes 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).

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
- 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 land, architect/engineering fees, construction, legal fees, taxes, etc.) The non-rebateable 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

For this 2015 update, additional asset classes were added to the Plan. Vehicles, equipment, buildings and land improvements that require major repairs or replacement in the next ten years are now included. This constitutes almost all of the Township's tangible capital assets (TCA's).

3.4 RESULTS

The Township of Rideau Lakes infrastructure deficit is determined to be approximately $698 per person (2015 figure, well below the national average, but requiring serious attention. The vast majority of the deficit is in dealing with the roads infrastructure. Like most other local governments in this province, the Township of Rideau Lakes will struggle with aging infrastructure and constrained budgets.

A 10 Year Capital Plan, broken down by asset class for the years 2016 to 2025 (with PST and with an inflationary factor), was developed.

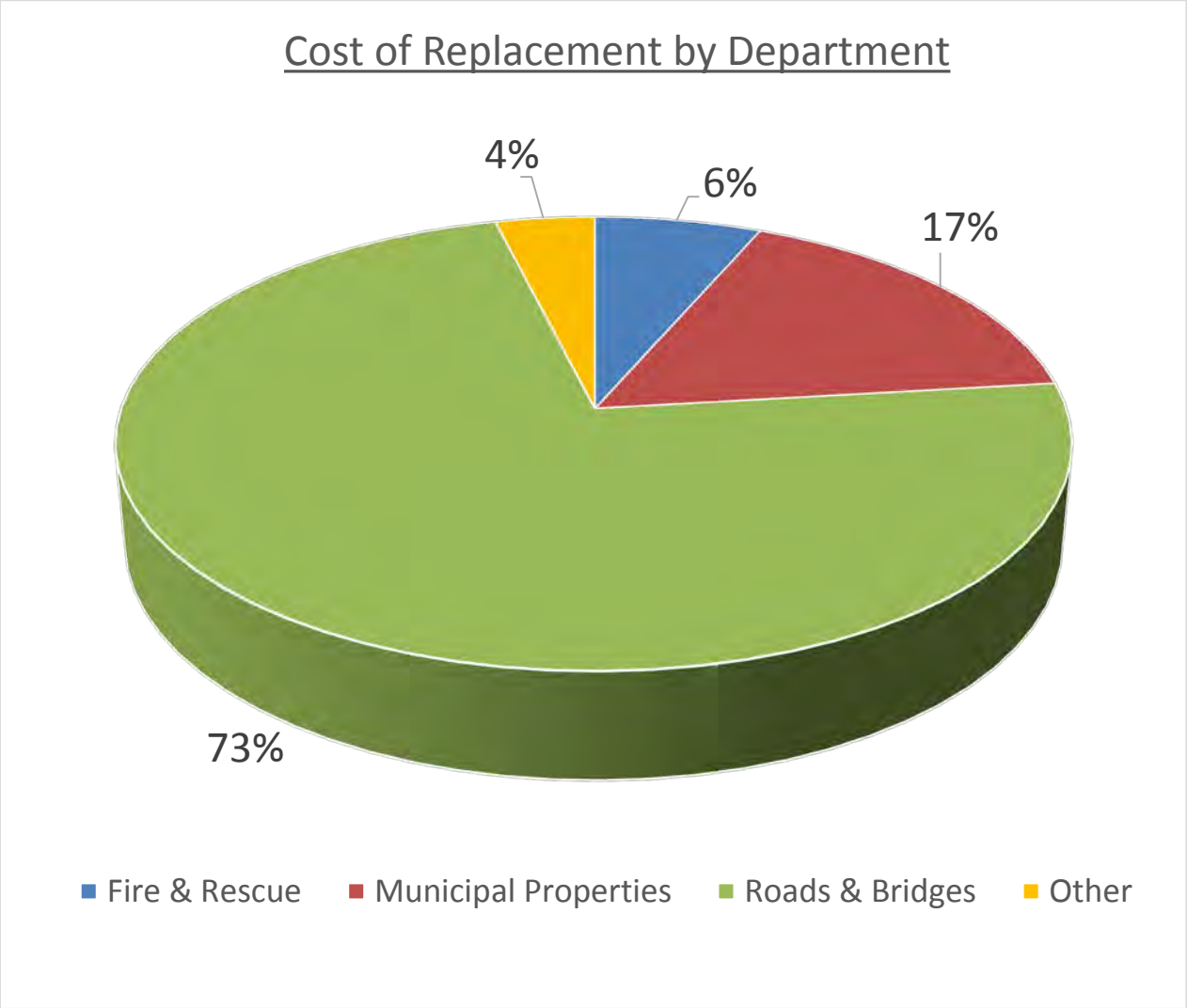
The results are as follows:

Timeframe	Year	Capital Projects (Incl. PST)
Year 2016-2025	2016	$8,188,286
	2017	$1,543,740
	2018	$1,909,483
	2019	$510,197
	2020	$1,205,529
	2021	$2,427,594
	2022	$4,758,579
	2023	$1,888,741
	2024	$512,356
	2025	$1,082,916
Total		**$24,027,420**

A detailed, project-by-project breakdown of this draft Capital Plan is provided in a Appendix A. All proposed or study recommended projects, if any, are included in the detail capital project list in Appendix A.

3.4.1 ANALYSIS BY DEPARTMENT

A breakdown of the total estimated replacement costs by departments over the 2016-2025 period is illustrated by the following graph:



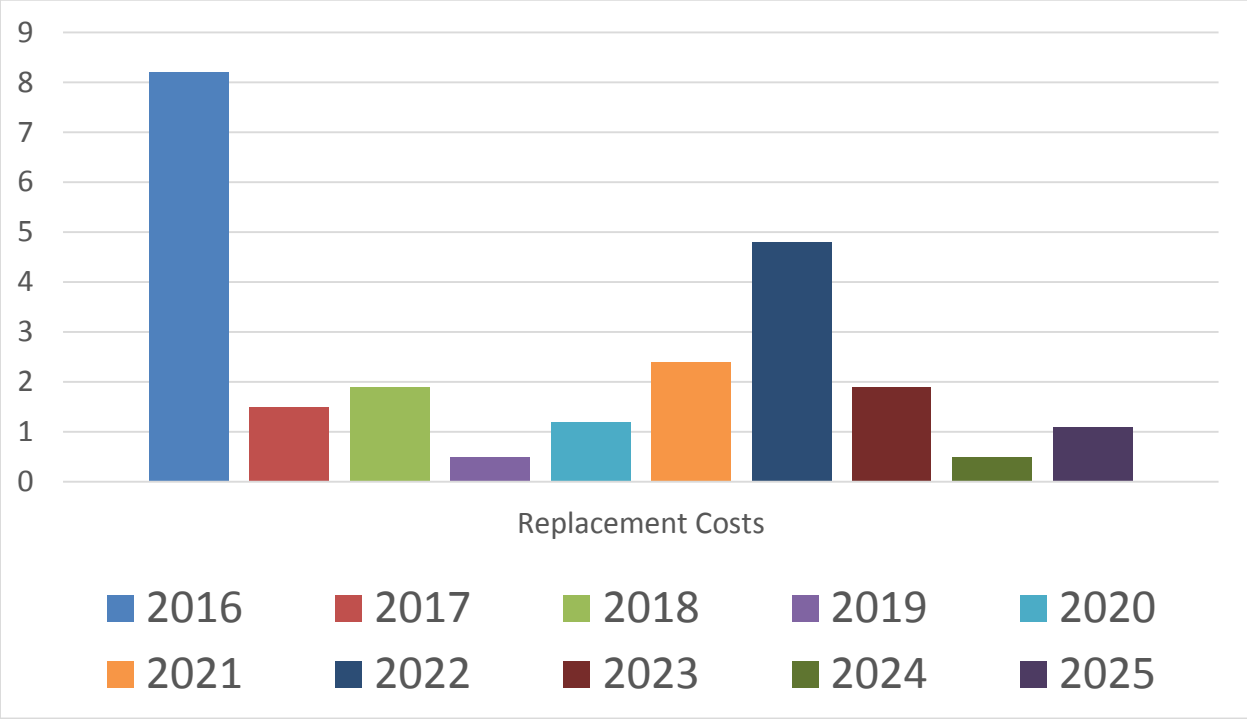
Three departments (Roads & Bridges, Municipal Properties, Fire & Rescue) manage 96% of the assets requiring replacement over the next ten years. Roads & bridges represent about ¾ of the total with fire and properties containing the other ¼. The remaining 4% are spread over Community & Leisure, Treasury and Waste departments.

The graph demonstrates the concentration of assets within the 3 departments and gives a clear illustration of the makeup of the Township's asset mix.

The next graph illustrates the required replacement spending that is required by year. The first year includes $6-7 million in the backlog of roads, vehicles and equipment that has already reached the end of their estimated lives.

Extracting out this backlog leaves about $18 million in replacement costs over the 10 year period or about $1.8 a year on average. This amount is well within the Township's financial capacity.

The left axis contains the amount of replacement costs required, from 1 to 9 million dollars. Each year is represented by a coloured bar and vary in amount from about $.5 million in 2019 to $4.8 million in 2022.



3.5 BREAKDOWN BY ASSET TYPES

3.5.1 ROADS

The road replacement costs are taken from similar geographic areas and recent construction that has been indexed to 2015 based on our "Municipal Cost Index" and added PST 1.76%.

LIFECYCLE ACTIVITIES – LOOSETOP (UNPAVED)

We are only dealing with surface treated and paved roads in your 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 only concern is that you establish whether you are allocating sufficient funds in your Operating Budget to cover the gravel road expenses.

The OGRA strategy for gravel roads is to re-gravel roads 75 mm every 3 to 5 years depending on the AADT.

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

3.5.2 BRIDGES

The replacement cost is based on the Township's inspection report (2015) and provided by the Township of Rideau Lakes that have been indexed based on the "Municipal Cost Index". The repairs suggested on the bridges in the report are assumed to have not been completed and the cost have been indexed using the Municipal Cost Index with PST 1.76% and placed as projects in the appropriate year (the project list is detailed in Appendix A's attached excel spreadsheet with the report).

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.

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

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. 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.

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.

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 TOWNSHIP OF RIDEAU LAKES LEVELS OF SERVICE

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, sidewalks, and street lighting
- Engineering Standards Manuals

5 FINANCIAL PROJECTIONS

5.1 OVERVIEW

To maximize the accuracy of our projections, we have developed a comprehensive "*Municipal Cost Index (MCI)".*

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.

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.

Refer to Appendix E for our Municipal Cost Index Calculations.

5.2 FINANCIAL STRATEGY

5.2.1 INTRODUCTION

Asset management is often defined as a framework – a "way of thinking" that is built around a "body of best practices". This way of thinking and the body of best practices focus on seeking the lowest total lifecycle cost of ownership for infrastructure assets while continuously delivering services at a level residents require and are willing to pay for, and at an acceptable level of risk to the community.

It is a systematic process of maintaining, upgrading and operating physical assets cost effectively. Ensuring adequate funding recognizes the challenges facing the Township of Rideau Lakes due to the need to fund infrastructure renewal needs, lifecycle replacement, operating commitments and new initiatives. It encompasses a balanced approach to capital funding so that the needs related to maintaining current assets and funding new initiatives are both prominent. It also requires a thorough understanding of the timing and nature of operating expenditures associated with the implementation of new capital programs to ensure that they are matched with stable and reliable funding sources.

The following summarizes the guiding principles associated with asset financial management

- Asset management strategies will be built on identifying the replacement costs and improving the forecasting of service demands and costs.
- Regular reviews of the remaining life and condition of assets will be undertaken to anticipate and plan for infrastructure renewal and will be incorporated into the CIP.
- The Township will incorporate infrastructure asset management processes and systems to better quantify existing and future infrastructure needs.
- A Capital Budget will be annually presented to Council, including anticipated funding sources, reserves and debt forecasts.

5.2.2 ROADS AND BRIDGES ASSET REPLACEMENT REQUIREMENTS

The Township of Rideau Lakes, like other municipalities in Ontario, has to fund programs and services it provides within a limited funding framework. The Township must address rising costs, increased service responsibilities as a result of changing demographics and aging infrastructure with relatively flat revenue streams and limited ability to modify the services it provides.

As identified in the report earlier, it is estimated that the Township will need to spend approximately $24 million over the next 10 years (average annual replacement requirement of $2.4 million over the 10 year timeframe). Included in the replacement requirements is about $7 million in replacement requirements for assets beyond their theoretical useful life. As such, strategies may need to be considered to expedite the replacement of assets beyond their useful life.

Ensuring adequate funding recognizes the challenges facing the Township of Rideau Lakes and virtually all Canadian municipalities due to the need to fund infrastructure renewal needs. As such, the development of a financial strategy to support asset management principles is based on financial sustainability. Financial Sustainability is defined as the enduring ability of the Township to ensure that it can deliver the level and types of services expected by the community, while proactively assessing and managing associated risks, at acceptable levels of taxation.

5.2.3 Financial Strategy Assumptions

One possible financial strategy has been prepared using the future capital requirements in 2016 (including backlog) to 2025 as presented in previous section of this report. The following summarizes the key assumptions used in the preparation of the financial strategy for roads and bridges:

- 2% annual operating expenditure increase in most departments
- 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 for annual updates to the data.

5.3 STRATEGIES TO ADDRESS THE INFRASTRUCTURE GAP

Financial sustainability requires that a municipality 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 Rideau Lakes' roads and bridges, two strategies were considered to illustrate various options available for the Township.

The financial plan in appendix B illustrates the result that various levels of capital, debt and taxation may achieve . The revenues and expenditures estimated within the plan are subject to change and will be updated on an annual basis.

5.3.1 FINANCIAL PLAN

The plan can be summarized as follows:

- $24 million in capital funding for asset replacement under this AMP
- Reduction of current debt levels of $8 million down to $3.5 million
- A annual capital budget of $3.15 million by 2025 and borrowing of $750k
- Reasonable annual tax levy increases of 5.8% or less beginning in 2017

This option combines modest tax increases with a large amount of funding for new capital projects to achieve a sustainable capital budget program.

These is a suggested plan presented to illustrate the various strategies available to funding the AMP. Approval of the AMP does not commit Council to this financial plan. It can be modified in terms of borrowing, tax levies and/or capital project funding to suit Council's preferences.

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.

- 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.

6 RECOMMENDATIONS

6.1 SOTI RECOMMENDATIONS

The SOTI/Capital Plan identifies a number of asset-specific recommendations. However, there are five 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. 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).

2) That the Township address their infrastructure deficit within a reasonable time frame of 10 years.

3) That the Township consider defining 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 Plan will increase over time.

4) **Innovative**: To continually improve its asset management approach, by driving innovation in the development of tools, practices, and solutions. 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 Rideau Lakes assets more resilient to changing social, environmental and economic conditions.

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 annual basis. The Township should give due consideration to the following points:

- 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.
- The Township needs to be proactive in reviewing and capitalizing on the upcoming Province and Federal contributions to the infrastructure deficit to ensure maximum benefit for the Township. It should seek government grants to be able to undertake the capital projects outlined in the Asset Management Plan and deal with its growing infrastructure deficit

- The Township needs to embrace the principles of Asset Management to formulate assumptions, projections and strategies going forward. The Plan should be updated on an annual basis based on changes in the municipal environment
- The Township should continue analysis and examination of key financial goals and strategies that guide future priorities and expenditures.

7 CONCLUSION

As a general comment, the Township of Rideau Lakes is hampered by limited revenue and extensive immediate infrastructure needs.

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 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 Rideau Lakes 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).

APPENDIX A – 10 YEAR CAPITAL PLAN

See the Attached Spreadsheet

APPENDIX B – 10 YEAR FINANCIAL PLAN

See the Attached Spreadsheet

APPENDIX C– ASSET USEFUL LIFE

Departments	Assets	Useful Life as per CIP	Source
Transportation Network	Paved (HCB)	50 (Total Reconstruction)	ISI Infrastructure
	Surface Treated (LCB)	50 (Total Reconstruction)	ISI Infrastructure
Bridge	Gravel G/S	(Recurrent Resurfacing)	ISI Infrastructure
	Concrete	75	ISI Infrastructure

APPENDIX D – MUNICIPAL COST INDEX

MCI(Region 7)								
COMPONENTS	Weights	Inflators for Each Component						
		2006	2007	2008	2009	2010	2011	2012
Wages and Salaries and Benefits	31%		12%	7%	1%		-2%	
Interest on Long Term Debt	1%					-11%	15%	
Materials	32%			-10%	24%			
Contracted Services	21%			12%	-4%		37%	
Rents and Financial Expenses	0%			-16%				
External Transfers	4%		29%	13%				
Amortization	11%					0%		
Average MCI	**2.5%**							

Notes:

- Municipal Cost Index**,** is calculated to better represent the municipal purchasing power and cost experience, so 2.5% will be used as the compounding/inflationary factor up until 2015
- 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

APPENDIX E – SUGGESTED ROAD MANAGEMENT STRATEGY

Road Management

Road Treatment Strategies

The options for road preservation treatments involve a wide range of applications, grouped into four major categories:

1. **Preventative Maintenance Treatments** – These are low cost maintenance treatments applied to preserve, retard future deterioration, and maintain or improve the functional condition of road surfaces without significantly increasing structural strength. These treatments could be applied to a road surface over its entire service life.

2. **Surface Treatments** – These include surface seals and treatment applied to address surface deficiencies such as general raveling, segregation, or fatigue cracking distresses. These treatments could be applied to mid-life pavements to retard future surface or structural deterioration.

3. **Rehabilitation Treatments** – These are rehabilitation treatments such as structural overlays or mill and inlay treatments applied to increase structural capacity and restore serviceability. These treatments could be applied to mid-life and late-life pavements and could be major or minor depending on the percentage of base repair required.

4. **Reconstruction Treatment** – This high cost treatment would be used as a rehabilitation strategy under the circumstances where the existing pavement has completely failed. In this case, the original roadbed may be the cause of reduced serviceability. Excessive maintenance cost and other rehabilitation treatment may provide only very short term solution and a reconstruction of the entire road would be more feasible.

Road Condition Assessment
The basis of implementing a road management plan is having a clear understanding of the state and condition of your network. There are several methods of establishing condition assessment depending on the level and scope of information needed to be collected. Generally, road condition assessments will provide a rating scheme (usually from 0-10 or 0-100), reflecting the degree of road or pavement degradation, where, under the RCR or PCI rating system, zero indicates the end-of service and 10 or 100 would indicate a newly constructed road.

Road Needs Studies
The purpose of a Road Needs Study requires a qualified engineer to provide an analysis of the overall condition of the road system, including such factors as road condition ratings, traffic counts analysis for road classification, road condition description and geometry, repair/reconstruction strategies and priorities etc. The study would also provide statistical information on the road system.

Visual Inspection
Visual inspection involves the evaluation of surface cracks and other physical deficiencies within road system to determine the condition rating of the roads. It requires a qualified engineer to measure and evaluate the type and extent of deterioration to rate the roads, such as the PCR (Pavement Condition Rating) as per MTO (SP024) or the PCI (Pavement Condition Index).

Ride Comfort Rating (RCR)
This involves driving along a road length or network at the posted speed while recording the level of discomfort due to the degree of roughness. It is the least expensive option for assessing road conditions and would be usually carried out by the public works department.

Age-based Condition Reporting

Condition Assessment Ratings (HCB)		
Condition	**Ratings Trigger (RCR)**	**Road Preservation/Reconstruction Strategies**
EXCELLENT	9 – 10	Preventative Maintenance Treatments *(i.e. crack repairs)*
GOOD	7 - 8	Minor-Low Cost Spot Repairs *(i.e. 10% spot base repairs)*
FAIR	5 - 6	Minor-Low Cost Rehabilitation (resurfacing with 20% spot base repairs)
POOR	3 - 4	Major-High Cost Rehabilitation *(resurfacing with 50% base repairs)*
VERY POOR	0 - 2	Total Road Reconstruction *(100% of surface and base)*

LCB roads require regular resurfacing, with spot base repairs, as the road reaches a lower condition ratings as shown in the table below:

Condition Assessment Ratings – LCB (Surface Treated)		
Condition	**Ratings Trigger (RCR)**	**Road Preservation/Reconstruction Strategies**
EXCELLENT	9 – 10	Single Surface Treatment
GOOD	7 - 8	Single Surface Treatment *(Spot base repairs 10%)*
FAIR	5 - 6	Single Surface Treatment *(Spot base repairs 15%)*
POOR	3 - 4	Single Surface Treatment *(Spot base repairs 20%)*
VERY POOR	0 - 2	Total Road Reconstruction *(100% of surface and base)*

Using information collected from the road condition assessment report, an inventory is created with road service life and other road attributes potentially including annual average daily traffic (AADT) counts, if available.

Road Design and Functional Class		
Type	AADT	Service Life
Urban (HCB)	>3000	30-40
Semi-Urban (HCB)	<3000 - >1000	40
Urban (LCB) and (HCB)	<1000 - >400	50
Rural (LCB) and (HCB)	< 400	60
Gravel	< 1000	Unlimited
Dirt	< 1000	Unlimited

Where AADT information and/or information on rural/urban classification is not available, we assume a service life of 60 years for both LCB and HCB roads.