



MFOA Municipal Action Plan

Prepared for:

The United Townships of Head, Clara & Maria

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"Technology, on the move!"

January 23, 2020

The United Townships of Head, Clara & Maria
15 Township Hall Road,
Stonecliffe, ON
K0J 2K0

Attention; Ms. Crystal Fischer, Clerk/Treasurer

Dear Ms. Fischer

Thank you for having participated in MFOA's AMP it UP 2.0 program.

We have both reviewed your submission as well as our response.

Enclosed is our review and recommendations based on the submission to the Self-assessment tool.

Should you have any questions, please do not hesitate to contact me.

Sincerely
MARMAK

Mr. John Tarantino, O.L.S. O.L.I.P. (ret)
Vice President
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AMP it UP 2.0 program

The MFOA AMP 2.0 SAT is designed to help Ontario municipalities review their Asset Management (AM) progress. The survey questions are used to stimulate discussions and identify strategies which will assist the respective Township moving forward. The table below identifies key AM pillars. The individual questions are used to indicate the current status associated to each component. These include:

Accurate Infrastructure Inventory

- Accurate inventory
- Detailed inventory
- Condition assessment of each asset category
- Visualization of location

Life Cycle Events

- When to remediate?
- What to remediate?
- How to remediate?
- How will remediation extend the life of an asset?

Level of Service

- Technical level of service
- End user level of service

Risk Models

- Probability of failure
- Consequence of failure

Financial

- Create a 10 year plan
- Replacement cost
- Funding strategies

Citizen Engagement

- Electronic service request
- Electronic work orders

Corporate Policy

- Integration of AM plan into Corporate Strategic Plan
- Adoption of Level of Service
- Adoption of financial strategy
- Regular update of the plan

Software Tools

- Data repository
- Departmental integration
- Visualization integration
- Citizen engagement

Asset Management Overview

O. Reg. 588/17 Overview indicates the following upcoming milestone dates:

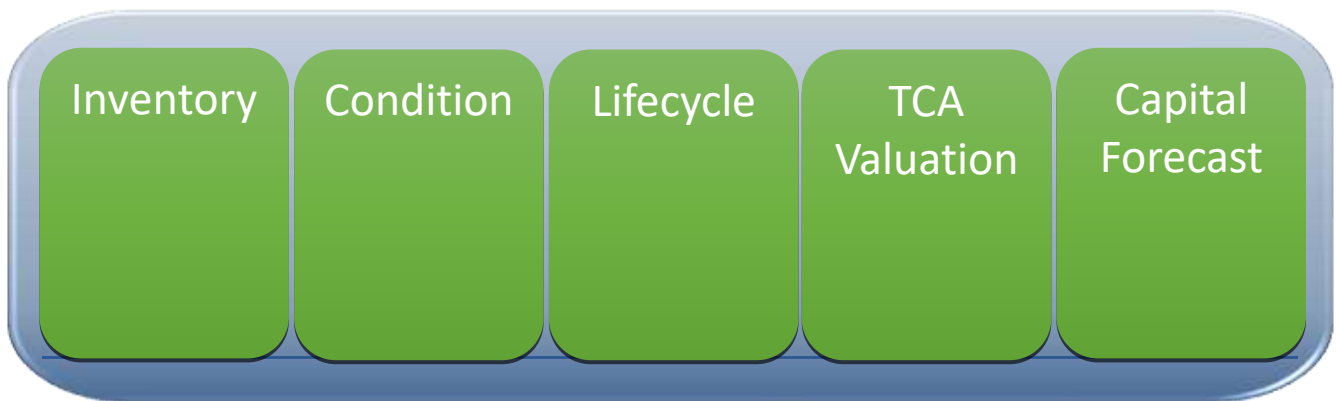
- Strategic AM Policy was required by July 1, 2019
- Level of Service measured by standard metrics and costs adopted by July 1, 2021
- AM to include all assets by July 1, 2023
- Proposed Level of Service with financial and lifecycle management by July 1, 2024

Staff

People make the difference. Corporate policies are essential in establishing a governance model. A committee of department heads need to meet regularly and establish policies and procedure for municipal staff. Elected officials should be represented and engaged in the procedure.

Asset Management Components

Asset Management requires a cohesive approach by Township staff to collaborate, share, and update departmental information. An Asset Management exercise culminates with a functional 10 year capital plan which is validated through the following 5 components:



Accurate Inventory

Asset Management is all about mitigating municipal risk. In order to derive true cost/benefit and return on investment the Township must have an accurate inventory. An accurate inventory requires a well-defined structure, comprising of minimum required fields, data which is topologically structured and unique identifiers which can be cross referenced amongst various departments and software solutions. This includes knowing the individual component, location, condition, and the financial commitment required to maintain and extend the life of the asset. Assigning to each asset type the Level of Service along with the Probability of Failure and Consequence of Failure will highlight the financial risk and legal liability associated to each asset category.

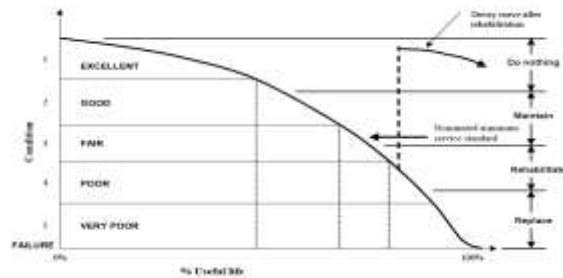


Life Cycle Events - remediation actions linked to Performance Condition Ratings (PCR) which defines specific rehabilitation actions based on Condition Ratings. Life Cycle information is linked to financial data which captures and validates the costs associated with maintaining and extending the life of assets.

Level of Service (LOS) - citizen LOS consists of community expectations, legislative requirements, policies and objectives, resources and financial constraints. The technical LOS refers to Condition Ratings connected to Life Cycle Events associated to each asset category. LOS is also linked to a financial framework which identifies what services can be maintained and provided and at what cost.

Risk - a combination of percentage assigned to Probability of Failure (POF) and Consequence of Failure (COF). The POF of an asset can be determined using the estimated service life of the asset, the age of the asset, and the assessed condition. The COF is a combination of health and safety, environmental, legal & regulatory, operational, and financial risk. Risk is then calculated by a matrix which assigns numerical ratings and verbal descriptions to each one of the categories. Ultimately risk is linked to a LOS and the financial ramifications.

Financial - straight line depreciation of assets is a useful PSAB accounting exercise but it does not provide an accurate picture of conditions and financial requirements. Where possible, AM should utilize a s-curve depreciation of Life Cycle Events to determine the true state and replacement strategies of the infrastructure. It should take into consideration a number of financial scenarios which identify the future costs of maintaining and replacing the asset. The AM plan must have the ability to produce multiple financial scenarios ensuring that funding provides a proactive approach to asset replacement and identify any funding deficiencies as well as unfunded liabilities.



Citizen Engagement - The Township's desire to operate in a transparent manner taking into account the needs and wants of its constituents. Informed citizens become key stakeholders in the community. With the adoption of technology, citizens become engaged in the decision making process. Simple options include participation at open council meetings, posting information on the Township's website, and electronically collecting the incoming inquires from citizens.

Asset Management Review

Marmak held a series of discussion with Township staff to outline the value of MFOA's AMP 2.0 SAT program. The objective of this initiative is to provide a fresh set of eyes on the current status of the AM implementation journey. As part of the program, Marmak reviewed the Township's online Asset Management plan from 2015 and was granted access to the Township's tabular data. A subsequent meeting was held to review the consultant's response in relationship to that of the Township.

Township Assets

The Township assets consist of roads, culverts, facilities / open spaces and fleet.

Accurate Inventory

The Township has a reasonable handle on the asset inventory. The Township has outdated Condition Ratings on its assets

Life Cycle Events

The Township utilized remaining useful life to determine Life Cycle Events

Level of Service

Technical Levels of Service for roads, are identified at a high level, but not implemented.

Risk Models

No risk model exists

Financial

The Township maintains financial data within its asset registry (Excel format). The financial data is sufficient for PSAB calculations, however, it lacks sufficient integration to engineering data required for dynamic calculations of a 10 year plan.

Accounting Methodology

The Township utilizes a straight line depreciation for its asset management strategy.

Citizen Engagement

Though as limited as it may be, the current citizen engagement process is manual and occurs on an ad hoc basis

Corporate Policy

An AM corporate policy exists, it lacks regular updates and integration into a corporate strategic plan.

Recommendations

Staffing

Asset Management requires dedicated staff. The Township should, at minimum, allocate an individual responsible for the coordination of AM activities. This individual should be responsible for coordinating the various AM activities.

Where financial restriction prohibits the allocation on internal staff, the Township may wish to enter into a joint agreement with local municipalities, or hire a part-time consultant to regularly update the AM plan.

Updating AM Plan

The AM plan should be integrated into the Township's strategic growth plan. The regulation requires regular routine updates before July 1st of each year. The AM plan in its current electronic form contains valuable data expressed in charts and graphs.

Funding the Required Resources

The Township may wish to begin allocating within their annual budget the funding of the necessary software and AM resources.

Adoption of Standards

Adoption of engineering and LOS standards are essential for the validation of inventory and financial commitments. Standards for managing gravel roads are very different than those of asphalt roads. A number of provincial associations such as MFOA, Ontario Good Roads Association (OGRA), Ontario Recreation Facilities Association (ORFA), and others offer guidance to their members regarding the establishment of various standards.

Collecting and Updating Inventory

It is recommended the Township consider adopting standards and an integrated electronic asset management data repository. MDW is available as a member service free to Ontario municipalities. The Township can take advantage of this offer to properly structure their asset inventory for roads, buildings, and fleet.

Work Orders

An AM plan comprises of both a theoretical and operational model. Adoption of an electronic work order systems will facilitate keeping track of citizens requests and internal workorders.

Citizen Engagement

The Township may wish to engage its constituents through public consultations, meetings, and various forms of correspondence.

Financing

Adopting an s-curve depreciation utilizing life cycle curves and condition assessment will result in a more accurate replacement cost and remediation dates.

Level of Service

Level of Service will become a mandatory requirement as of July 1, 2021. It will become difficult to establish various levels without having performance measures and historical trends.

Next Steps

The Township may wish to adopt MDW as their data repository and begin formalizing a LOS strategy.

MDW

OGRA offers a variety of training material and assistance in uploading data into MDW. Much information is located on the www.municipaldataworks.ca website

Level of Service Strategy

LOS outlines the overall quality, performance, availability and safety associated to municipal assets and services. LOS is a balance between user expectations for overall quality, performance, availability and safety, versus affordability. There are three (3) distinct categories of LOS:

- Municipal risk
- Asset life cycle cost implications
- Financial Options

The first step in establishing a LOS is an accurate and up to date inventory. Information such as remaining life and condition ratings are essential in calculating Municipal risk associated to assets or services.



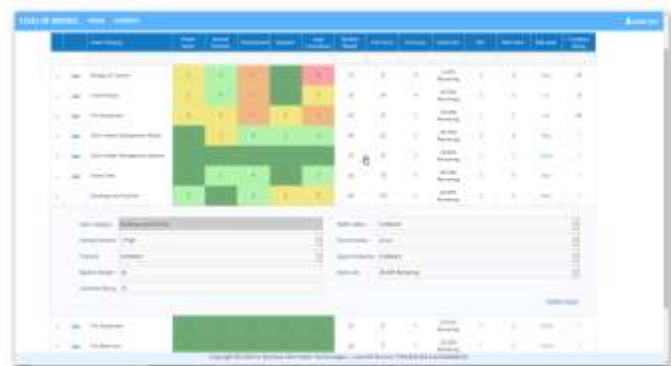
The screenshot displays a software interface with a table of asset records. The table has columns for 'Asset ID', 'Description', 'Location', and 'Condition'. The 'Condition' column contains green circular icons with numerical values, likely representing condition ratings. The interface includes a search bar and various navigation controls.

Once the risk is derived a review of financial implications associated with the risk needs to be adopted. Ultimately the Township will need to explore various financial options available to finance the adopted strategy.

Municipal risk is a combination of the Consequence of Failure (COF) linked to a Probability of Failure (POF).

The COF levels are determined by a combination of 6 risk criteria including:

- Baseline Weight*
- Health and Safety
- External Demands
- Environmental
- Financial
- Political and Regulatory



The screenshot shows a software interface with a heatmap visualization. The heatmap consists of a grid of colored cells (green, yellow, orange, red) representing different risk levels. The interface includes a search bar and various navigation controls.

*(A numeric value which the Township assigns to each asset category as a starting point in comparing and prioritizing various asset categories)

The POF is a combination of operating, maintaining, rehabilitating, and renewing strategies. These strategies are often captured and reflected in numeric values associated with an asset's remaining useful life and condition ratings.

Municipal risk on a given asset category is derived from a combination of COF and POF and is expressed in a matrix by one of the following results:

- **Very High Risk** - Maximum risk mitigation measures should be in place, together with recovery plans, and availability of critical spares.
- **High Risk** - Maximum risk mitigation measures should be in place providing layers of deterrence, high probability of detection, and rapid effective response. Insurance coverage is essential but may not be able to provide adequate coverage to prevent significant liability. Due diligence is required including utilization of appropriate expertise and validation of assessed data.
- **Moderate Risk** - Risk should be managed by the introduction of mitigation strategies and operational procedures.
- **Low Risk** - Minimal risk mitigation measures are necessary. Risk should be managed through operational procedures or accepted as a low business risk.

This risk matrix is to be vetted against the financial costs associated in mitigating the municipal risk.