

TOWN OF AJAX REPORT



REPORT TO: General Government Committee

SUBMITTED BY: Dave Meredith
Director, Operations and Environmental Services

PREPARED BY: Rick Chalmers
Supervisor, Infrastructure and Asset Management

SUBJECT: **Corporate Asset Management Plan**

WARD(S): All

DATE OF MEETING: February 13, 2017

REFERENCE:

RECOMMENDATION:

That Council approve the Town's Corporate Asset Management Plan - Phase 1, detailing the state of the Town's infrastructure, asset strategies and financial strategy.

BACKGROUND:

At the core of public sector asset management are two fundamental considerations: providing satisfactory levels of service to the public, and ensuring the sustainability of infrastructure assets over the long term. Asset management planning is the process of making the best possible decisions to achieve these outcomes. Most importantly, these decisions are made with consideration to the entire lifecycle of assets, including building, operating, maintaining, renewing, replacing and disposing of infrastructure assets. A good asset management plan reflects an awareness of the choices that must be made in terms of planning and investment. A comprehensive asset management plan is one that incorporates all of the aforementioned considerations, and will result in optimized decision-making. Reflecting all of these considerations in an asset management plan is the critical task to creating an excellent asset management program.

Since the introduction of the Provincial Municipal Infrastructure Strategy in 2012, the province has required municipalities requesting infrastructure funding to show how projects fit within their comprehensive asset management plans. To help municipalities prepare asset management plans, the province provided the Building Together: Guide for Municipal Asset Management Plans (the "Guide").

What makes a good plan: The importance of improved asset management cannot be overstated. Good asset management will help optimize infrastructure investments throughout the Town. There are a number of outcomes that will be achieved over the long-term through the implementation of the Corporate Asset Management Plan:

- **sustainability:** good asset management planning will result in sustainable assets over the long-term.
- **ensuring evidence-based decisions:** a good corporate asset management plan considers all factors when prioritizing investments – desired service levels, condition and risks, financial implications and long-term sustainability.
- **comprehensive planning across the province:** complete and comprehensive asset management across Ontario will help foster collaboration and information-sharing among municipalities.
- **creating an asset management culture:** a culture of asset management planning is one that has support for the importance of asset management at all levels of the municipality – council, staff and the public.

Some of the fundamental considerations the Corporate Asset Management Plan will reflect:

- **integrated asset management planning:** the corporate asset management plan is not a stand-alone process. It must be integrated with other municipal financial and planning processes and important provincial initiatives.
- **an asset management plan is a “living document”:** asset management is an evolving process. Actions are based on plans that are updated on a regular basis. The evolution of the plan will focus on continuous improvement, and stress the importance of long – term planning and be updated based on new and better information.

The province’s *Infrastructure for Jobs and Prosperity Act, 2015*, was proclaimed on May 1, 2016. Through a regulation under the Act, it is the province’s intent to bring consistency, comprehensiveness and completeness among municipal asset management plans, by establishing a standard format for municipal asset management plans that builds upon the important work undertaken to date.

Asset Management Policy

The proposed regulation could contain a requirement for a Strategic Asset Management Policy to support the process of developing asset management plans. A municipality’s Strategic Asset Management Policy would specify how asset management plans would align with other municipal plans, including any long-term financial plans and budgets. The policy would specify how asset management plans would be developed with consideration to the infrastructure planning principles contained in the *Infrastructure for Jobs and Prosperity Act, 2015*. It would also require municipalities to outline the role of Council and the public during the development of asset management plans, and it would specify how often the municipality would update or renew their asset management plans.

DISCUSSION:

In recent years, the Town has developed a thorough inventory of municipal assets, and their associated condition. The following represents a summary of asset inventories, frequency of inspections and overall conditional assessments.

Asset	Frequency	Inspection Completed By
Roads	1/3 Annually	Consultant
Trails	3x Annually	Staff
Playgrounds	3x Annually	Staff
Parking Lots	Annually	Staff
Bridges/Culverts	Every 2 Years	Consultant
Sidewalks	Annually	Staff
Streetlight Poles	Every 5 Years	Consultant
Streetlight Luminaires	2x Annually	Staff
Trees	Ongoing	Staff
Fleet Equipment	Seasonally	Staff
Facilities	Ongoing	Staff

The accumulation of this information over the past 5 years has been integral as the basis for the development of this AM Plan.

This first iteration of the Asset Management Plan has been completed at a high-level using existing information, with the goal of meeting the minimum requirements defined by the Province of Ontario and identifying data and procedural gaps and opportunities for improvement. This Plan covers:

- Transportation (Roads, bridges, culverts, sidewalks, parking lots and streetlights)
- Stormwater Management (Storm drainage network and stormwater management facilities)
- Outdoor Active Recreation (Park trails, multi-use trails, and playgrounds)
- Forestry (Boulevard Trees)
- Facilities (Building envelopes, roof systems and HVAC)
- Fleet (Vehicles and rolling equipment)
- Information Technology (Server equipment, workstations, peripherals, telephony)

The Town's approach to asset management for all assets consists of five major phases, as follows:

- Development of asset inventories (i.e. what do we own?) including key information on asset types and specifications, age, materials, quantity etc. Building condition assessments would be conducted for all facilities;
- Determination of the replacement values for facilities and individual assets based on factors including asset and facility age, capacity, size, diameter, material, location and expected installation method etc.;

- Condition assessment and application of condition ratings (A, B, C, D, E system for grades ranging from “very good” to “very poor” as shown in Table 1 below) for all assets based on asset age, visual inspection, maintenance history including availability of spare parts, service conditions, industry-accepted life expectancy and compliance with applicable codes and regulations. Testing and CCTV investigations would be conducted in the future where applicable for storm sewers. A criticality or failure risk impact rating would also be determined for each asset which will allow the Town to establish priorities for improvements based on the potential consequences of no action being taken;
- Needs assessment and requirements for investment will be developed based on the established condition of the assets, taking into consideration discussions with stakeholder departments. Reinvestment costs would be generated for all assets (over their entire life cycle) based on the requirements for minor maintenance, major maintenance, rehabilitation and replacement;
- A life cycle investment profile will be developed that will provide the Town with a forecast of the annual cost of minor maintenance, major maintenance and rehabilitation and replacement required over a 5, 25, 50 and 100 year planning horizon for each asset.

Table 1 - Town of Ajax Asset Condition Rating System

Final Condition Grade	Grading Equivalents			Grading Factors			
	Rating	Description	Remaining ESL	Deterioration	Performance	Maintenance Costs	Age
A	Very Good	Fit for the future	80-100%	None	As intended	Well within normal level	New / Like new
B	Good	Adequate for now	60-79%	Minimal deterioration	As intended	Acceptable, but increasing	Within mid-range of expected service life
C	Fair	Requires attention	40-59%	Signs of medium deterioration	Lower than intended	Exceeding normal levels & increasing	Later stage of expected service life
D	Poor	At risk of affecting service	20-39%	Significant deterioration	Much lower than intended	Significantly above acceptable levels	Nearing end of expected service life
E	Very Poor	Unsatisfactory for sustained service	<20%	Approaching failure	Not performing as intended	Costs unacceptable & rehabilitation not cost effective	Past end of service life

The Town of Ajax owns and operates over \$1.2 billion (replacement value) in infrastructure assets included as part of the Phase 1 Asset Management Plan (the Plan), which service the needs of residents, local businesses and visitors to the Town. These transportation, stormwater management, active recreation, forestry, facilities, fleet and information technology assets contribute to community health, wellness and satisfaction, and long-term prosperity and growth. In addition to meeting Provincial AMP reporting requirements, this Plan sets out a strategic framework for managing these assets, aligning core infrastructure with service objectives, documenting core practices and activities, and guiding the action and investment needed to meet key business goals.

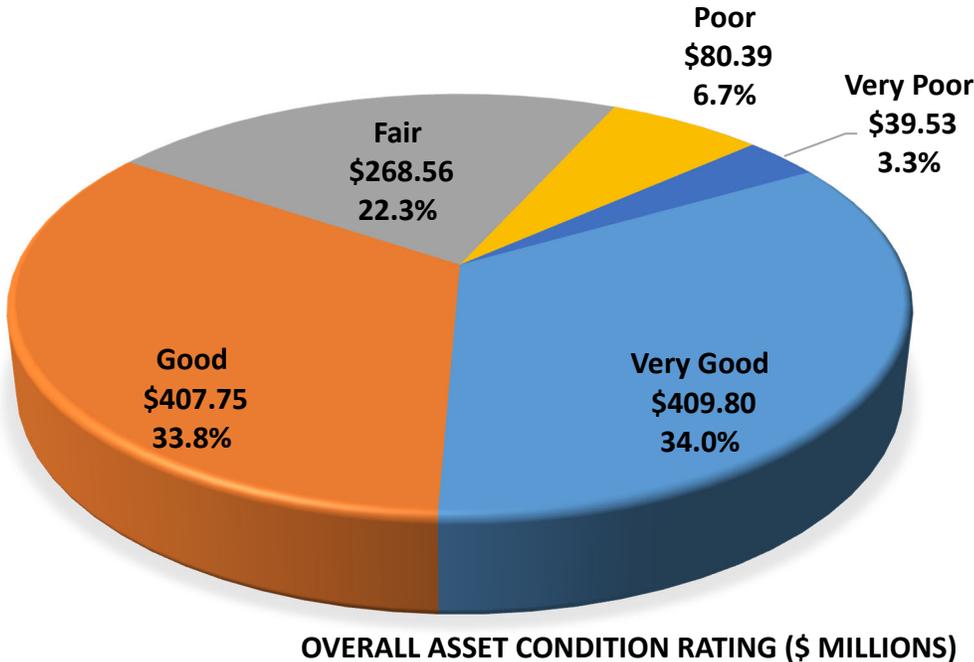
As one of several core business documents within the Town, the goals of this Plan clearly align with and support those of the Town of Ajax Community Action Plan, as well as the Town’s other municipal foundational documents. These include the Town’s Capital and Operating Budgets, Official Plan, By-laws, and Policies, as well as department policies, master and area plans, and business plans.

This Corporate Asset Management Plan will be revisited on an ongoing basis as asset inventories mature. Subsequent Plans will align with the proposed asset management regulation to cover an expanded asset-base, support the bottom-up analysis and alignment of work activities, and clarify the relationship between infrastructure investment and service outcomes.

State of Infrastructure

The overall condition rating shows that 67.8% of assets included in this plan are rated Very Good to Good (see Figure 1); however, reinvestment will be needed to sustain this positive state, and to renew certain assets that are showing evidence of deterioration.

Figure 1 - Overall Asset Condition Rating



Key findings of the Town's asset management plan indicate:

- 67.8% of the Town's assets are in "very good to good" condition;
- 22.3% of the Town's assets are in "fair" condition;
- 6.7% of the Town's assets are in "poor" condition;
- 3.3% of the Town's assets are in "very poor" condition

Remaining Service Life

In developing this asset management plan, it must be recognized that the condition rating for assets was based on conditional assessments, or the age of the asset. In time, all condition ratings will be based on physical condition assessments. As a result of using age for some of the ratings, the percentage of "poor" or "very poor" may be represented as a higher percentage than if the physical condition assessment was completed. As stated previously, the asset management plan is a living document that will be continuously updated. Staff will work to have all asset conditions reflected based on physical assessments as opposed to relying on the age of an asset.

Levels of Service

The Town of Ajax uses a range of measures and indicators to evaluate asset performance, identify trends, and benchmark operations. These measures tend to be inward facing and focus on physical properties, and technical and operational characteristics. While they provide good insight into asset health and operational efficiency, they make it difficult to evaluate and report on the quality and effectiveness of service being delivered to the public, or on the affordability of service.

The Town of Ajax is early in the development of asset management and as a part of this development is moving to adopt a service-focused view of its infrastructure and investments. By adopting a customer focused level of service framework, measures and targets, and weighing investment based on service impact and risk, the Town will establish a clear relationship between infrastructure investment and service outcomes.

Regardless of the types of indicators or the purpose of tracking, there are always external factors that are beyond the control of the organization that influence levels of service. It is important to understand these influences so that performance targets are well-aligned to the realities under which the Town operates.

One external factor having an impact on asset management planning relates to climate change. The Town is currently experiencing issues that can be directly attributed to climate change. Examples include:

- Severe rainfall events and their associated impacts on the effectiveness of the Stormwater Management System
- Flooding of roads and challenges in meeting winter control requirements
- Damage to trees as a result of freezing rain, high wind events and drought

Aging infrastructure will begin to have an influence on the levels of service. The Town of Ajax is young in comparison to other GTHA municipalities and as such the Town has relatively new infrastructure that is in good to very good condition at this time. The Town has experienced rapid growth over the last 25 years which will begin to burden the Town as infrastructure requires renewal resulting in an impact on its ability to provide high levels of service.

Summary of Life-Cycle by Asset

In developing this asset management plan, the life-cycle for each asset type was utilized as follows:

Asset	Estimated Life-Cycle
Roadways	30 Years
Bridges - Concrete	75 Years
Culverts – Concrete	75 Years
Culverts – Steel	45 Years
Sidewalks	40 Years
Streetlight System	30 Years
Parking Lots	30 years
Storm Sewer System	100 years
Oil and Grit Separators	50 Years
Stormwater Ponds	10 Years
Trails	20 Years
Playgrounds	15 Years
Pedestrian Bridges	75 Years
Boulevard Trees	35 Years
Building Envelopes	25-50 Years
HVAC	15-25 Years
Roofs - Traditional	20-25 Years
Roofs - Metal	50 Years
Vehicles and Equipment	7-20 years
IT Equipment	4-10 Years
Phones	15 Years

Preventative Maintenance

In an effort to maintain municipal assets, the Town of Ajax invests human and financial resources into preventative maintenance programs (PM). The PM's are derived to not only maintain existing assets, they also have the ability to extend the life of assets, beyond the ranges detailed on the preceding table.

An important element of asset management planning involves the on-going preventative maintenance programs. Examples include:

- Crack sealing roads
- Oil changes on vehicles
- Block tree pruning
- Catchbasin cleaning

The asset management plan also identifies future preventative maintenance opportunities that should be considered as part of the budget process. These programs will be considered annually as part of the Town's annual budget process. Examples include:

- Streetlight cleaning
- Bridge flushing
- Crack sealing in parking lots
- Increased frequency of block pruning

Asset Strategies

The asset management strategy is the process of evaluating the performance of assets, asset management and the asset management system against their respective objectives, utilizing a set of planned actions that will enable the assets to provide the desired levels of service in a sustainable way, while managing risk, at the lowest lifecycle cost. These processes are necessary to ensure the desired outcomes are being achieved effectively and sustainably. All together this is a confirmation of satisfactory or unsatisfactory performance as well as highlighting opportunities for improvement.

Asset Strategies include:

- Preventative Maintenance to extend asset life
- Lifecycle Analysis
- Failure Prediction
- Remaining Life Prediction
- Risk Assessment
- Planned Actions
- Procurement Methods

FINANCIAL IMPLICATIONS:

An Asset Management Plan must be integrated with long term financial planning and capital forecasting in order to meet its objectives. While the Town has not previously adopted formal asset management policies, departments already employ effective practices and protocols to manage the infrastructure requirements of the Town and prioritize those investments. These practices inform the development of the annual long range capital forecast and also contributed to the development of this asset management plan.

The following table shows that an infrastructure funding gap exists across many asset categories in the Town of Ajax. For this version of the AMP the infrastructure gap has been estimated as the difference between the average annual required investment and the planned operating and capital average annual investments over the next 5 years. It is important to note that the required investment has been determined based on asset age only (not condition rating), since condition-based data is not available for all asset categories at this time. Future updates to the AMP will reassess the gap by reference to condition-based asset assessments and the anticipated rehabilitation strategies.

The combined infrastructure gap as of December 2016 is estimated at \$3,600,000 for all asset categories below. As was illustrated in Section 2 of the AMP, much of the Town's infrastructure was installed in the growth periods after 1990 and still retains most of its useful life. If the Town continues funding infrastructure at current levels, the full impact of the funding gap on the quality of the Town's infrastructure network may not be felt in the next 5 years, but will become an increasing need in future years as replacements and rehabilitations become necessary.

Category	Average Annual Investment Required ⁽¹⁾	Average Actual Infrastructure Rehabilitation Investment ⁽²⁾	Estimated Annual Funding (Gap) / Surplus
Transportation	\$ 8,600,000	\$ 8,400,000	\$ (200,000)
Stormwater Management	2,900,000	600,000	(2,300,000)
Outdoor Active Recreation	1,800,000	1,200,000	(600,000)
Facilities	1,900,000	2,000,000	100,000
Fleet	2,200,000	2,200,000	-
Information Technology	200,000	300,000	100,000
Forestry	1,600,000	900,000	(700,000)
Annual Funding Shortfall			\$ (3,600,000)

(1) Required investment calculated by reference to the replacement cost and expected useful life only for all categories except roads.

(2) Actual investment calculated as the 2016 approved operating budget maintenance expenditures plus the average of the 2017-2021 forecast capital expenditures for each category.

In the near term, financial support for the Asset Management Plan will be funded by increasing reserve contributions in accordance with the policies of the Financial Sustainability Plan and funding current replacements and rehabilitation projects from established reserves as set out in the Capital Budget and Long Range Capital Forecast. In addition, the asset management plan will be integral as the Town reviews and updates the following:

- Financial Sustainability Plan
- DC Background Study

CONCLUSION:

While the Town has not previously adopted formal asset management policies or created a dedicated asset management group, departments already employ effective practices and protocols to manage the infrastructure requirements of the Town and prioritize those investments. A dedicated asset management group will work to enhance and support infrastructure stewardship within the organization. Each of the business units will complement this centralized asset management function by taking on responsibility for various aspects of infrastructure operations, planning and renewal, and contributing to the corporate budget process. This Plan provides guidance to the coordinated actions of these groups in effectively managing Town-owned infrastructure to meet service requirements.

ATTACHMENTS:

ATT-1: Town of Ajax Corporate Asset Management Plan

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Rick Chalmers
Supervisor, Infrastructure and Asset Management

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Dave Meredith
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