



THE CORPORATION OF THE TOWNSHIP OF KING
Report to Committee of the Whole

Monday, January 10, 2022

Public Works Department - Capital Division
Report Number JR-2022-002
Asset Management Plan Update (2021)

RECOMMENDATION(S):

The Director of Public Works and Director of Finance respectfully submits the following recommendation(s):

1. That Report Number JR-2022-002 be received and;
2. That Council receive and approve the Township's Asset Management Plan Update (2021)

REPORT HIGHLIGHTS:

- Bring the Township into compliance with the next phase of O. Reg. 588/17 (July 1, 2022 requirements)
- Review of asset management and why it is important to the Township.
- Review the current condition of the Township's asset's including roads, bridges and culverts, water, wastewater, stormwater.
- Identify opportunities for continuous improvement and next steps

PURPOSE:

To obtain approval of the Township's 2021 Asset Management Plan (AMP) in accordance with provisions of the Province of Ontario's Regulation 588/17 "Asset Management Planning for Municipal Infrastructure" by July 1, 2022.

To provide Council background information on asset management and on the current condition of the Township's assets and strategies.

BACKGROUND:

What is Asset Management?

The Township's infrastructure systems support a range of municipal services that enable residents, businesses, and visitors to live, work and play within the Township. The Township currently owns and manages over \$594 million worth of capital assets based on current replacement values. As these assets age, investments are required to maintain them in a state of good repair and ultimately replace the assets at the end of their service life.

Asset management refers to a planned approach for managing and investing in a municipality's infrastructure. Asset management is an ongoing and long-term process that allows municipalities

to make the best possible investment decisions for their infrastructure assets. It involves both budgeting processes and long-term financial planning. Good asset management planning helps municipalities make well-informed decisions about when to invest in their infrastructure assets.

Why is Asset Management Important?

The Province of Ontario released Ontario Regulation 588/17 under the Infrastructure for Jobs and Prosperity Act, 2015. Under the legislation, every municipality is required to prepare a strategic asset management policy, a plan to maintain core municipal infrastructure, define current and proposed levels of service, lifecycle strategies, long term financial strategy and a publicly accessible asset management plan.

The primary goal of asset management is to maximize the value of the Township's assets and understand the balance between risk, performance, and cost. Staff conducts various activities that guide the process of making the best possible decisions regarding the building, operating, maintaining, renewing, replacing, and disposing of infrastructure assets. One of those activities is the development of this Asset Management Plan (AMP). The required components of the AMP include:

- Asset Inventory - currently held within the Township's GIS system
- Levels of Service (LOS) - A level of service (LOS) is a measure of what the Township is providing to the community and the nature and quality of that service. For example, how comfortable and safe does the Township want the road's pavement to be? For example: To track and report the road LOS, the pavement condition index will be used.
- Lifecycle Management Strategy - this is **how** we provide the service, i.e. at what pavement condition will the Township repair the road, in order to maintain the LOS.
- Financial Strategy - is the long-term cost to maintain the desired LOS. A comprehensive long term financial strategy will be provided in the next phase of the plan update scheduled to begin in 2022.
- The Province of Ontario released Ontario Regulation 588/17 under the Infrastructure for Jobs and Prosperity Act, 2015. Under the legislation, every municipality is required to prepare a strategic asset management policy, a plan to maintain core municipal infrastructure, define current and proposed levels of service, lifecycle strategies, long term financial strategy and a publicly accessible asset management plan.

What Asset Management Regulations Apply?

The requirements and timelines associated with the regulation are outlined below. The Township achieved the first milestone requirement for the adoption of a Strategic Asset Management Policy, which was approved by Council June 24, 2019 (Report FR-2019-14 & By-law 2019-068).

This 2021 AMP meets the second milestone of having an asset management plan in place for all core municipal assets well in advance of the July 1, 2022 deadline. During 2022 work will begin on satisfying all requirements of the third and fourth milestone for the July 1, 2024 and July 1, 2025 deadlines.

- **July 1, 2019 - Strategic Asset Management Policy** - Requires municipalities to outline commitments to best practices and continuous improvement
- **July 1, 2022 - Asset Management Plan (AMP): Phase 1** - For the core assets - roads, bridges and culverts, water, wastewater and stormwater:
 - Inventory of assets
 - Current levels of service measured by standard metrics

- Costs to maintain levels of service
- **July 1, 2024 - AMP: Phase 2** - adds to the Phase 1 plan to include
 - all assets (facilities, fleet, community services amenities)
- **July 1, 2025 - AMP: Phase 3** - builds on Phase 1 and 2 AMP by adding:
 - Proposed levels of service
 - Lifecycle management
 - Long term financial strategy

ANALYSIS:

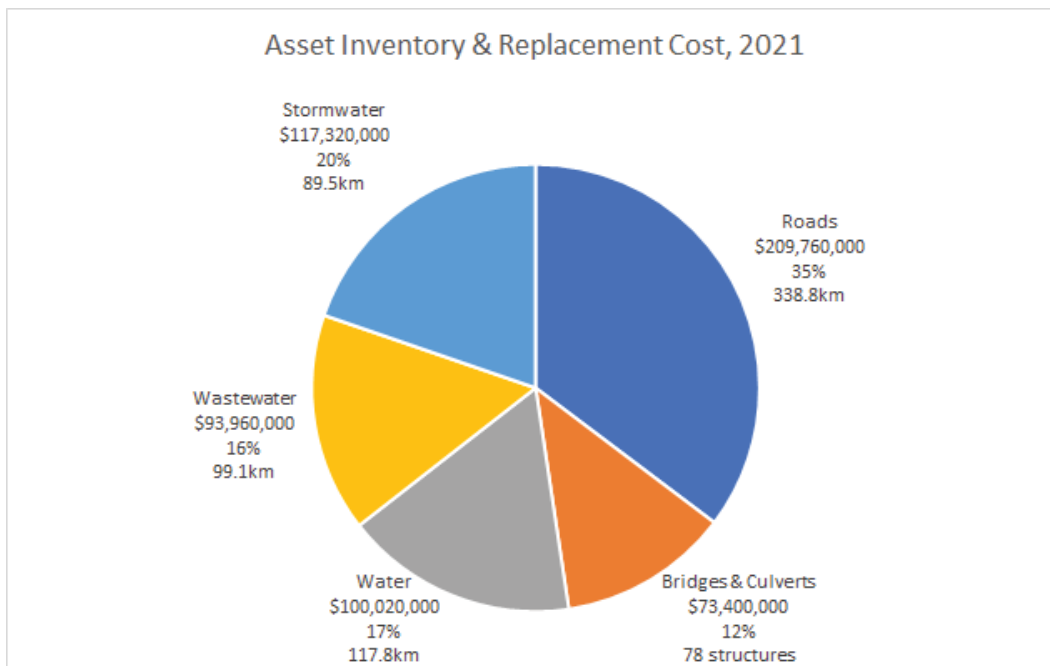
During 2021, the Township partnered with Watson & Associates Economists to prepare an update to King’s 2016 asset management plan that would meet the requirements of O.Reg. 588/17 to include core assets of the Township. Core assets are defined to be roads, bridges, culverts, water, wastewater and stormwater assets. The regulation also requires us to review asset inventory, levels of service, lifecycle management and forecast annual funding requirements.

What is the Current State of the Townships Infrastructure?

1. Asset Inventory and Replacement Cost

The Township’s infrastructure has an estimated current replacement value of \$594 million, which is summarized by asset service below. Various methods and sources were used to determine the 2021 replacement costs, current studies and the Township’s GIS system provided the unit inventory measures.

Figure 1: Total Township Core Assets Quantity and Value



Referring to the above chart;

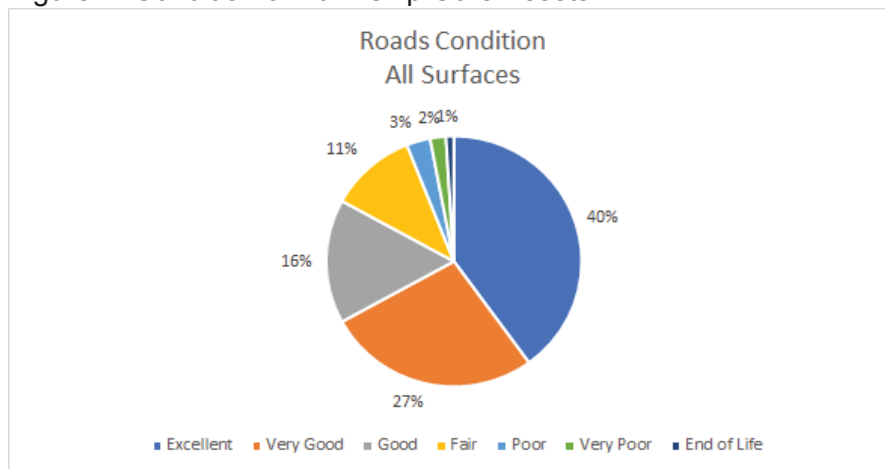
- Transportation assets - roads, bridges and culverts make up the largest share of the total asset base, valued at 47% or \$283 million. Within transportation, the road network makes up the most significant portion of this at 35% or \$209.7 million, funded primarily from the tax base.
- Water and Wastewater assets - make up the second largest share for the total asset base, valued at 33% or \$193.9 million, funded primarily funded from the water and wastewater rates.
- Stormwater assets - comprise 20% of the asset base valued at \$117.3 million, there will be a need to identify consistent funding sources in future budgets as current funding is with the Growth and Infrastructure funding.

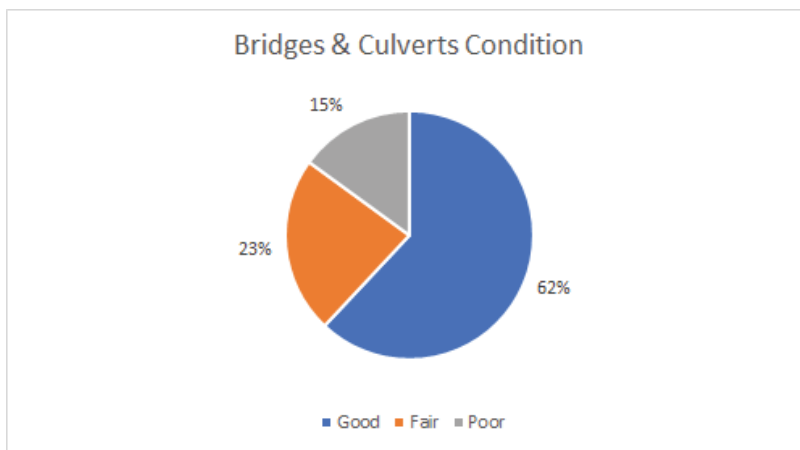
2. Asset Condition

Integral to the AMP is the condition of the assets, staff and the consulting team relied on recent studies to assist in the establishing an informed condition assessment, studies such as;

- The 10 Year Paving Strategy Plan,
- 2021 Bridge & Structures Report,
- Comprehensive Stormwater Master Plan,
- 10 Year Capital Forecast,
- The Water and Wastewater Master Plan,
- The Development Charges (DC) Study

Figure 2: Condition of Township Core Assets





The condition of the Townships water, wastewater, pumping stations and stormwater assets is rated very good. For underground assets such as water mains and wastewater mains the age of the asset was used to assign condition. In a perfect world CCTV inspection data would be used to inspect the entire network to assess condition, this is something we will strive to incorporate into our asset management practices.

The majority of the Township's core assets are rated from good to excellent condition. This is due to these services being properly maintained and new paving strategies implemented during the past 10-15 years. However, this should not be interpreted as a measure that should minimize the need to strategically plan for the long-term maintenance, rehabilitation and replacement of Township infrastructure.

The Asset Management Plan helps define Current Levels of Township Services

A level of service (LOS) is a measure of what the Township is providing to the community and the nature and quality of that service. For each asset service covered in the AMP measures were established through workshops with Township staff.

Ontario Regulation 588/17 requires two levels of service for assets. The first are community levels of service, which use qualitative data to communicate service outcomes from the perspective of the customer (e.g. how smooth/comfortable is it to drive on Township road surfaces).

The second are technical levels of service, which use metrics that are described in technical terms (e.g. the PCI, pavement condition index is used to measure road surface condition).

The Asset Management Plan helps define Current Asset Lifecycle Management Strategy

The condition or performance of most assets will deteriorate over time. This process is affected by a range of factors including an asset's characteristics, location, utilization, maintenance history and environment. Asset deterioration has a negative effect on the ability of an asset to fulfill its intended function, and may be characterized by increased cost, risk and even service disruption.

To ensure that municipal assets are performing as expected and meeting the needs of customers, it is important to establish a lifecycle management strategy to proactively manage asset deterioration.

There are several field intervention activities that are available to extend the life of an asset. These activities can be generally placed into one of three categories: maintenance, rehabilitation and replacement.

For example: A Roads Lifecycle Strategy

- Maintenance - Crack Seal - 1 X every 5 years = \$ low cost,
- Rehabilitation/Renewal - Mill & Re-surface - 2 X every 10 years = medium cost \$\$
- Replacement/Reconstruction - Full Reconstruction - 1 X every 50 years = high cost \$\$\$,

By incorporating regular maintenance and periodic rehabilitation to road infrastructure it delays the larger cost of future full replacement.

The Asset Management Plan identifies Current and Forecast Funding Requirements

Figure 3: The Cycle of Good Asset Management Practices



Within the AMP, by combining the above good asset management practices results in a forecast asset needs profile with an annual contribution of \$10.9 million for our core infrastructure assets.

Currently, the Township funds \$3.1 million for core infrastructure leaving a funding gap currently of \$7.8 million. The needs profile of \$10.9 million will further increase when the additional asset classes of fleet, facilities and community services are included in the next phase of the planned AMP update. For these additional asset classes the Township currently funds \$4.2 million which is used for Growth and New Infrastructure projects as well.

The Township will need to incorporate increased investment in the annual infrastructure to meet the objective and future projected needs over time. The gap between current and planned funding can be addressed by:

Use of traditional sources of municipal funds:

- Tax levies

- User fees
- Capital levies
- Reserves
- Debt

Use of non-traditional sources of municipal funds:

- Reallocated budgets
- Partnerships
- Procurement methods

Use of Senior Government Funds:

- Ontario Infrastructure Grants
- Federal Infrastructure Grants

During the phase 2 update of the AMP beginning in 2022, we will build upon the above mentioned asset need profile, by developing a detailed long term financial strategy that will identify and evaluate all asset class costs, tax and rate supported (water/wastewater) contributions, grants, other revenue sources and infrastructure reserves.

For an asset management plan to be effective and meaningful, it must be integrated with financial planning and long-term budgeting. The development of a comprehensive financial plan will allow the Township to identify the financial resources required for sustainable asset management based on existing asset inventories, desired levels of service, and projected growth requirements

Next Steps

Phase 2

During phase 2 of the AMP beginning in 2022, we will build upon the above mentioned asset need profile, by developing a detailed long term financial strategy that will identify and evaluate all asset costs, tax and rate supported (water/wastewater) contributions, grants, other revenue sources and infrastructure reserves.

Phase 3

A supplemental plan will be developed by Watson in 2022 to ensure data used in this plan will be documented, updated and maintained for future plan updates. An investigation into what further studies will be required to provide data for the next scheduled plan updates (i.e. data/studies related to facilities, fleet & equipment, community services amenities)

Systems

The Township is currently evaluating the need for an Enterprise Asset Management Solution (EAMS) which includes the installation and configuration of a new maintenance management system that will support the Township's predictive "what if" modelling software. Together, these applications will have a transformative impact on the Townships asset management program.

Several benefits include:

- Increased automation of asset management activities;
- Improved inventory management processes;

- Customer service improvements;
- Enhanced asset reporting and data visualization; and
- Operating & Maintenance inputs into lifecycle analysis and capital plans

EAMS will allow Township staff to continually update and refine asset data and will make reporting more efficient and predicable. It is expected that having staff utilize these applications will lessen the reliance on external consulting services for future AMP updates.

Accordingly, these systems will provide 'what if' functionality tools that can assist staff in making informed recommendations relating to methods and opportunities to optimize the useful life of tangible capital assets. Thereby, enhancing the Township's ability to develop sustainable economic and financial outcomes to moderate impacts on tax rates in the near, mid and long-term.

FINANCIAL CONSIDERATIONS:

Approval of the AMP will help inform future capital planning requirements and funding needs for infrastructure replacement going forward. It does establish the need to proactively incorporate a set of strategies and recommendations into the Township's future budget planning processes that will assist in managing exposure to a funding gap between its current and recommended average annual investment in infrastructure maintenance, renewal and replacement. Currently, the Township has \$7.3 million contributed to reserve funds to address Infrastructure and Growth and new Infrastructure for all asset types. Additional investments will need to be in place as we plan for future replacement and rehabilitation of assets.

Financial impacts to future budgets will be identified upon the completion of the detailed long term financial strategy that will be incorporated into the next update phase of the asset management plan. The outcomes of this strategy are expected to identify what potential impact will be to tax and user rates to fund shortfalls in long term infrastructure funding. Other funding options would include increases to tax levies, user rates, the use of reserve funds, and debt. A balance will need to be developed to help bridge the funding gap and address the need to maintain reserves and minimize the tax and user rate impact.

ALIGNMENT TO STRATEGIC PLAN:

The 2019-2022 Corporate Strategic Plan was formally adopted by Council on September 21, 2020 which emphasizes all of the ICSP Pillars (Financial, Economic, Socio-Cultural and Environmental) and is also aligned with the long-term vision defined in the Official Plan. The 2019-2022 Corporate Strategic Plan aims to ensure staff initiatives focus on current Term of Council priorities in support of the Township's long-term vision to 2031.

This report is in alignment with the CSP's Priority Area(s), associated Objective(s) and/or Key Action(s):



**Investing in
Infrastructure**

Connecting People and Places

- Improve Road Network

Creating More Inclusive Public Spaces

- Develop a Township Fiscal Strategy

Priority Area: Investing in infrastructure - to support capital programs by providing safe, healthy and resilient communities with a long term focus on maintaining assets in a safe and affordable manner.

CONCLUSION:

The Townships 2021 AMP is being presented for Council's information and approval to achieve compliance with O. Reg. 588/17, Asset Management Planning for Municipal Infrastructure. The analysis contained in this report will be used to inform the ongoing work in the prioritization of capital investment needs and potential funding strategies as part of the development of capital budgets and forecasts. Moving forward, Township staff have a work plan to continue to advance its asset management processes in line with best practices. Township departments responsible for asset management will continue to work collaboratively to develop long-term financial sustainability strategies that balance service levels, costs, and risks.

ATTACHMENTS:

[King - Asset Management Plan - Core Assets - Final](#)

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