



Report to: General Committee

Meeting Date: June 17, 2025

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| SUBJECT: | 2025 Asset Management Plan and Financial Strategy |
| PREPARED BY: | Denny Boskovski, Manager, Corporate Asset Management Sustainability & Asset Management, Extension 6190 |

RECOMMENDATION:

- 1) That the report and presentation titled “2025 Asset Management Plan and Financial Strategy” be received; and,
- 2) That Council endorse the findings from the update of the City’s asset management plan, for all City owned and/or managed assets, as assessed at current and proposed levels of service; and,
- 3) That Council endorse in principle, a proposed level of service for road pavement management, where short and long term business planning, contributions to the City’s life cycle reserve, annual budgets, and effective program delivery strategies, are based upon a minimum target of 70% of the City’s road network be in a “good” or better state of performance, and subject to funding and resource availability, work towards an aspirational target of 75% of the City’s road network be in a “good” or better state of performance; and,
- 4) That any identified funding variances, shortfalls or gaps related to maintaining current levels of service, or any forecasted funding requirements that support proposed levels of service, as identified in the 2025 Asset Management Plan and Financial Strategy, be referred to the annual budget; and,
- 5) That Council direct staff to submit the 2025 Asset Management Plan and Financial Strategy (the formal document) to the Ministry of Infrastructure, informed by the findings noted under Recommendations 2, 3 and 4, as outlined in this report; and make the document publicly available on the City’s website upon its completion; and,
- 6) That Staff be authorized and directed to do all things necessary to give effect to this resolution.

EXECUTIVE SUMMARY:

The following report seeks Council's endorsement of findings from the update to the City's asset management plan, which is required to maintain our compliance with Ontario Regulation 588/17. The regulation requires the 2025 update to include an assessment of and financial forecast for all City assets, including the identification of any perceived funding "shortfalls or gaps".

This plan's inputs are based upon following:

- Consideration of all City guiding documents and strategies
- Using a combination of 2023, 2024 and 2025 asset and financially based data sources
- Planning horizon or "outlook" spanning from 2026 through to 2051 (26 years)
- Evaluation of all known assets that the City owns and manages
- Assessment of the current state of the infrastructure, including asset replacement values, performance, remaining service lives and risk within common frameworks
- Assessment of the current service and performance levels provided to the community
- Documentation of the lifecycle activities required to maintain current service levels
- Identification of any funding "shortfalls or gaps" related to maintaining current service levels over the planning horizon
- Assessment of proposed and/or future service levels and their respective forecasted funding requirements
- A financial summary compiling the previous noted financial outputs
- Inclusion of a companion Financial Strategy that documents internal processes and practices that determine how financial resources are allocated to service delivery objectives

The findings from this update are summarized as follows:

The State of the Infrastructure

- The City's assets have a combined current replacement value of **\$17.5B**
- The City's asset portfolio is relatively young with an average age of **34 years** and average service life of **81 years**
- **90% or \$15.7B** of the City's assets are performing as intended
- **10% or \$1.8B** of the City's assets are subject to planned maintenance or renewal
- **95.8% or \$16.8M** of the City's assets are considered **Very Low to Low risk** and are fit for service
- **4.2% or \$738M** of the City's assets are considered **Moderate to High risk**, require maintenance, and are planned for renewal within the planning horizon
- **No assets** fall within the **Very High risk** category

Current Levels of Service Considerations - 2026 to 2051 planning horizon

- Based upon the analysis and computational modelling undertaken, this report identifies a total increase of **\$439.59M** over 26 years, or an **equivalent average**

annual funding requirement of \$16.91M, is required to maintain the City's assets in their current state of performance

- This notation fulfills the regulation's requirement to identify a funding "shortfall or gap"

Proposed Levels of Service Considerations - 2026 to 2051 planning horizon

- **Road Pavement Management**
 - The City's vehicular transportation network of roads is valued at **\$7.15B** (not including bridges, lighting, sidewalks, traffic assets, etc.)
 - Currently, **72.6%** of the road network is currently rated in a "Good" or better (70-100) state of performance, a condition which, without continued and additional funding, is forecasted to decline
 - To manage our road's anticipated declining state of performance due to age, and based upon the modelling performed, an increase of **\$161.62M over 26 years**, or an **equivalent average annual funding requirement of \$6.22M** would be required and is included in the aforementioned \$16.91M
 - It is recommended to move towards and sustain a "proposed" level of service target based upon a minimum of **70%** of the City's road network will be in a "good" or better state of performance
 - Cost increases for the combined resource-related requirements to support delivery of the "proposed" level of service are estimated to be **\$5.25M** over the planning horizon or an **equivalent average annual funding requirement of \$0.20M**
- **Impact of Growth**
 - **By 2051**, and based upon the modelling conducted, the City may acquire approximately **\$4.83B (Scenario #2: Realistic Growth) to \$6.89B (Scenario #1: Official Plan Objectives)** worth of additional assets in order to meet the City's intended growth objectives of 610,500 residents and 301,600 jobs
 - Growth assets will require incremental funding to address the following costs over 26 years:
 - Growth related asset acquisition costs ranging from **\$1.98B to \$2.69B**
 - Additional operating costs ranging from **\$128.61M to \$183.55M**
 - Contributions to the life cycle reserve ranging from **\$128.77M to \$232.0M**

Financial and Continuous Improvement Strategies

- **Staff recommend that any financial implications identified in this report be considered through the annual budget process**
- As part of the annual budget process, the City undertakes a detailed Life Cycle Reserve study to identify and refine asset management needs.
- This information is incorporated into the development of capital budgets, which fund asset management activities and other infrastructure projects
- The annual budget process also confirms appropriate funding sources for capital projects (e.g., Life Cycle Reserve funding, Development Charges, grants, etc.), and incorporates estimated operating funding impacts
- In addition to leveraging the City's robust financial planning strategies, the City is applying and should continue to improve its asset management practices, including

governance, standards, data management, resource planning and integration of industry leading best practices

The findings from the update to the asset management plan will inform the completion of the full, formal and detailed 2025 Asset Management Plan and Financial Strategy (the formal document), which is expected to be finalized in Q3 2025. Once the formal document is complete, staff will submit it to the Ministry of Infrastructure and post it on the City's publicly facing website. This will conclude our regulatory requirements for phase 4.

PURPOSE:

The purpose of this report is to seek Council's endorsement of the findings from the update to the City's 2025 Asset Management Plan and Financial Strategy, which will inform the finalization and submission of the document to the Ministry of Infrastructure, as required by Ontario Regulation 588/17.

BACKGROUND:

Provincial legislation has been enacted requiring all municipalities to implement asset management planning

In 2015, the province passed the Infrastructure for Jobs and Prosperity Act with Ontario Regulation 588/17: Asset Management Planning for Municipal Infrastructure filed under this act. The regulation sets out detailed requirements for municipalities to ensure the long-term sustainability of municipal infrastructure through the preparation of a Strategic Asset Management Policy and a comprehensive Asset Management Plan (AMP) and companion Financial Strategy, through four phases or milestones, by July 1, 2025.

The regulatory phases and ongoing requirements are:



To date, the City has fulfilled phases 1, 2 and 3 of the regulation with the 2025 Asset Management Plan and Financial Strategy fulfilling phase 4 (and final phase) requirements.

Previous and current asset management related undertakings include:

- 2016 Corporate Asset Management Plan
- 2019 Asset Management Audit by MNP LLP
- **Regulation phase 1** - 2019 Asset Management Policy
- 2021 Corporate Asset Management Program Review and Strategic Roadmap
- **Regulation phase 2** - 2021 Corporate Asset Management Plan
- 2021 Enterprise Asset Management (EAM) Software – Lucity Implementation complete as of April 2025
- 2022 Natural Assets Inventory and Evaluation
- **Regulation phase 3** - 2024 Asset Management Plan
- Corporate Asset Management Strategy and Governance Framework (underway)
- **Regulation phase 4 and subject of this report** - 2025 Asset Management Plan and Financial Strategy

Ongoing regulatory requirements include:

- Asset management policy and plan is to be updated every 5 years at minimum
- Council shall conduct an annual review of its asset management progress on or before July 1 in each year, starting the year after the municipality's asset management plan is completed
- The annual review must address:
 - (a) the municipality's progress in implementing its asset management plan;
 - (b) any factors impeding the municipality's ability to implement its asset management plan; and
 - (c) a strategy to address the factors described in clause (b).

Staff are reviewing these requirements and determining the optimal method to effectively address them.

OPTIONS/ DISCUSSION:

Asset Management is the coordinated activity of an organization to realize value from assets by balancing costs, risks, opportunities and performance benefits, in a sustainable manner. It considers all asset types and includes all activities involved in an asset's life cycle including planning, acquisition and the impacts of growth, operations, maintenance, renewal and disposal of any remaining liabilities.

Having said this, asset management best practice ensures that:

- **Value** – That the value proposition that assets support, from their initial acquisition, through to their renewal or replacement, stays in the forefront as customer and stakeholder needs change over time.

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- **Alignment** – That organizational objectives translate into holistic and informed technical and financial decisions, and ensure that we are doing what we “say” is important.
 - **Leadership & Workplace Culture** – That decision makers stay informed of the asset management system’s state of maturity (outlines current state of capabilities and capacity to provide key functions), and of our asset’s current state of performance.
 - **Assurance** – That assets fulfill their required purpose by ensuring that processes link asset purpose and performance to strategic objectives, and checks that the City “gets” what it set out to achieve.

Markham is projected to grow in population (people) and employment (jobs) to 610,500 and 301,600 respectively by 2051. Demands for services from customers and stakeholders alike will also evolve and continue to compete for limited resources throughout this journey of growth and intensification.

As a result, modernization and integration of the City’s asset management governance, systems and processes, aims to develop sustainable service levels and practices that balance costs, residual risks, and acceptable performance results. The benefits of a modern and integrated asset management system and practice will position the City to successfully manage current and anticipated future service pressures, and be a powerful enabler. Additionally, modern and embedded asset management practices will:

- Support holistic and informed asset investment decisions
- Support financial and asset performance
- Enhance risk management within a common framework
- Improve services and outputs
- Demonstrate sustainability, climate change and community social responsibility
- Demonstrate regulatory and industry compliance
- Enhance the City’s reputation
- Improve organizational sustainability
- Improve efficiency and effectiveness of resources, data and information

The 2025 Asset Management Plan and Financial Strategy is a multi-disciplinary guiding document that considers all City strategies and regulatory and community-based business drivers

Asset management plans play an important role in municipal planning, informing the amount and timing of funding to maintain, repair or replace assets, ensuring that they are in a state of good repair and support desired service levels. The City uses information from asset management plans, such as condition assessments, as an input into work plans, operating and capital budgets, and financial strategies, including updates to City’s Life Cycle Reserve and the Waterworks Stabilization/ Capital Reserve studies. An asset management plan itself is a decision-making tool, which informs the financial strategy required to achieve a desired level of service, while balancing or minimizing risks.

The 2025 Asset Management Plan and Financial Strategy is the final phase required to satisfy O. Reg. 588/17. Scope of this plan includes:

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- Consideration of all City guiding documents and strategies
 - Using a combination of 2023, 2024 and 2025 asset and financially based data sources
 - Planning horizon or “outlook” spanning from 2026 through to 2051 (26 years)
 - Evaluation of all known assets that the City owns and manages
 - Assessment of the current state of the infrastructure, including asset replacement values, performance, remaining service lives and risk within common frameworks
 - Assessment of the current service and performance levels provided to the community
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 - Inclusion of a companion Financial Strategy that documents internal processes and practices that determine how financial resources are allocated to service delivery objectives

On October 23, 2024, Council endorsed the findings from the 2024 Asset Management Plan, based upon analysis and computational modelling by an external consultant. That version of the plan developed and established several industry best practice frameworks and tools that will support the City’s asset management program well into the future. These include:

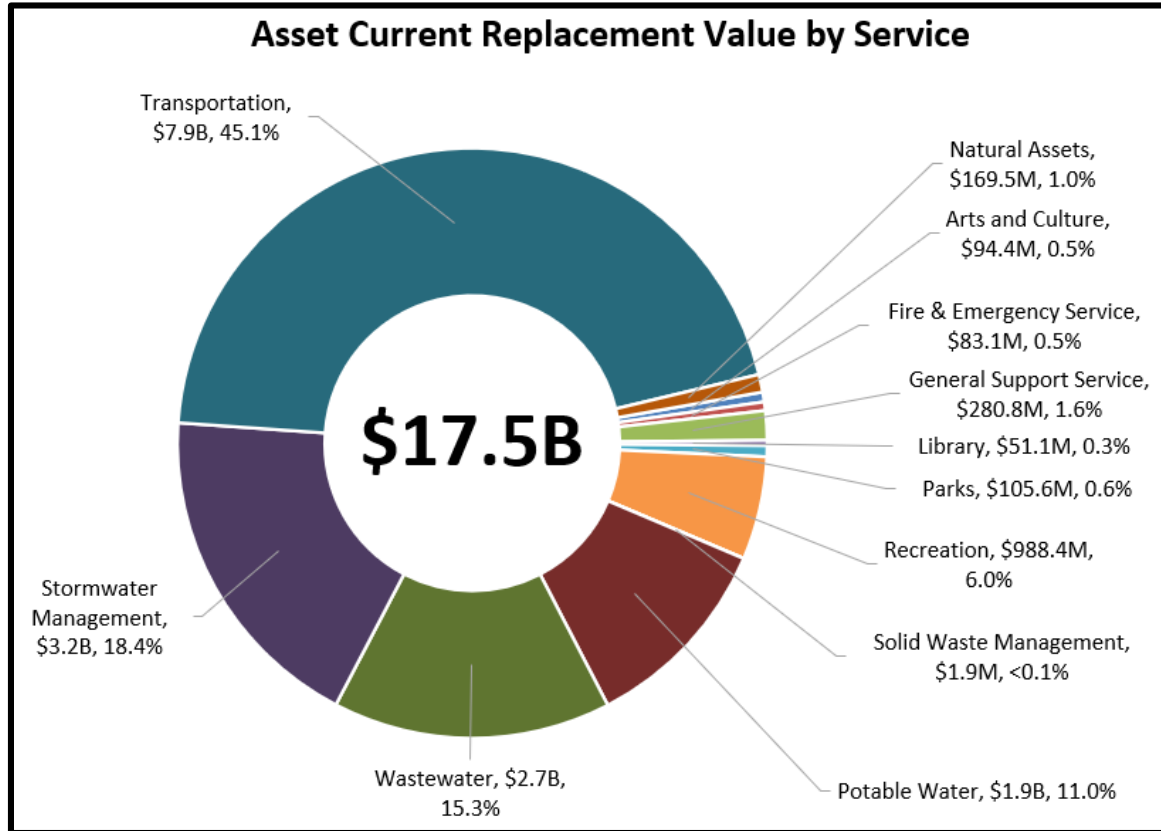
- A service-centric asset hierarchy that details the relationships between assets and the services they provide to the community
- In-house growth model forecasting future asset acquisitions and resource-hour needs
- Levels of service framework and performance measures
- Risk management strategy and risk ratings aligned to assets
- Life cycle renewal forecast computational model

The 2025 Asset Management Plan and Financial Strategy (this plan) builds upon the work of all previously Council endorsed plans and is intended to inform project planning and budget development going forward.

The State of the Infrastructure

The City’s assets have a combined current replacement value of **\$17.5B** (excluding land and financial assets). This means that it would cost the City approximately \$17.5 billion should it replace all of its assets today. This value remains relatively unchanged from the previously endorsed 2024 Asset Management Plan. Figure 1 below illustrates a breakdown of the current asset replacement value categorized by the service areas they support.

Figure 1: Asset Current Replacement Value by Service

**Most of the City's assets were acquired from the 1980s through to the 2000s**

Historically, asset acquisitions supporting growth peaked from the 1980s through to the 2000s. Figure 2 highlights the City's asset acquisition profile organized by service. It is common to see population growth and construction peaks beginning in the 1970s for many GTA municipalities.

Figure 2: Asset Acquisition Profile

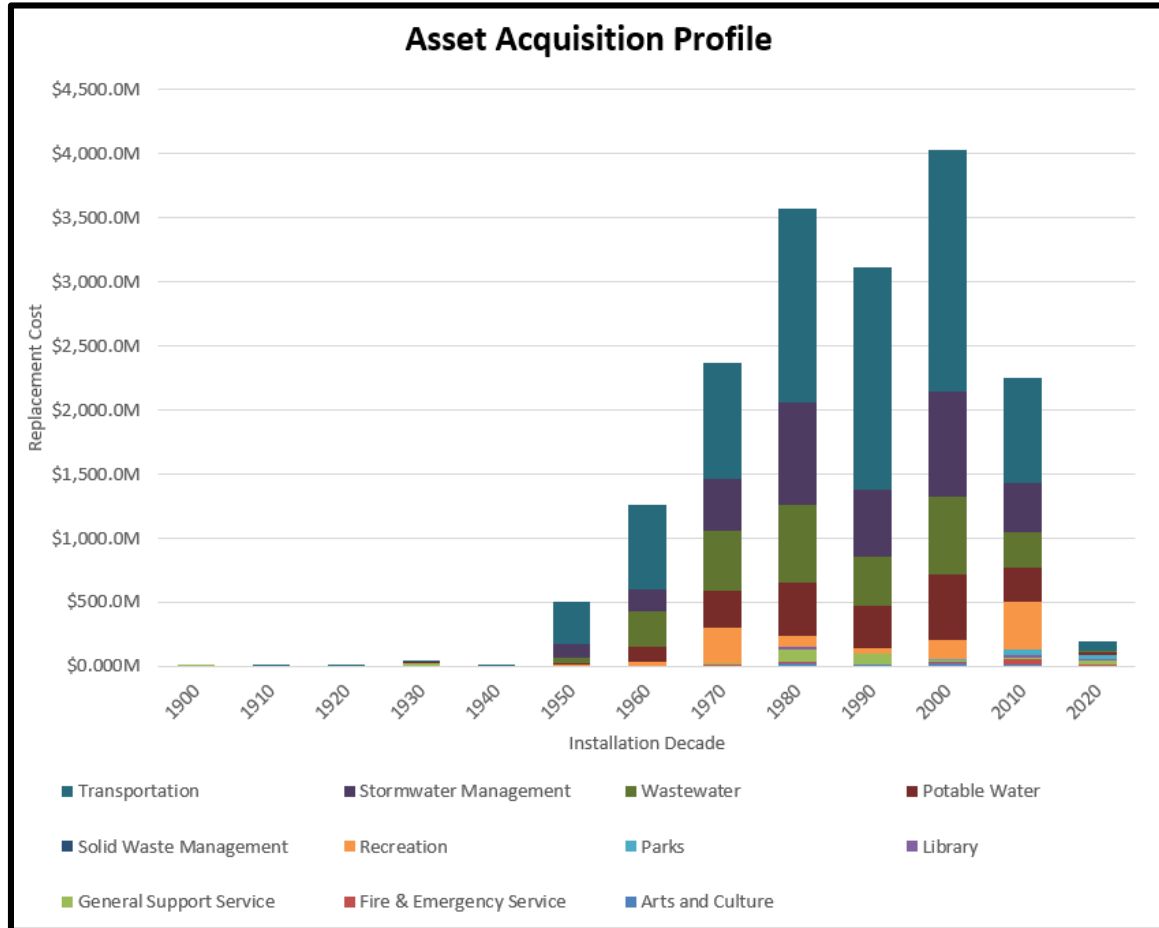
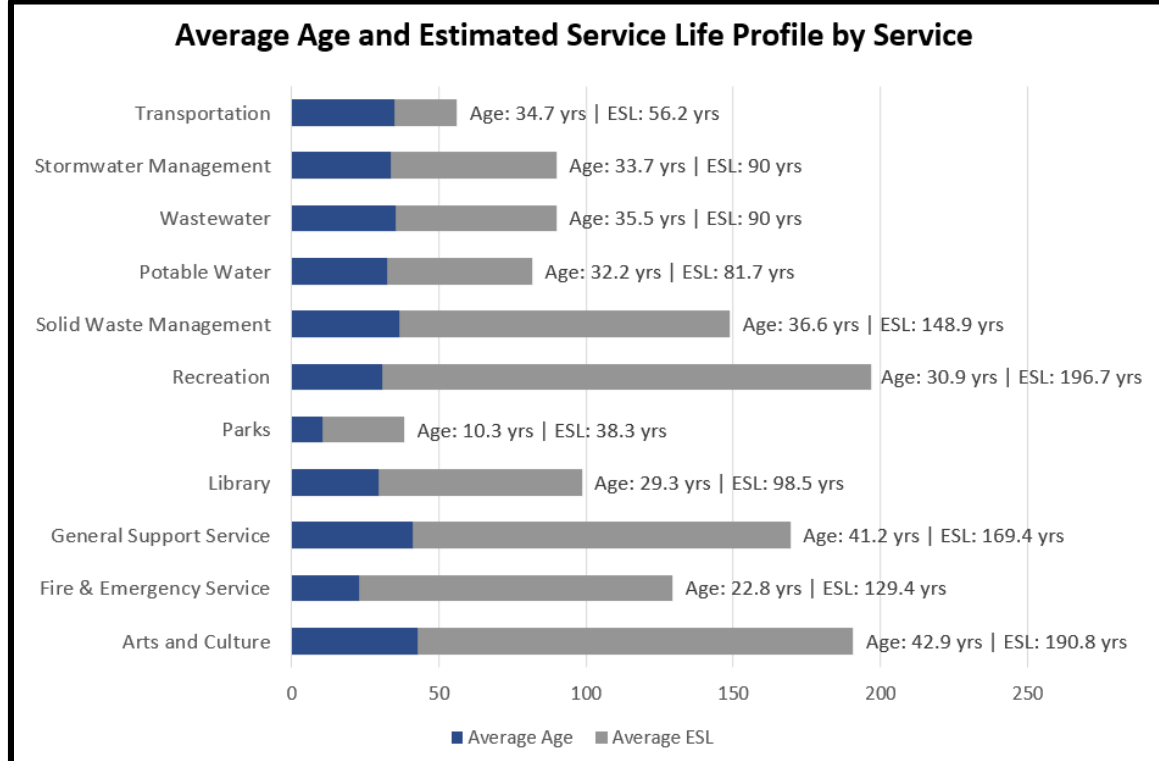


Figure 3 below illustrates the average age of assets compared with their average estimated service life. Overall, the City’s combined asset portfolio has an average age of **34 years** and average useful service life of **81 years** (averaging over assets with both short and long life spans, such as vehicles and water infrastructure respectively). Furthermore, this figure highlights the degree of service life “consumption” at a macro level.

Generally, the City’s assets are in the earlier stages of their service life. This indicates that City assets on average should experience lower maintenance and renewal funding pressures. As assets continue to age, the City will see an increase in maintenance and renewal pressures, of which will generally correspond with historical and/or significant construction peaks illustrated in Figure 2. This is a primary benefit of integrated asset management planning where use of a long-term lens to forecast and identify financial pressures into the future provides the City with improved capabilities to proactively plan its approach to keep assets in a good state of repair.

Figure 3: Average Age and Estimated Service Life Profile by Service



Overall, the City's assets are in a **GOOD** state of performance

The assessment rating system used in this asset management plan is aligned with the Canadian Infrastructure Report Card methodology. This system provides a standardized and descriptive framework that allows for comparative benchmarking across all services and asset portfolios. Figures 4 and 5 below illustrate the distributed performance state of the City's assets including an explanation of what each category state means.

Overall, the combined average performance rating for all assets is **GOOD** and have remained in this state since staff last reported to Council through the endorsed 2024 Asset Management Plan. Specifically:

- **90% or \$15.7B (improved from 88% or \$15.4B)** of assets are generally within the first half of their useful service life and are performing as intended
- **10% or \$1.8B (reduced from 12% or \$2.1B)** of assets are generally within the latter half of their useful service life and are the subject of planned maintenance and/or renewal life cycle activities

The objective is to ensure that assets remain fit for purpose and continue to deliver services to the community long into the future. By continuing to monitor asset performance through regular condition assessments, the City can be proactive in its approach to managing assets in a state of good repair.

Figure 4: Overall Asset Performance State

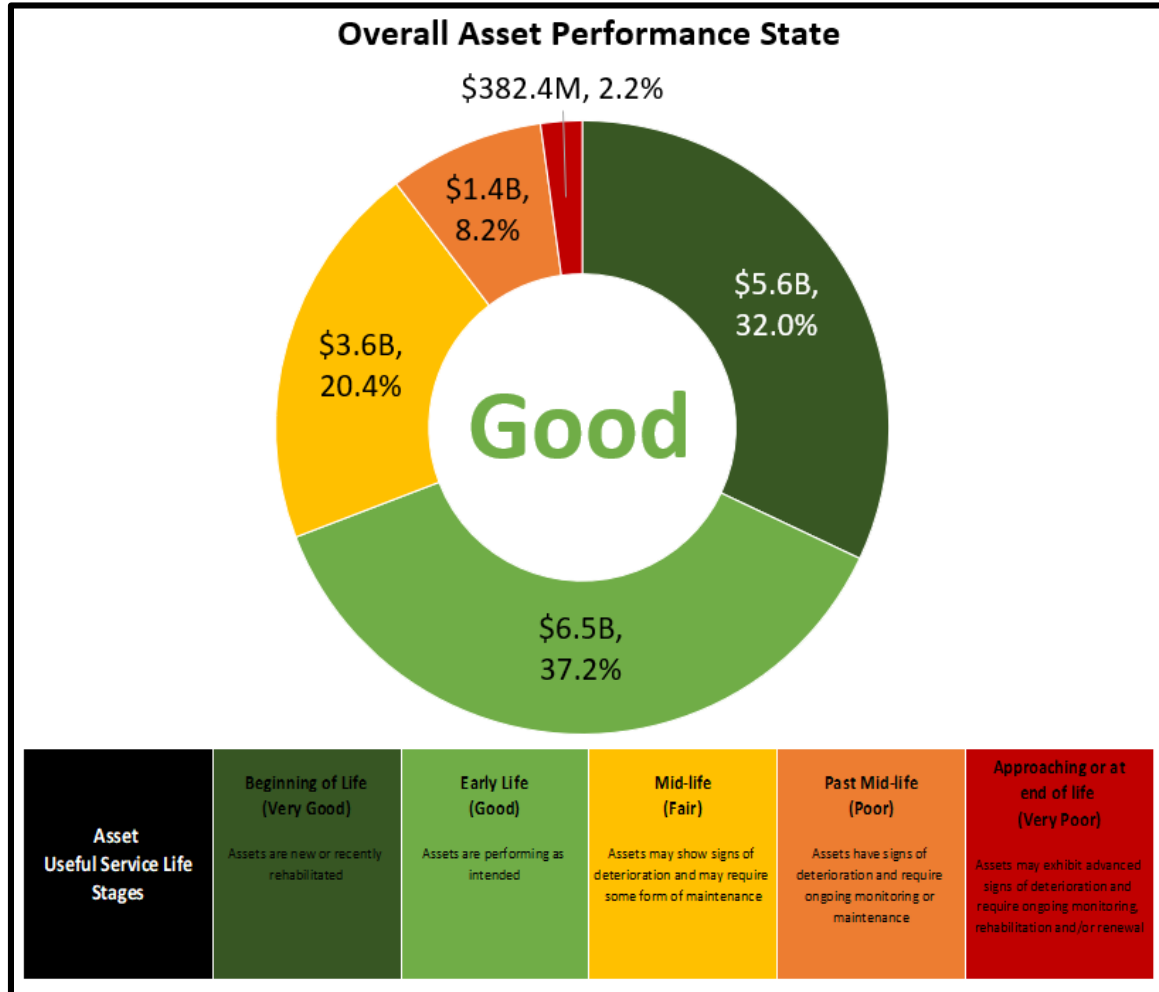
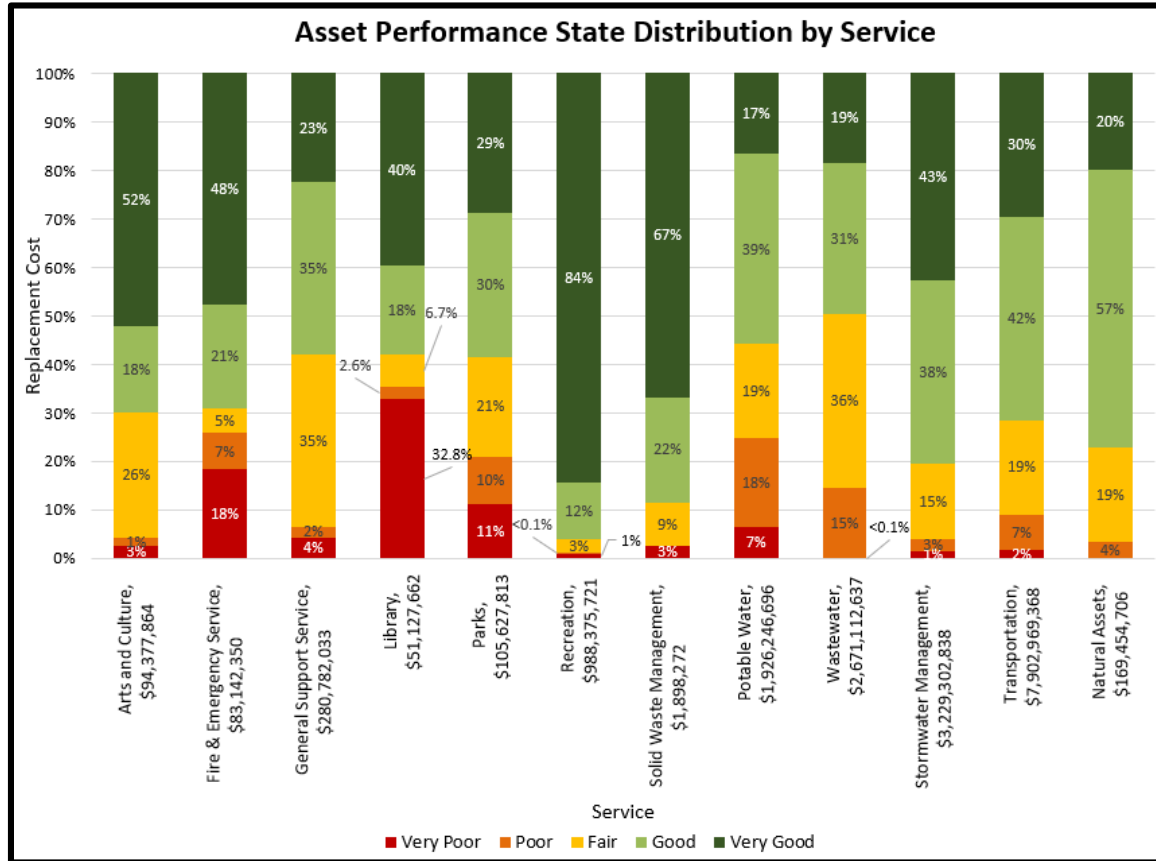


Figure 5: Asset Performance State Distribution by Service



Risk Management Strategy

The purpose of a Risk Management Strategy is to detail the City's approach to evaluating risk, as well as to identify the risks associated with the current state of assets and provision of good service. As part of the development of last year's 2024 Asset Management Plan, a risk management strategy was developed to assess the risks of the City's asset portfolio. This was done by evaluating the likelihood of failure (LOF) and consequence of failure (COF) of each asset using a standardized framework. The outputs of this exercise were updated for the 2025 Asset Management Plan and Financial Strategy.

LOF represents the likelihood of an asset failing, relative to a specific failure event. For the purposes of this plan, asset failure refers to failure due to poor condition, resulting in the asset no longer functioning as intended, and/or inability to provide its intended service. Therefore, the LOF of an asset is linked to its condition, age and/or overall performance rating.

The COF framework defines the consequences that may occur should an asset fail or stop providing its intended service. The City's COF framework contains evaluation criteria, which were developed using a "triple bottom line" approach, which evaluates the financial, social, and environmental consequences related to asset failure.

LOF and COF scores are multiplied together to determine an overall risk rating score out of 25. The City's risk management framework is a new analytical tool that ranks all assets from very low risk through to very high risk. This output can be used to better inform departmental business planning and decision making, specifically to determine where investment is best made within an environment of limited resources. Results from this analysis indicate that:

- **48.9% or \$8.56B (increased from 48.8% or \$8.54B)** of all assets assessed as **Very Low** risk or fit for future use
- **46.9% or \$8.21B (increased from 44.4% or \$7.8B)** of all assets assessed as **Low** risk or adequate for now
- **4.13% or \$723M (reduced from 6.4% or \$1.1B)** of all assets assessed as **Moderate** risk or may require attention
- **0.09% or \$15.3M (reduced from 0.4% or \$67.5M)** of all assets assessed as **High** risk or requires attention
- **NO ASSETS** are assessed as **Very High** risk or unfit for sustained service

Staff note that an asset assessed as Moderate risk or higher does not necessarily mean that an asset should be immediately replaced but rather highlights the significance of the asset in the context of the service it supports. This in turn informs the planning and integration of robust mitigation strategies within regular day to day operating and maintenance practices, or better informs future renewal and funding needs.

Life Cycle Renewal Strategies

Life cycle is a term used to document activities and their costs throughout all stages of an asset's life. Life cycle activities and/or events generally consist of day-to-day activities of an organization to provide service. These activities are organized into the categories that include; acquisition, operations, maintenance, renewal and disposal.

The City generally employs 2 methods of renewal which are defined as:

- Rehabilitation – significant works or repairs that extend an asset's service life
- Replacement – replacement of an asset with another like-asset

Today, tax payers in Markham benefit from high performing assets that support robust service offerings. This is evident from the State of the Infrastructure results previously noted in this report.

Current Levels of Service Considerations - Maintain Overall Performance

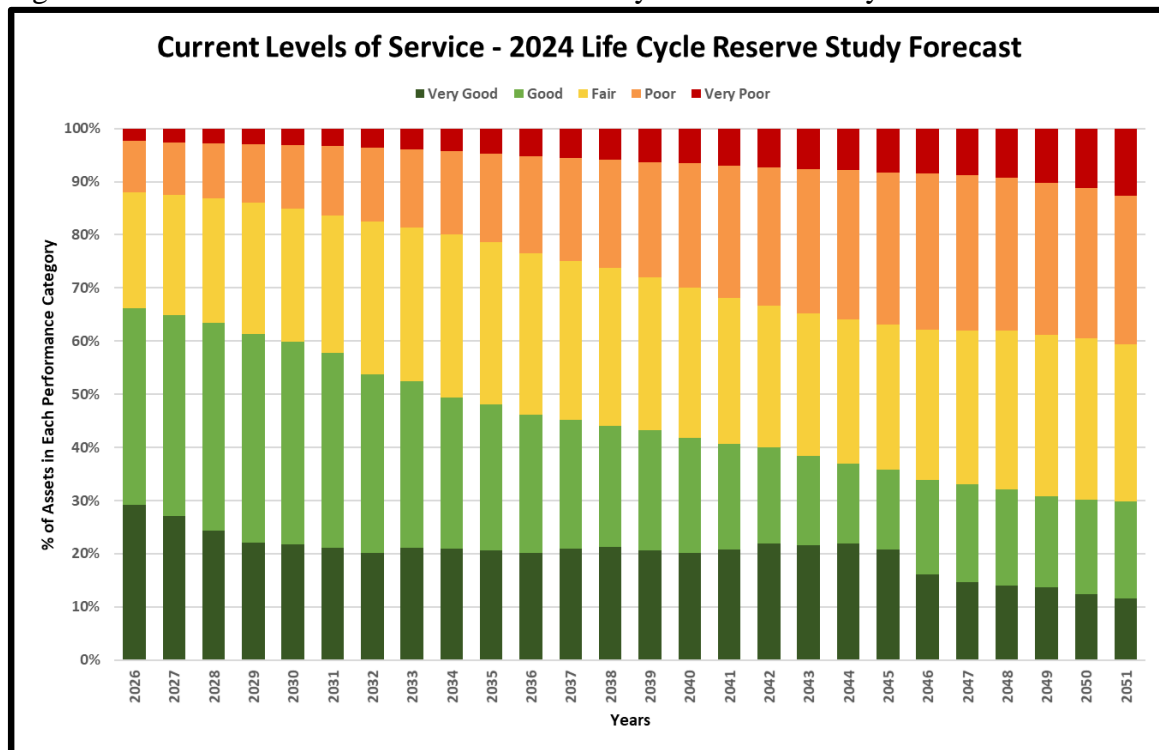
The scope of this update to the City's asset management plan includes an evaluation of planned spending levels over the planning horizon set from 2026 through to 2051 to determine if we are reinvesting the right amount of money, at the right time, to maintain our current service and performance levels for each service area. **Of note, Staff recommend that any financial implications identified in this report be considered through the annual budget process.**

This evaluation is achieved by employing industry leading computational models that consider available budget, condition and performance as either objectives or constraints within the modelling exercise. For this modelling exercise, the City's 2024 Life Cycle Reserve Study financial forecasts and current operating and capital budgets were used as upset limits or constraints, to model an asset performance forecast over the planning horizon.

The results illustrated in Figure 6 below indicate that using a modelling parameter based upon the City's 2024 Life Cycle Reserve Study, which forecasts planned funding levels totaling approximately **\$1.55B** (excluding inflationary increases) over the planning horizon, may result in a **decline in asset performance**. By 2051, performance may decline to:

- **59.4% or \$10.30B** of assets performing as intended
- **40.6% or \$7.03B** of assets are subject of planned maintenance or renewal

Figure 6: Current Level of Service – 2024 Life Cycle Reserve Study Forecast



A second computational model scenario was programmed with an objective to maintain current performance levels over the same planning horizon in order to determine the expected funding levels required to achieve this objective.

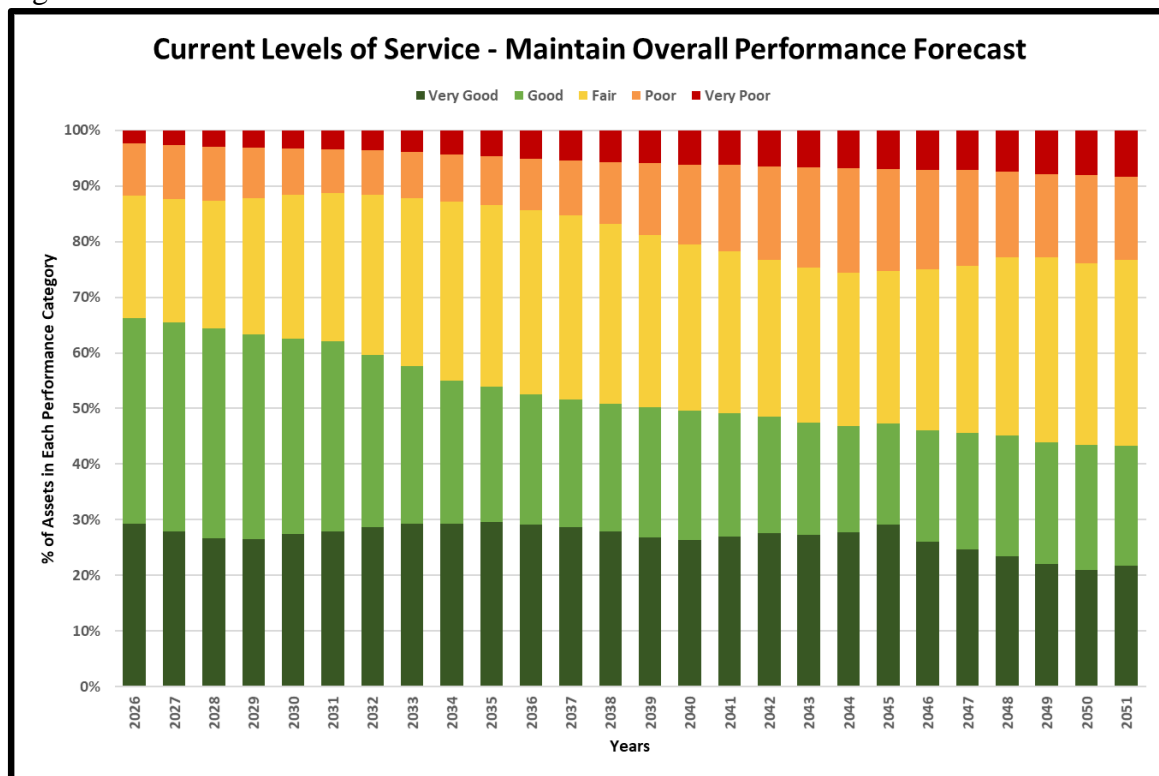
The resulting performance forecast illustrated in Figure 7 below suggests that an overall funding totaling **\$1.99B** (excluding inflationary increases) over the planning horizon is required to **maintain current asset performance levels through to 2051**. This represents an overall increase to estimated planned funding levels by approximately **\$439.59M** of funding required over the planning horizon, or an **equivalent average**

annual funding requirement of \$16.91M applied incrementally over the planning horizon. Identification of these specific financial outputs satisfies the regulation's requirement to identify a funding "shortfall or gap".

Assuming funding levels are incrementally increased over time to meet these performance level targets, the overall performance forecast by 2051 suggests that:

- **76.7% or \$13.30B** of assets performing as intended
- **23.3% or \$4.04B** of assets are subject of planned maintenance or renewal

Figure 7: Current Level of Service – Maintain Overall Performance Forecast



Proposed Levels of Service Considerations – Road Pavement Management

The City's vehicular transportation network of roads is valued at **\$7.15B** (not including bridges, lighting, sidewalks, traffic assets, etc.), and is a **CORE asset** that directly supports the moving of people, goods and services. It is one of the City's highest valued assets, and is visible and used multiple times per day by most, if not all stakeholders.

A robust and efficient transportation network of roads directly influences:

- Resident and business views of Markham on a daily basis
- Economic development and prosperity
- An efficient emergency service and critical response times

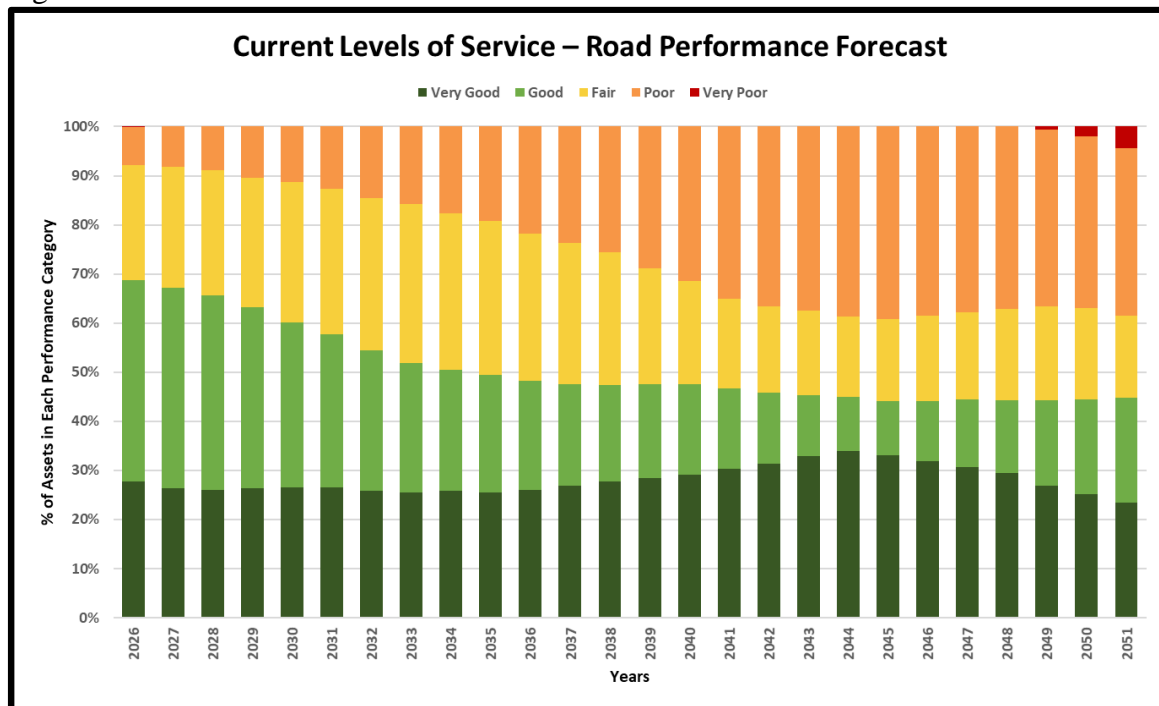
From internal routine pavement condition assessments that informed this update to the asset management plan, road performance results are summarized as follows:

- **72.6% or \$5.19B** of the road network is currently rated in a “Good” or better (70-100) state of performance
- **27.4% or \$1.96B** of the road network is currently rated in a “Fair” or poorer (0-69) state of performance

A “Good” performance state indicates that the condition of assets is acceptable, are generally in the early stages of their service life, may show early signs of deterioration and may require minor maintenance.

As illustrated in Figure 8 below and based upon modelling of planned funding levels identified through the City’s 2024 Life Cycle Reserve Study of approximately **\$183.33M** (excluding inflationary increases) between 2026 and 2051, resulting performance forecasts suggest that by **2035**, the state of performance **may decline rapidly** to approximately **49.4%** of the road network rated in a “Good” or better (70-100) state of performance and **by 2051**, may decline to approximately **44.7%**.

Figure 8: Current Levels of Service – Road Performance Forecast



The significant influence contributing to the anticipated decline in performance can be attributed to the rapid growth of road assets acquired from the 1980’s through to the 2010’s requiring renewal within the **next 5 to 10 years**. This is compounded by roads requiring their first or second generation of life cycle renewal overlapped with roads requiring their second or third generation of life cycle renewal, of which is a costly endeavour to fund and deliver. In short, asset investment needs exceed budget funding allocations leading to an expected decline in asset performance.

While it is neither financially viable nor prudent to immediately improve all roads not meeting a “Good” or better state of performance, Staff recommend that improvements to roads should continue to be made when they meet well established criteria to warrant

reinvestment and renewal, therefore maximizing their useful service life and previously made financial investments.

The current level of service target is **80%** of the vehicular transportation network of roads be rated at a “Good” or better state of performance. The City’s consultant undertook to model three (3) scenarios being **70%, 75% and 80% of the vehicular transportation network of roads be rated at a “Good” or better state of performance**. The financial forecast figures (excluding inflationary increases) outlined in Table 1 below, consider managing and sustaining the road network to the intended service level target and include the additional operating budget and additional capital costs (fleet acquisition, maintenance and renewal) to support program delivery.

Table 1: Summary of Financial Implications 2026-2051 (26 Year Planning Horizon)

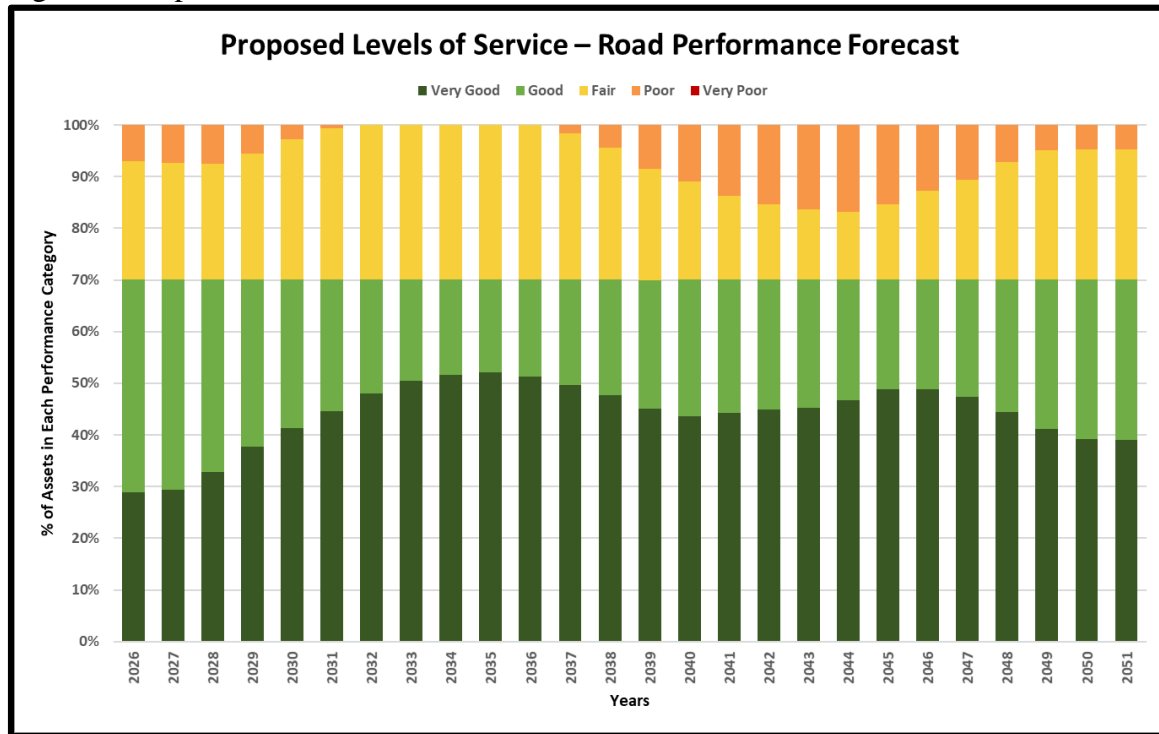
| Service Level Considerations | Total Funding Requirement over the Planning Horizon | Equivalent Average Annual Funding Requirement |
|-------------------------------------|--|--|
| Road Pavement Management | | |
| 70% Scenario – Total | \$166.86M | \$6.42M |
| LC Renewal - Road | \$161.62M | \$6.22M |
| Operating Budget | \$4.19M | \$0.16M |
| Additional Capital | \$1.06M | \$0.04M |
| 75% Scenario – Total | \$220.49M | \$8.48M |
| LC Renewal - Road | \$208.50M | \$8.02M |
| Operating Budget | \$10.47M | \$0.40M |
| Additional Capital | \$1.52M | \$0.06M |
| 80% Scenario – Total | \$271.21M | \$10.43M |
| LC Renewal - Road | \$238.96M | \$9.19M |
| Operating Budget | \$26.57M | \$1.02M |
| Additional Capital | \$5.67M | \$0.22M |

Staff note that the difference between 70% and 75% scenarios is not anticipated to noticeably impact what stakeholders using Markham roads experience currently. Staff note that the cost for each incremental increase in target percentage point is approximately \$10.43M over the planning horizon or an equivalent average annual funding requirement of \$0.40M for each additional percentage point.

Given these order of magnitude costs and to minimize tax levy increase implications, Staff recommend that a **conservative and minimum target of 70%** be established. This target is in relative alignment with our current performance rating of **72.6%** and will assist with financial resource demand balancing in future updates to the City’s Life Cycle Reserve Study.

To achieve “proposed” level of service target of **70%**, it is estimated that approximately **\$166.86M of additional funding** would be required between 2026 and 2051 or an **equivalent average annual funding requirement of \$6.42M**. The anticipated resulting performance forecast is shown in Figure 9 below.

Figure 9: Proposed Levels of Service – Road Performance Forecast



Should Council endorse this “proposed” level of service, Staff intend to implement this service level change incrementally and over time through the City’s well established annual life cycle reserve study update and annual budget process.

Ongoing performance monitoring, reporting, forecasting and updated assessments to maintain minimum service level of 70% and to achieve the aspirational service target of 75% is proposed to be accomplished through future updates to this asset management plan and annual budget.

In summary, to maintain the City’s current Level of Service for all assets, including the proposed minimum service level target of **70%** for “Good” roads, Markham should consider options to address the **\$439.59M** of additional funding required over the planning horizon, or an **equivalent average annual funding requirement of \$16.91M**.

Proposed Levels of Service Considerations – The Impact of Growth

Markham is poised to grow significantly by 2051

The 2022 York Region Official Plan identifies growth forecasts that the City is responsible for implementing. York Region’s plan forecasts that the City will grow to approximately **610,500 residents and 301,600 jobs by 2051**. Growth within Markham

will primarily be accommodated through development within designated growth areas (typically green fields) and intensification within strategic growth areas (Yonge Street corridor, etc.).

Ontario Regulation 588/17, Section 6. (1). 6 requires the City to integrate the following information into their asset management plans:

6. *For municipalities with a population of 25,000 or more, as reported by Statistics Canada in the most recent official census,*
 - i. *the estimated capital expenditures and significant operating costs to achieve the proposed levels of service as described in paragraph 1 in order to accommodate projected increases in demand caused by population and employment growth, as set out in the forecasts or assumptions referred to in paragraph 6 of subsection 5 (2), including estimated capital expenditures and significant operating costs related to new construction or to upgrading of existing municipal infrastructure assets,*
 - ii. *the funding projected to be available, by source, as a result of increased population and economic activity, and*
 - iii. *an overview of the risks associated with implementation of the asset management plan and any actions that would be proposed in response to those risks.*

To support these asset management requirements and inform more detailed financial planning, staff developed asset quantity and resource-hours based growth projections through a computational model. The model was developed to align these outputs with the City's land use policies and previously noted population and employment projections.

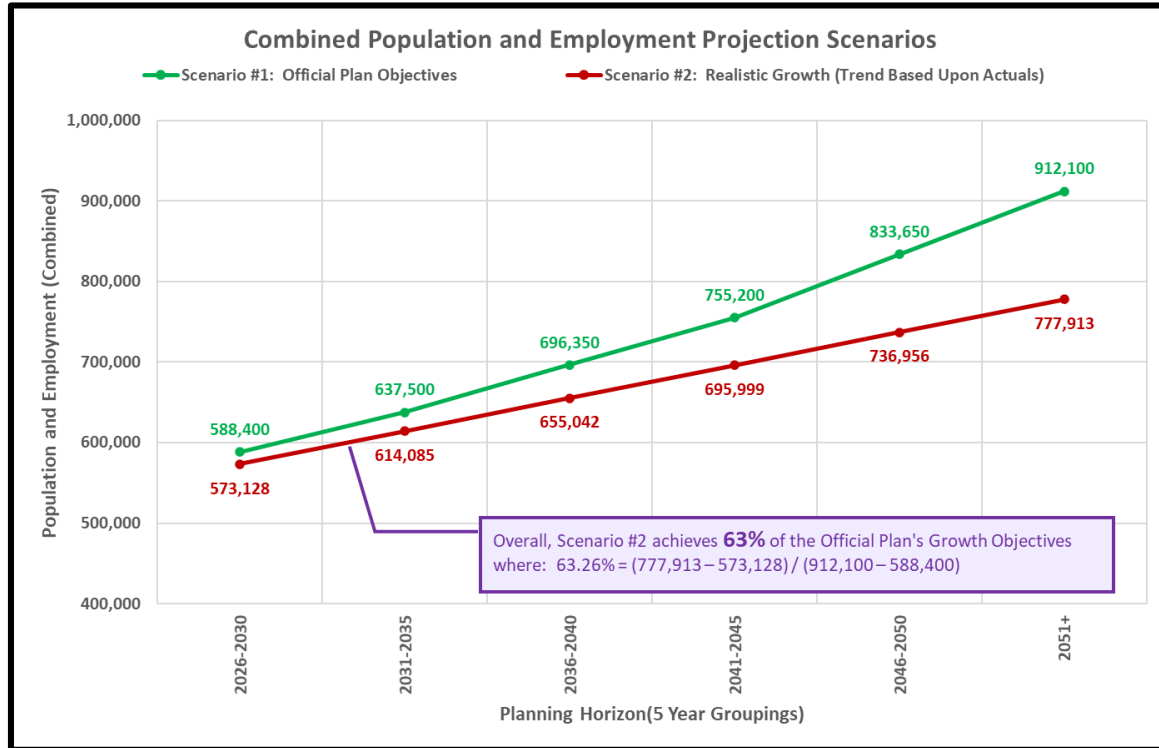
Given that growth objectives for population and employment established by Official Plan are considered ambitious with its implementation difficult to predict with any degree of certainty, the following funding projections are provided as ranges. Many influential factors and variables such as shifting societal value systems, political instability, changing legislation and regulation, housing demand, financial lending rates, and the economy's overall viability, directly influence how growth actually materializes.

Acknowledging this uncertainty, two (2) growth scenarios were developed to determine a range of potential financial implications over the planning horizon and are illustrated in Figure 10 below.

“Scenario #1: Official Plan Objectives” in green, represents a “high growth” scenario which fulfills the City's population and employment objectives, as endorsed by Council.

“Scenario #2: Realistic Growth” in red, represents a “low growth” scenario and was developed using actual population and employment metrics ranging from 2005 through to 2024, and then projected out to 2051. Scenario #2 represents achieving approximately 63% of the City's Official Plan objectives for population and employment growth. At a more granular level, yearly adjustment factors between the 2 scenarios were employed to develop the Impact of Growth financial forecast ranges.

Figure 10: Growth Scenarios



By 2051, the City may acquire approximately **\$4.8B to \$6.9B** worth of additional assets to support the City's growth objectives. Of this total value:

- City funded acquisitions may range from **\$1.98B to \$2.67B** where:
 - Approximately **\$1.2B to \$1.49B** are proposed to be funded from the current Development Charges Background Study and Bylaw
 - An additional **\$734.0M to \$1.2B** are proposed to be funded from Development Charges through future updates to the background study and bylaw
- The remaining **\$2.85B to \$4.2B** are expected to be funded by other sources, including Developers through conditions of a development agreement, and non-DC funding sources (e.g., grants, property tax, Community Benefit Charges, etc.)

As reported to Council through the endorsed 2024 Asset Management Plan (circa October 2024), asset acquisition projections suggest that for all assets portfolios combined, an **overall increase in quantity of assets could be as high as 74%, with equivalent resource-hour needs to manage these assets as high as 70%**. Increases of this magnitude will require additional funding and resourcing (to be considered through operating budgets and are substantially funded by property tax and other sources) to adequately support current service level provisions for operations, maintenance and renewal demands directly driven by meeting our Official Plan's growth objectives.

By 2051:

- According to modelling estimates, the City may need to increase its overall Operating Budget ranging from **\$128.6M to \$183.5M** over the planning horizon or an **equivalent average annual funding requirement ranging from \$4.9M to \$7.1M**
- Additional contributions to the City's Life Cycle Reserve, which is required to renew growth assets with a service life of **12 years or less between 2026 and 2051**, ranges from **\$128.8M to \$232.0M** or an **equivalent average annual increase ranging from \$4.95M to \$8.92M** over the planning horizon

While funding the acquisition cost of growth assets is primarily achieved through Development Charges, funding operating, maintenance and renewal financial pressures typically comes from a diversified set of funding sources, including and not limited to:

- Annual transfer from the operating budget (mainly through property taxes)
- Annual Council adopted incremental infrastructure investment
- Federal and Provincial grants, including Canada Community-Building Fund
- Investment Income and Dividends from the City's interests in Markham Enterprises Corporation (shares held in Markham District Energy Inc. and Alectra Utilities Inc.)
- City's share of the Municipal Accommodation Tax
- Various lease revenues on City-owned property
- Unspent funds from closed projects and year-end surplus as per the City's Financial Planning and Budgeting policy
- Interest earned on the Reserve balance

In addition, as part of the capital planning process, consideration may need to be given to review the timing of certain projects and reallocate funding to priority initiatives, recognizing financial constraints and pressures.

The City's commitment to continuous improvement is a journey that never ends

Ontario Regulation 588/17, Section 3.(1).3, requires the City to document:

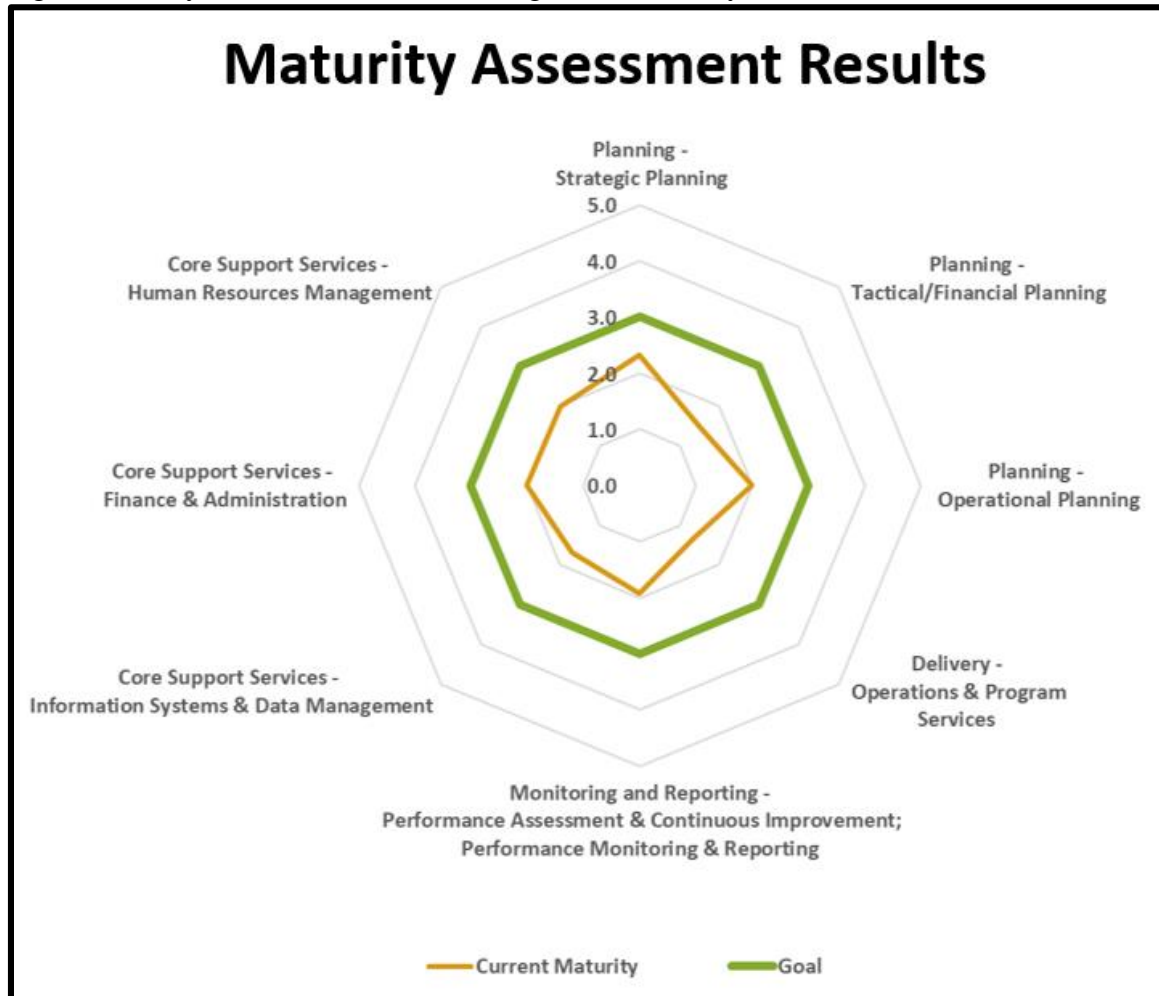
"The municipality's approach to continuous improvement and adoption of appropriate practices regarding asset management planning."

Under the supervision of the Asset Management Steering Committee, Corporate Asset Management has evaluated the City's current capabilities required to determine an approach to continuous improvement and adoption of appropriate practices regarding asset management planning. This can also be referred to as modernization.

The Corporate Asset Management Strategy and Governance Framework project (in progress) has assessed the City's current state of practice compared with industry best practice. The industry refers to this exercise as a maturity assessment. The goal of the maturity assessment is to determine if there are any gaps in the City's practices and how well coordinated practices are. Maturity assessment findings are scored using the following categories; 0-innocent, 1-aware, 2-developing, 3-core, 4-optimizing and 5-excellent.

The City has completed a maturity assessment with the results shown in Figure 11 below.

Figure 11: City of Markham Asset Management Maturity Assessment Results



Markham aspires to mature our asset management planning capabilities to a “core” rating.

Staff note that most municipalities in Ontario are below a “core” rating. Improvement strategies that will bring the City to a “core” rating are in the early stages of development. Emerging improvement strategy themes include:

- Defining and evaluating asset management governance, roles and responsibilities
- Consistent and formalized standards, processes and procedures
- Improved data and information management
- Formalized resource planning
- Improved demand/ growth analysis
- Stakeholder engagement
- Acquire and/or improve upon supporting systems, tools and integrations

Further updates from this important work will be provided as new information becomes available.

In closing, staff are finalizing the formal 2025 Asset Management Plan and Financial Strategy (the document) with its completion expected in Q3 2025. Once the formal document is complete, staff will submit it to the Ministry of Infrastructure and post it on the City's publicly facing website. This will conclude our regulatory requirements for phase 4.

Ongoing performance monitoring and reporting is proposed to be accomplished through future updates to this asset management plan, and in alignment with the ongoing regulatory requirements for Council's annual review of progress, as well as major updates required at 5 year intervals.

FINANCIAL CONSIDERATIONS

Financial implications noted in this report will be addressed as part of the annual budget process. Potential implications identified in this report are summarized as follows:

Table 3: Summary of Financial Implications 2026-2051

| Service Level Considerations | Total Funding Requirement over the Planning Horizon | Equivalent Average Annual Funding Requirement |
|--|--|--|
| Current Levels of Service | | |
| Maintain Overall Performance (inclusive of 70% Scenario for Roads below) | \$439.59M | \$16.91M |
| Proposed Levels of Service | | |
| Road Pavement Management 70% Scenario – Total | \$166.86M | \$6.42M |
| LC Renewal - Road | \$161.62M | \$6.22M |
| Operating Budget | \$4.19M | \$0.16M |
| Additional Capital | \$1.06M | \$0.04M |
| Impact of Growth | | |
| Scenario #1: Official Plan Objectives Acquisitions - Total Value | \$6,893.5M | N/A |
| Acquisitions - City Funded | \$2,686.1M | \$103.3M |
| Operating Budget | \$183.5M | \$7.1M |
| LC Renewals | \$232.0M | \$9.3M |

| Service Level Considerations | Total Funding Requirement over the Planning Horizon | Equivalent Average Annual Funding Requirement |
|-------------------------------------|--|--|
| Impact of Growth | | |
| Scenario #2: Realistic Growth | | |
| Acquisitions - Total Value | \$4,830.1M | N/A |
| Acquisitions - City Funded | \$1,976.7M | \$76.0M |
| Operating Budget | \$128.6M | \$4.9M |
| LC Renewals | \$128.8M | \$5.2M |

Subject to regular and extensive consultation with asset operating departments, these findings should help inform resource planning exercises, discussions around service levels and performance, risk-based prioritization, and financial sustainability. The asset management findings and financial strategy outlined in this plan should also help inform more regular processes like the development of annual budgets and updates to development-based background studies.

The City's Life Cycle Reserve Study (excluding water assets), which is part of the annual budget process, is the primary avenue to establish, refine, prioritize and, as required, reallocate asset management funding needs. The result of the Reserve Study informs capital projects and budget requests from departments. The Life Cycle reserve is funded by a variety of sources, including those noted in this report (e.g., contributions from annual operating budget). To address increasing asset management needs, the City has been gradually escalating budgeted contributions to the life cycle reserve, with a current target incremental contribution of 1% of the City's tax levy. Further incremental contributions may need to be considered to support the City's increasing asset management pressures.

Water assets follow a similar process as the broader Life Cycle Reserve study, and are funded by the water rates.

The annual budget process also incorporates requests for growth-related capital projects, which are funded primarily by Development Charges.

This update of the Asset Management Plan also signals increasing operating budget pressures, which may require higher levels of tax increases to support the required and ongoing resourcing and management of our growing asset base.

In closing, staff note that the practice of asset management is a journey of continuous improvement and not a destination. Some source data, frameworks, tools and models developed for this update to the asset management plan were developed for the first time and represents the best information available as of this writing. The new "tools in the toolbox" developed for this asset management plan assist to quality control, validate and monitor our performance. As the City matures its practices and accuracy of data, financial forecasting will improve. This may result in ongoing adjustments to estimates of

financial / resourcing needs , which will be reported through future iterations of asset management plans and addressed as part of the annual budget process.

HUMAN RESOURCES CONSIDERATIONS

Future resource needs specific to resource-hour and operating budget increases are recommended to be considered through the annual budget process.

ALIGNMENT WITH STRATEGIC PRIORITIES:

Asset Management is a broad practice and centre of excellence that covers the majority of services that a municipality provides. All of the City's strategic priorities are an input to developing and implementing asset management policy, objectives, strategies, plans, systems and processes.

Therefore all four goals of Building Markham's Future Together are aligned:

- Goal 1 – Exceptional Services by Exceptional People
- Goal 2 – Engaged, Diverse, Thriving and Vibrant City
- Goal 3 – Safe, Sustainable and Complete Community
- Goal 4 – Stewardship of Money and Resources

BUSINESS UNITS CONSULTED AND AFFECTED:

This report was developed under the oversight of the City's Asset Management Steering Committee and in partnership with Financial Services.

RECOMMENDED BY:

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Arvin Prasad
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ATTACHMENTS:

2025 Asset Management Plan and Financial Strategy - Staff Presentation