

1. EXECUTIVE SUMMARY

1.1 PURPOSE

The purpose of an asset management plan is to document the comprehensive strategies and practices that a municipality has adopted to provide the set level of services to its community in a financially sustainable way. The plan includes the details of existing state of municipal infrastructure assets, the level of services to be provided, how these services are provided and the strategy for required funding over a set period of time. The City of Markham has included its 25-year financial strategy in this plan.

The City developed its first *Asset Management Plan (AMP)* in 2016 as part of the Municipal Funding Agreement renewal for the Canada Community Building Fund. The 2016 AMP was developed in accordance with guidelines provided in the Ministry of Infrastructure’s “*Building Together: Guide for Municipal Asset Management Plans*” (2012) in order to be eligible for Canada Community Building Fund (formerly Federal Gas Tax Fund).

On January 01, 2018 the Ontario Regulation 588/17 (O. Reg. 588/17) – *Asset Management Planning for Municipal Infrastructure* came into force. The O. Reg. 588/17 was created under the *Infrastructure for Jobs and Prosperity Act, 2015*. The regulation requires municipalities to create a strategic asset management policy and an asset management plan in respect to its core and non-core infrastructure assets. This is required by all municipalities in Ontario to maintain eligibility for Canada Community Building Fund.

The City of Markham Asset Management Plan is created in alignment with Provincial Regulation, *Building Markham’s Future Together: 2020 – 2023 Strategic Plan* and other key plans.

1.2 INFRASTRUCTURE ASSETS

Markham’s Asset Management Plan includes both Core and Non-Core Infrastructure Assets. The Core and Non-core assets are defined in O. Reg. 588/17 as follows:

Core Municipal Infrastructure Assets	Non-Core Municipal Infrastructure Assets
Water Assets	Facilities
Wastewater Assets	Parks
Stormwater Assets	Streetlights
Road Assets	Fleet
Bridges and/or Culverts	Information Technology Infrastructure Hardware

This plan includes the above mentioned Core and Non-Core Assets. Details related to these assets include:

- Assets Summary
- Inventory/Quantity
- Replacement Cost
- Average Age
- Condition

Markham's 2016 Asset Management Plan reported the estimated replacement cost of the City's overall infrastructure asset portfolio to be \$7.94B. In 2020, the estimated total replacement cost of City of Markham Core and Non-Core Assets is \$9.63B. Core Assets make up approximately 85.7 per cent of the overall infrastructure asset portfolio whereas Non-Core Assets make up the remaining 14.3 per cent.

The estimated replacement cost of City of Markham overall infrastructure asset portfolio between 2016 and 2020 increased by \$1.69B or 21.24 per cent and is driven by:

- Volume – The volumetric change in City's asset inventory between 2016 and 2020 has contributed to \$416M or 25 per cent of \$1.69B increase. Increase due to volume change represents the collective increase due to addition of formerly missing assets and any new assets that the City acquired from 2016 to 2020.
- Unit Rate – The change in unit rates used for calculation of replacement cost of different assets between 2016 and 2020 have contributed to \$1.27B or 75 per cent of \$1.69B increase. Increase due to unit rate change represents the collective increase due to inflation and latest unit costs. Latest unit costs have changed due to variety of reasons that includes but are not limited to, change in technology, regulatory requirements, obsolescence, and change in standards.

13 LEVELS OF SERVICE

The ultimate goal of asset management planning is the delivery of set levels of service in a financially sustainable way. Levels of service enable a municipality to develop a financial strategy and serve as a performance measuring scale to benchmark success in delivering the services it commits to offer to its community.

O. Reg. 588/17 requires municipalities to include their levels of service in their Asset Management Plan for its Core and Non-Core Assets. Levels of service for Core Assets included in this plan align with the qualitative description and technical metrics for Core Assets as set out in O. Reg. 588/17.

Further, the regulation requires levels of service for Core Assets only for this update, however levels of service for Non-Core Assets have also been included in this plan.

14 ASSET MANAGEMENT FRAMEWORK AND STRATEGY

The City's asset management framework ties municipal goals (e.g. Building Markham's Future Together - 2020-2023 Strategic Plan) and planning (Official Plan, Departmental Business Plans and capital budget) to infrastructure management to realize our strategic objectives. The Markham Asset Management Framework, developed in consultation with senior staff and industry experts illustrates the relationship between business processes and activities conducted by the City to manage its infrastructure assets.

Asset Management Strategy is a set of planned actions that will ensure the assets provide levels of service in a sustainable way, while managing risk, at the lowest total cost of ownership. The actions for management of City's infrastructure listed below have been developed with reference to organizational goals, customer expectation, applicable standards, legislative requirements and industry best practices:

- Rehabilitation and Replacement
- Preventive Maintenance
- Corrective Maintenance
- Condition Assessment
- Climate Change Adaptation and Mitigation
- Enterprise Asset Management (Software) Solution
- Non-Infrastructure Solutions

Staff in business units responsible for the management of relevant infrastructure continually evaluate the strategies in place and make necessary changes to ensure optimum delivery of levels of service in a fiscally responsible way. Frequent review of current practices and the overall Asset Management Program is conducted to identify gaps, how to bridge those gaps, and what resources, including human resources are required to bridge the gaps. This enables the City to ensure that the right investment is made on the right asset, at the right time to meet expected service levels while managing risks at the lowest total cost of ownership. However there are risks that will create challenges for the City in the foreseeable future, impacting its ability to continue providing the approved levels of service to its residents and businesses. These risks include but are not limited to impacts due to:

- Aftermath of Global Pandemic/Loss of Revenue
- Climate Change
- Legislative Changes
- Increasing Number of Aging Assets
- Growth

In order to reduce the impact of anticipated risks and to ensure the City continues to provide satisfactory levels of service in a sustainable manner, ongoing investment is required to enhance the overall Asset Management Program.

This plan also includes population growth figures and employment forecasts for the City of Markham as set out in the York Region 2010 Official Plan. The Region of York and the City of Markham are in the process of updating these forecasts as per the Province's updated Schedule 3, which has extended the forecast horizon to 2051.

15 FINANCIAL STRATEGY

Financial strategy outlines the approach the City has taken to ensure adequate funding is available to carry out the asset management strategies outlined throughout this plan and to continue providing the approved levels of service at the lowest total cost of ownership over the life of City's assets.

The long-term financial strategy for municipal infrastructure assets is included in the City's Reserve Studies. A detailed 25-year plan is updated annually to ensure adequate funding is available for the operation and maintenance of the system, and the rehabilitation and replacement of the City's existing assets.

Based on population and employment forecasts, expansion activities are identified in the City's Development Charges Background Study. The Study includes a capital forecast of 10 years for soft services, such as recreation and library facilities, fire services, and parks, and a forecast to buildout (2031) for engineered or "hard" services, such as roads, sidewalks, and bridges.

Regular updates of these studies are undertaken to enable the City to identify risks, including funding shortfalls and to develop strategies to reduce identified risks.

16 CONCLUSION

The City of Markham remains in compliance with O. Reg. 588/17 and maintains its eligibility for Canada Community Building Fund. The City has demonstrated continued effectiveness of the strategies included in this plan through successfully and proactively managing its infrastructure assets in a fiscally responsible way to ensure delivery of approved levels of service.

An Enhanced Asset Management Strategy will further enhance how the City's assets are managed, which will provide the following benefits to the City:

- Detailed risk analyses of infrastructure across the City;
- Prioritized infrastructure investments that maximize benefits, reduce risk and provide desired levels of service;
- Support informed decision making over the life of assets (including operation, maintenance, renewal, replacement and decommissioning); and
- More efficient and effective delivery of services.

The process of managing assets is continuous, and the AMP is a living document which will be updated with reference to Ontario Regulation (O. Reg.) 588/17.