

Meeting Date: 11/28/2017

Report #: 17-048(CRP)

To: GENERAL COMMITTEE

Report Date: 11/21/2017

Report Author: Yogesh Shah, Director of Asset Management and PMO

Department: Corporate Services

Division: Asset Management and Project Management

Report Title: 2017 Infrastructure Status and Outlook

File No: N/A

Ward No: N/A

RECOMMENDATION(S)

THAT Council staff report 17-048(CRP) - 2017 Infrastructure Status and Outlook report – be received as information.

SUMMARY

This report provides a summary of infrastructure owned, operated and maintained by the City to provide reliable and efficient services to residents, businesses and visitors. This report also provides an overview of the current state of the City's infrastructure and an overview of the City's improvement priorities.

The goal of the City is to maintain the state of infrastructure in good repair to provide reliable and efficient services, build new infrastructure for service improvements and to support future growth and to implement priorities identified by the City's strategic plan *Cambridge Connected*.

The City owns, operates and maintains public infrastructure with an estimated replacement value of \$2.4 billion.

The City's infrastructure is in GOOD condition with more than 74% of infrastructure in very good or good condition. The City's portfolio also contains 9% of infrastructure in poor or very poor condition.

The City's proposed 2018-2027 capital budget is \$432 million which includes \$270 million to maintain existing infrastructure and \$162 million to build new infrastructure to support service improvements and future growth. The current infrastructure gap is \$145 million which includes \$100 million for transportation and stormwater infrastructure and \$45 million for the facilities. The detailed condition assessment of all major facilities has been initiated and will be completed in 2018.

The City continues to work with all levels of government to identify funding opportunities and to explore alternative revenue streams to address this infrastructure gap. To minimize service interruptions, the City has adopted risk based integrated capital planning and prioritization of capital projects based on multiple criteria.

BACKGROUND

The City's infrastructure is categorized based on services provided such as: transportation, recreation, nature and environment, cemetery, public safety, water management and corporate management.

Getting Around – Transportation

The City owns transportation infrastructure with an estimated replacement value of \$539 million representing 22% of the City's total infrastructure assets. Transportation infrastructure includes: roads, bridges/culverts, streetlights, trails, sidewalks, walkways and pedestrian bridges.

Transportation infrastructure is in Good condition with 73% of the City's road network in very good or good condition.

The key active transportation infrastructure built through 2017 capital investment includes the pedestrian bridge over the Grand River and new multi-use trails on Conestoga Boulevard, Melrose Street, in Greenway Park and in Soper Park and a section of Devil's Creek trail. The City has initiated a transportation master plan (*Moving Cambridge*) to identify opportunities and to address future transportation needs such as active transportation, public transit, parking and vehicular traffic.

Things To Do – Recreation

The City owns recreation infrastructure with an estimated replacement value of \$262 million, representing 11% of the City's total infrastructure assets. Recreation infrastructure includes: arenas, swimming pools, community centers, libraries, outdoor sports fields, playgrounds and a farmer's market, recreation infrastructure is in Good condition

The Old Post office building is currently under construction and is expected to open in 2018 as an additional Idea Exchange community space.

Accessibility improvements of various recreational facilities, playgrounds, sport fields and park amenities are progressing well with nine playgrounds replaced in the last two years. A functional review of indoor recreational space will be completed in coming years.

Nature and Environment

The City owns green infrastructure with an estimated replacement value of \$32 million, representing 1.3% of the City's total infrastructure assets. Green infrastructure includes: trees, parks, horticulture beds and natural areas. Green infrastructure is in Fair condition.

The City is engaged in implementing two long-term plans, the Urban Forest Plan (2015-2034) and the Emerald Ash Borer Action Plan.

Cemetery

The City owns and maintains infrastructure at seven cemeteries with an estimated replacement value of \$9 million, representing 0.4% of the City's total infrastructure assets. Cemetery infrastructure includes: mausoleums, chapels, columbarium and access roads. Cemetery infrastructure is in Fair condition.

Public Safety – Fire Stations and Fleet

The City owns public safety infrastructure with an estimated replacement value of \$30 million, representing 1.3% of the City's total infrastructure assets. Public safety infrastructure includes: five fire stations and associated fleet of trucks, vehicles and equipment. Public safety infrastructure is in Fair condition as per most recent condition assessment information. The proposed 2018-2027 capital budget provides adequate funding to improve the current condition of Fire Stations.

The construction of fire station 6 is progressing well and is scheduled for completion in 2018.

Water Management – Water Distribution System

The City owns 519 km of water distribution system with an estimated replacement value of \$470 million, representing 20% of the City's total infrastructure assets. The City also operates and maintains 61 km of regional water transmission network within the City of Cambridge. Water system infrastructure is in Good condition.

Increased capital investment over the last 10 years to renew water system infrastructure has resulted in reduction of water losses and system breaks. The City has also adopted a preventative maintenance and a leak identification program in order to minimize water losses and improve water quality.

The proposed water and wastewater rate increases for 2018 have been reduced from 5.52% to 3.33%, as savings were realized due to reduction of water losses in the distribution system and reduction of inflow and infiltration in the wastewater collection system as well as decreased in emergency repairs.

Water Management – Wastewater Collection System

The City owns, operates and maintains 523 km of wastewater pipe network and 17 pumping stations with an estimated replacement value of \$470 million. It represents 20% of the City's total infrastructure assets. Wastewater system infrastructure is in Good condition.

In 2017, 3.8 km of the wastewater system was renewed, including the Hespeler trunk sewer (1.5 km) rehabilitation using trenchless technology. The City has also adopted proactive inspection and flushing programs to minimize sewage blockages, reduce inflow and infiltration, identify required operational repairs and capital renewal needs.

Water Management – Stormwater Management (SWM) System

The City owns and maintains 364 km of stormwater pipe network and 88 SWM ponds with an estimated replacement value of \$455M. It represents 19% of the City's total infrastructure assets. Stormwater pipe network infrastructure is in Good condition. The City's SWM ponds are in Fair condition and need additional capital investments.

The City has developed an inspection and maintenance program for SWM ponds. In 2017, detailed inspection and assessment of 21 ponds was completed and 14 of the inspected ponds require sediment removal to restore original function within the next five years. Further, detailed inspection and assessment of remaining ponds is required in the next five years.

Getting Stuff Done - Corporate Management

The City of Cambridge provides civic service through City Hall and Historic City Hall, located at 50 Dickson Street, and outside services through the Bishop Operations Centre and other satellite facilities. The City is responsible for capital maintenance of a number of facilities leased to local not-for-profit groups.

The City also owns and maintains over 200 vehicles and pieces of heavy construction equipment to provide community services (such as snow clearing, grass cutting and street sweeping), complete preventative maintenance and emergency repairs (such as water main breaks), and to maintain City infrastructure in good repair.

Total estimated replacement cost of corporate infrastructure is \$132 million. It represents 5% of City's total infrastructure assets. Corporate management infrastructure is in Good condition.

A facility maintenance reserve has been established to provide sustainable funding to maintain City facilities in good condition. In 2017, a number of corporate initiatives, such as, Continuous Improvement, Service Cambridge, cityOne(ERP) and Enterprise Content Management were undertaken to implement priorities identified through the corporate strategic plan and an IT strategic plan.

ANALYSIS

Strategic Alignment:

PROSPERITY: To support and encourage the growth of a highly competitive local economy where there is opportunity for everyone to contribute and succeed.

Goal #7 - Transportation and Infrastructure

Objective 7.3 Provide innovative leadership in the management of city assets to help plan, fund and maintain city assets in a sustainable way.

As defined by strategic objective 7.3, this report provides the current status of the City's infrastructure, and an overview of the City's improvement priorities. The report also provides an outlook of the proposed 2018-2027 capital investment to maintain City's assets in a sustainable way.

Existing Policy/By-Law:

N/A

Financial Impact:

The City's proposed 2018-2027 capital budget is \$432 million which includes \$270 million to maintain existing infrastructure and \$162 million to build new infrastructure to support service improvements and future growth.

The current infrastructure gap is \$145 million which includes \$100 million for transportation and stormwater infrastructure and \$45 million for the facilities. The detailed condition assessment of all major facilities has been initiated and will be completed in 2018.

Public Input:

N/A

Internal/External Consultation:

The asset management information database has been compiled in collaboration with respective business units and service providers. Members of the senior management team, business unit leads and internal stakeholders have been consulted and reviewed the information in this report.

Comments/Analysis:

Most big and med-size municipalities prepare and publish a status of infrastructure and outlook report as a best Asset Management practice. As per proposed Asset Management regulation, it will also be a requirement to prepare and publish status of infrastructure report every year.

SIGNATURE

Prepared by:

Yschab

Departmental Approval:

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City Manager Approval:

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ATTACHMENTS

2017 Infrastructure Status and Outlook