Staff Report for Committee of the Whole Meeting

Date of Meeting: June 7, 2023
Report Number: SRPI.23.055

Department: Planning and Infrastructure
Division: Infrastructure and Engineering Services

Subject: City of Richmond Hill 2023 State of Infrastructure Report

Purpose:

The purpose of this report is to provide an update on the status of the City's assets through the attached 2023 State of Infrastructure Report. It underscores the importance of continued investments that will be required to maintain the City's growing inventory of assets in a state of good repair and manage the existing backlog of infrastructure needs.

This report is also a precursor to the upcoming 2024 and 2025 Asset Management Plans that will also summarize the City's assets and further inform on updated infrastructure and financing needs.

Recommendation(s):

a) That this staff report be received for information purposes; and

b) That the City's 2023 State of Infrastructure Report be endorsed.

Contact Person:

Steve Tsenis, Manager, Corporate Asset Management
Bob Levesque, Director, Infrastructure Delivery
Paolo Masaro, Executive Director, Infrastructure and Engineering Services

Report Approval:

Submitted by: Kelvin Kwan, Commissioner of Planning and Infrastructure

Approved by: Darlene Joslin, City Manager

All reports are electronically reviewed and/or approved by the Division Director, Treasurer (as required), City Solicitor (as required), Commissioner, and City Manager. Details of the reports approval are attached.

Background:

The City has been advancing evidence-based asset management planning to proactively assess, maintain and invest in assets for reliable services to the community.

The City of Richmond Hill has been advancing evidence-based asset management planning to proactively assess and invest in its assets to deliver sustainable services to the community while maximizing their value and minimizing risks. The City owns and manages this wide range of assets to deliver an array of services to the community. Since the early 1980's, Richmond Hill has experienced significant growth. To accommodate that growth, infrastructure such as roads, parks, facilities, and underground networks that carry drinking water, stormwater and wastewater were constructed. Other supporting assets such as fleet and equipment were also acquired to support service delivery.

The City's approved 2021 Asset Management Plan assessed the state of the City's major infrastructure assets (state of infrastructure), how the City manages them (lifecycle strategies), how well those actions are working (service levels), and how much it will cost to maintain them to provide City services (capital investment forecasting, risk and funding gaps).

This State of Infrastructure Report is a precursor to the upcoming 2024 Asset Management Plan update. The 2024 Asset Management Plan update will include reporting on the state of the City's assets, which is required by the provincial regulation. This allows a phased approach to developing the 2024 Asset Management Plan while reporting key asset data now to support capital programming and highlight Richmond Hill being a progressive municipality in the asset management industry.

The 2023 State of Infrastructure Report represents the next advancement of the City's asset management planning capabilities and places it among leading municipalities.

This 2023 State of Infrastructure Report represents the next advancement of the City's asset management planning capabilities by providing an updated summary of all the City's asset inventories, current replacement value, condition, and ages relative to service life. Updating the City's asset information regularly and using that information to proactively inform capital programming is an asset management best practice that places the City of Richmond Hill among other leading municipalities in this area.

The City's assets are categorized under the following eleven sub-services provided by the City. This links the assets to the services they support to understand how investment in assets positively impacts services to the community.

City-Owned Assets by Sub-Service (Asset Hierarchy)

*Core assets defined in Ontario Regulation 588/17, Asset Management Planning for Municipal Infrastructure.

The City's assets have an estimated replacement value of $9.2 billion, are on average in good to very good condition, and will require ongoing investments for renewal.

The City's assets have an estimated replacement value of $9.2 billion and an overall average condition of Very Good (Letter Grade A). Although the majority of City assets are in good to very good condition and are relatively newer, ongoing investments are required to maintain them so they continue to function as intended and other assets in poor and very poor condition are replaced.
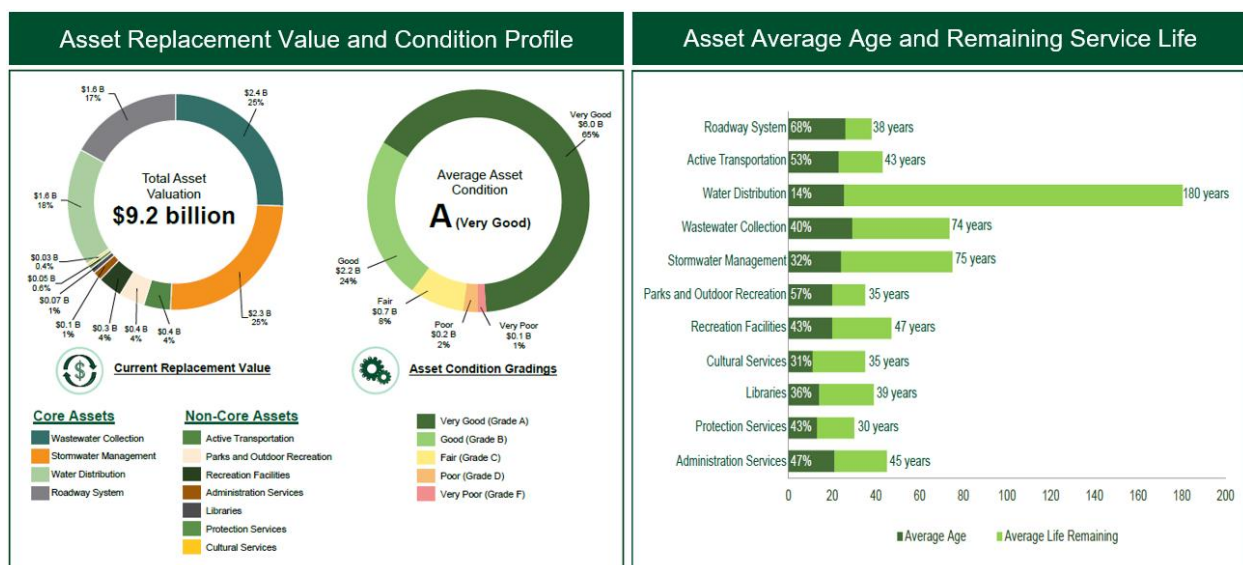
The City proactively undertakes ongoing asset condition assessments to identify asset renewal needs.

The City proactively and continually assesses the condition of its assets using various technical condition assessments that are specific to each asset's function and characteristics. Generally, condition assessments involve monitoring and inspecting the assets to determine the degree of deterioration and/or deficiencies, the functioning of the asset relative to its design, any potential impacts to service, and age relative to its estimated service life. Examples would include the inspecting municipal roads with technology that collects field data to analyze and rate pavement condition based on a variety of technical criteria to inform analysis and decision-making, closed circuit television inspections of sanitary and storm sewer pipes to identify structural defects, and building condition assessments for the City's facilities. Based on the condition assessment results, assets receive a condition grade. After the condition assessments are completed, the appropriate maintenance, repair, rehabilitation and/or replacement investment needs and timing are identified. This ensures there is a proactive plan for renewal of assets so they can continue to provide services to the community. The 2023 State of Infrastructure Report reflects the most up-to-date asset condition assessment results.

As asset inventories grow and infrastructure continues to age, there will be a need for increased funding to maintain their condition and manage the infrastructure backlog

As the City's vast array of existing assets age and deteriorate over time, they need ongoing renewals to maintain their condition to ensure they can continue to provide reliable services to the community. The City's 2021 Asset Management Plan forecasted capital renewal investment needs that would be required to maintain the condition of the City's roads, water, sanitary sewer and stormwater management assets over the next ten years. Based on that analysis in 2021, it was estimated that the backlog of immediate infrastructure investment needs was approximately $120 million. Given that this significant need would pose a serious financing challenge, the 2021 Asset Management Plan estimated that this backlog of immediate needs along with upcoming asset renewal needs could be phased over time and would require an additional average annual financing need of $15 million over existing funding levels.

2021 Asset Management Plan
(Average Annual in $ millions)

	Roadway System and Active Transportation	Water Distribution and Wastewater Collection	Stormwater Management	Recreation Facilities	Total
Immediate Backlog of Renewal Needs	$47.7	$41.2	$19.8	$11.6	**$120.3**
2021 Status Quo Funding Levels	$6.0	$6.8	$1.1	Not assessed	
Smoothed Average Annual Renewal Needs to Maintain Asset Condition	$18.5	$6.8	$3.8	$3.3	
Estimated Average Annual Funding Gap (Maintain Asset Condition less 2021 Funding)	**$12.5**	-	**$2.7**	Not assessed	**$15.2**

This infrastructure need identified in 2021 is being compounded by the recent rising inflationary cost pressures, the growth in new assets the City has to maintain and deferring immediate renewal needs resulting in more costly treatments at later stages of the asset's lifecycle. This analysis will be formally updated for all City-owned assets in the upcoming 2024 Asset Management Plan.

The State of Infrastructure Report will inform the 2024 Capital Budget by identifying asset conditions and renewal investment needs.

The updated asset information in the 2023 State of Infrastructure Report will support the City's 2024 Capital Budget by providing refreshed evidence-based data to inform infrastructure investment needs. Understanding the most up-to-date condition and deterioration of the City's assets over time will allow for the development of an investment plan through the programming of capital projects into the 2024 Capital Budget.

For the 2024 Capital Budget process, the City's internally developed and maintained Enterprise Asset Management System (EAM) will forecast suggested capital investment needs for the major infrastructure assets that is reflective of the updated information from the 2023 State of Infrastructure Report. This information assists City staff in developing capital projects for the 2024 Capital Budget. Based on the prior backlog of renewal asset needs previously identified and the updated state of the City's assets through this report, an increase in funding for infrastructure will be further refined through the 2024 Capital Budget process. The EAM will then relate the approved capital budget investments into key outcomes such as the updated degree of infrastructure backlog of needs, the amount of assets in poor and very poor condition that are being replaced or reconstructed, impacts to condition-based service levels, and the degree of improvement in asset functionality for service reliability.

The upcoming 2024 Asset Management Plan will include the updated State of Infrastructure asset data and will further inform on the backlog of infrastructure needs and financing structure.

The next Provincial regulatory reporting requirement deadline in Ontario Regulation 588/17, Asset Management Planning for Municipal Infrastructure, requires municipalities to have a 2024 Asset Management Plan that includes the status of a municipality's

assets and an updated capital investment plan, among other requirements, approved by their respective Councils by July 1, 2024.

This 2023 State of Infrastructure report progresses the development of a 2024 Asset Management Plan by including the state of the City's assets available now for inclusion into the development of a 2024 Asset Management Plan. The City's 2024 Asset Management Plan will also provide an updated capital forecast of renewal needs, including any backlog of needs, potential available sources of financing, and an estimated funding gap if any.

Overview of O. Reg. 588/17 Timeline
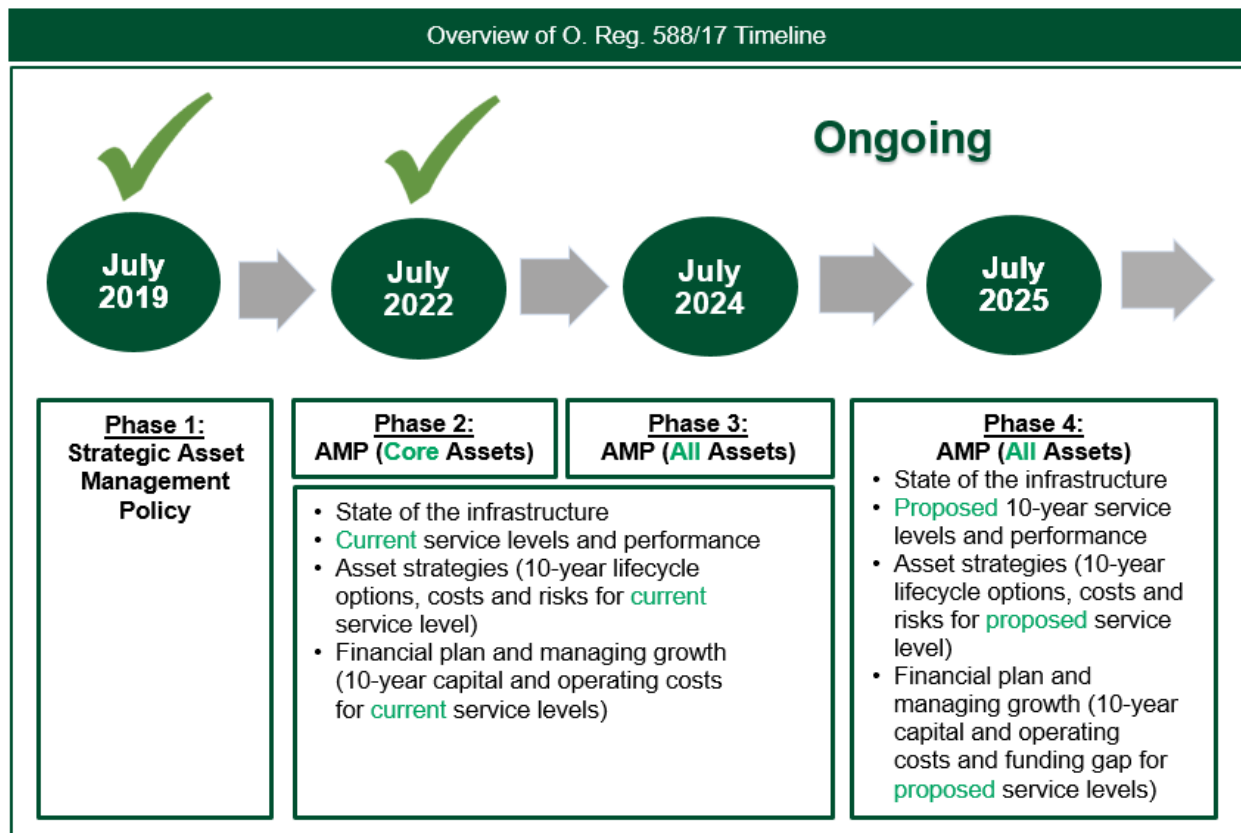
Financial/Staffing/Other Implications:

None

Relationship to Council's Strategic Priorities 2020-2022:

The 2023 State of Infrastructure Report is a component of one of Council's Strategic Priority Areas, being Fiscal Responsibility, by supporting continued asset and infrastructure health through capital programming.

Climate Change Considerations:

Climate change is expected to continue to impact the condition of City assets, the deterioration of those assets over time, and their useful lives and lifecycles. The City's asset management planning approach and its approved Strategic Asset Management Policy considers climate change when supporting asset capital programming needs and reporting. By reporting the state of the City's assets, the condition of those assets are known and the appropriate supporting capital renewal investments can be developed that will improve asset resiliency to climate impacts.

Conclusion:

This inaugural 2023 State of Infrastructure Report summarizes the status of City-owned assets, including asset inventories, current replacement values, condition, and age relative to useful life. It places the City among other leading municipalities in updating the state of the assets and using this information to support capital programming. The City's updated asset information, along with the previously identified backlog of infrastructure needs and the growth in asset inventories over time, will require additional funding, which will be further identified through the development of capital projects for the 2024 Capital Budget. This report also progresses the development of the City's upcoming 2024 Asset Management Plan by having this data available now in order to meet the next Ontario Regulation 588/17, Asset Management Planning for Municipal Infrastructure reporting deadline of July 1, 2024. The City's 2024 Asset Management Plan will also provide an updated capital forecast of renewal needs, including any backlog of needs, potential available sources of financing, and an estimated funding gap if any.

Attachments:

The following attached documents may include scanned images of appendixes, maps and photographs. All attachments have been reviewed and made accessible. If you require an alternative format please call the contact person listed in this document.

- Attachment 1- City of Richmond Hill 2023 State of Infrastructure Report

Report Approval Details

Document Title:	SRPI.23.055 City of Richmond Hill 2023 State of Infrastructure Report.docx
Attachments:	- Attachment 1- City of Richmond Hill 2023 State of Infrastructure Report.pdf
Final Approval Date:	May 10, 2023

This report and all of its attachments were approved and signed as outlined below:

Steve Tsenis - May 5, 2023 - 2:09 PM

Bob Levesque - May 8, 2023 - 9:04 AM

Paolo Masaro - May 9, 2023 - 8:43 AM

Kelvin Kwan - May 9, 2023 - 1:37 PM

Darlene Joslin - May 10, 2023 - 8:08 AM