

- 6. Comprehensive Asset Management Program: Core Asset Management Plans**
- Programme de gestion intégrale des actifs : plans de gestion des actifs essentiels**

COMMITTEE RECOMMENDATION

That Council:

- 1. Approve the Drinking Water Asset Management Plan, consistent with Provincial regulations, described in this report and attached as Document 1;**
- 2. Approve the Wastewater Asset Management Plan, consistent with Provincial regulations, described in this report and attached as Document 2;**
- 3. Approve the Stormwater Asset Management Plan, consistent with Provincial regulations, described in this report and attached as Document 3;**
- 4. Approve the Transportation Asset Management Plan, consistent with the Provincial regulations, described in this report and attached as Document 4; and**
- 5. Transfer the Executive Lead from the General Manager of Planning, Real Estate and Economic Development Department (formerly Planning, Infrastructure and Economic Development Department) to the General Manager, Infrastructure Water Services Department, for the Comprehensive Asset Management Program and Policy, as per the Council approved organizational changes on October 21, 2021.**

RECOMMANDATION DU COMITÉ

Que le Conseil :

- 1. approuve, conformément à la réglementation provinciale, le plan de gestion des actifs liés à l'eau potable décrit dans le présent rapport et joint à titre de document 1; et**
- 2. approuve, conformément à la réglementation provinciale, le plan de gestion des actifs liés aux eaux usées décrit dans le présent rapport et joint à titre de document 2; et**
- 3. approuve, conformément à la réglementation provinciale, le plan de gestion des actifs liés aux eaux pluviales décrit dans le présent rapport et joint à titre de document 3; et**
- 4. approuve, conformément à la réglementation provinciale, le plan de gestion des actifs liés au transport décrit dans le présent rapport et joint à titre de document 4; et**
- 5. transfère la responsabilité du Programme et de la Politique de gestion intégrale des actifs du directeur général de la Direction générale de la planification, de l'immobilier et du développement économique (anciennement la Direction générale de la planification, de l'infrastructure et du développement économique) à la directrice générale de la Direction générale des services d'infrastructure et d'eau, conformément au remaniement organisationnel approuvé par le Conseil le 21 octobre 2021.**

DOCUMENTATION/DOCUMENTATION

- 1. Tammy A.M. Rose, P. Eng., General Manager, Infrastructure and Water Services Department, dated March 25, 2022, (ACS2022-IWS-AM-0001)**

Tammy A.M. Rose, ing., directrice générale des Services d'infrastructure et d'eau, daté le 25 mars 2022, (ACS2022-IWS-AM-0001)

2. Extract of draft Minutes, Finance and Economic Development Committee, April 5, 2022

Extrait de l'ébauche du procès-verbal, Comité des finances et du développement économique, le 5 avril 2022

**Subject: Comprehensive Asset Management Program: Core Asset
Management Plans**

File Number: ACS2022-IWS-AM-0001

**Report to Finance and Economic Development Committee on 5 April 2022 and
Council 13 April 2022**

**Submitted on March 25, 2022 by Tammy A.M. Rose, P. Eng., General Manager,
Infrastructure and Water Services Department**

**Contact Person: Marie-Geneviève (Gen) Nielsen, P. Eng., Acting Manager, Asset
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Ward: Citywide

**Objet : Programme de gestion intégrale des actifs : plans de gestion des
actifs essentiels**

Dossier : ACS2022-IWS-AM-0001

**Rapport au Comité des finances et du développement économique le 5 avril 2022
et au Conseil le 13 avril 2022**

**Soumis le 25 mars 2022 par Tammy A.M. Rose, ing., directrice générale des
Services d'infrastructure et d'eau**

**Personne ressource : Marie-Geneviève (Gen) Nielsen, ing., gestionnaire par
intérim, Gestion des actifs, Direction de la gestion des actifs**

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Quartier : À l'échelle de la ville

REPORT RECOMMENDATIONS

That Finance and Economic Development Committee, recommend Council:

1. Approve the Drinking Water Asset Management Plan, consistent with Provincial regulations, described in this report and attached as Document 1;
2. Approve the Wastewater Asset Management Plan, consistent with Provincial regulations, described in this report and attached as Document 2;
3. Approve the Stormwater Asset Management Plan, consistent with Provincial regulations, described in this report and attached as Document 3;
4. Approve the Transportation Asset Management Plan, consistent with the Provincial regulations, described in this report and attached as Document 4; and
5. Transfer the Executive Lead from the General Manager of Planning, Real Estate and Economic Development Department (formerly Planning, Infrastructure and Economic Development Department) to the General Manager, Infrastructure Water Services Department, for the Comprehensive Asset Management Program and Policy, as per the Council approved organizational changes on October 21, 2021.

RECOMMANDATIONS DU RAPPORT

Que le Comité des finances et du développement économique recommande au Conseil :

1. d'approuver, conformément à la réglementation provinciale, le plan de gestion des actifs liés à l'eau potable décrit dans le présent rapport et joint à titre de document 1; et
2. d'approuver, conformément à la réglementation provinciale, le plan de gestion des actifs liés aux eaux usées décrit dans le présent rapport et joint à titre de document 2; et

3. **d'approuver, conformément à la réglementation provinciale, le plan de gestion des actifs liés aux eaux pluviales décrit dans le présent rapport et joint à titre de document 3; et**
4. **d'approuver, conformément à la réglementation provinciale, le plan de gestion des actifs liés au transport décrit dans le présent rapport et joint à titre de document 4; et**
5. **de transférer la responsabilité du Programme et de la Politique de gestion intégrale des actifs du directeur général de la Direction générale de la planification, de l'immobilier et du développement économique (anciennement la Direction générale de la planification, de l'infrastructure et du développement économique) à la directrice générale de la Direction générale des services d'infrastructure et d'eau, conformément au remaniement organisationnel approuvé par le Conseil le 21 octobre 2021.**

EXECUTIVE SUMMARY

The City of Ottawa is a leader in asset management and long-range financial planning.

The City's Comprehensive Asset Management Program and Policy have defined Council's expectations around the management of the City's infrastructure assets over the past two decades. In following Council-approved asset management strategies, the City has prioritized keeping critical infrastructure in a state of good repair. Due to Council's continued investments in infrastructure maintenance and renewal, as well as the City's strong asset management practices, most of the City's assets, especially the critical ones, on average, are in good condition. The practice of asset management and its associated provincial regulations are evolving – as are their contexts.

This report presents information on the City's Comprehensive Asset Management Program as well as requirements to align to new Provincial regulation, which will be undertaken in a phased approach. The report will specifically focus on the Asset Management Plans for drinking water, wastewater, stormwater, and transportation.

Due to the new provincial regulation, the new Asset Management Plans will differ from those previously presented to Council. For example, the scope of the infrastructure being reported has increased, resulting in substantive differences in the estimated costs to maintain all the infrastructure at the current level of service for the next 10 years. The Asset Management Plans include and consider:

- New infrastructure asset classes not previously considered
- Accessibility, Council-approved policies, equity, diversity and inclusion and climate change
- Updated replacement costs, reflecting rising construction costs and inflation

This new plan will help to identify opportunities as well as community priorities.

The City is on target to address the funding gap per the Long Range Financial Plans for Rate and Tax Supported Capital approved by Council in 2017. There are no financial implications and no immediate need to change the City's current funding model until new service levels are defined in the next version of the Asset Management Plans and associated financial strategy in 2025. These plans will be updated in the next term of Council to align with the next version of the Asset Management Plans, Transportation Master Plan and Infrastructure Master Plan.

As part of this undertaking, the City will continue to seek public engagement throughout the development of these plans.

RÉSUMÉ

La Ville d'Ottawa est une figure de proue de la gestion des actifs et de la planification financière à long terme.

Son Programme et sa Politique de gestion intégrale des actifs ont défini les attentes du Conseil quant à la gestion des infrastructures municipales ces 20 dernières années. Comme le préconisaient les stratégies de gestion des actifs approuvées par le Conseil, la Ville a travaillé en priorité à maintenir les infrastructures essentielles en bon état. Grâce aux investissements continus du Conseil dans l'entretien et le renouvellement des infrastructures, et à l'application de saines pratiques de gestion des actifs, la plupart des actifs de la Ville, en particulier ceux qui sont essentiels, sont généralement en bon état. Or, la pratique de la gestion des actifs et la réglementation afférente évolue, tout comme leur contexte.

Le présent rapport contient de l'information sur le Programme de gestion intégrale des actifs de la Ville et les exigences pour se conformer à la nouvelle réglementation provinciale, qui seront mises en place progressivement. Il porte notamment sur les

plans de gestion des actifs liés à l'eau potable, aux eaux usées, aux eaux pluviales et au transport.

En raison de la nouvelle réglementation provinciale, les plans différeront de ceux présentés au Conseil par le passé. Le nombre d'infrastructures qui y figurent a augmenté, si bien qu'il y a de grandes différences importantes dans l'estimation des coûts pour maintenir toutes les infrastructures au niveau de service actuel pendant les dix prochaines années. Les plans de gestion des actifs prennent en compte :

- de nouvelles classes d'infrastructures qui n'étaient pas considérées avant;
- l'accessibilité, les politiques approuvées par le Conseil, l'équité, la diversité et l'inclusion et les changements climatiques;
- de nouveaux coûts de remplacement, qui reflètent la hausse des coûts de construction et de l'inflation.

Il s'agit d'une première étape qui nous aidera à relever les occasions ainsi que les priorités communautaires.

Il n'y a ni répercussions financières ni besoin, dans l'immédiat, de changer le modèle de financement de la Ville d'ici à ce que de nouveaux niveaux de service soient définis dans la prochaine mouture des plans de gestion des actifs et de la stratégie financière connexe en 2025. La Ville est en voie de combler l'écart de financement dans les plans financiers à long terme pour les immobilisations financées par les recettes fiscales et les redevances qui avaient été approuvées par le Conseil en 2017. Ces plans seront révisés au prochain mandat du Conseil pour s'aligner sur la prochaine version des plans de gestion des actifs, du Plan directeur des transports et du Plan directeur de l'infrastructure.

Dans le cadre de cet exercice, la Ville continuera de solliciter l'avis du public tout au long de l'élaboration des plans.

BACKGROUND

Ottawa, Canada's capital, with a growing population of approximately one million people, is a world class city and is on track to becoming the most livable mid-size city in North America. The City is generating more opportunities for cultural activities, sporting

events and exciting projects, and the infrastructure, the backbone of the city, must be safe and reliable.

Infrastructure supports the vital services residents, business and visitors rely on daily – everything from clean drinking water when taps are turned on, to the roads, bridges, sidewalks, pathways used to get around the city, to the stormwater ponds collecting rainwater, to the underground pipe network effectively transporting wastewater to the City's sewage treatment facility.

The City of Ottawa is responsible for managing the infrastructure and the service it provides. There are many dedicated professionals working on the City's infrastructure, providing a wide range of services, continuing to invest in it wisely will boost economic growth and support quality of life.

The City maintains approximately \$70 billion in infrastructure assets and acquires new infrastructure annually through growth. These assets require thoughtful, targeted investments in renewal, repair, rehabilitation, and replacement balancing service levels, risk, and affordability. They require the right intervention, on the right asset, at the right time. This is called asset management.

The City of Ottawa is an internationally recognized leader in asset management and associated long-range financial planning.

The City has a [Comprehensive Asset Management](#) Program, which is an integrated business approach involving planning, finance, engineering, maintenance and operations geared towards effectively managing existing and new infrastructure to maximize benefits, reduce risk and provide safe and reliable levels of service to community users.

Asset management has a rich and long history at the City of Ottawa. Over the last 20 years, successive Councils have supported the evolution of the program, achievements, and the successes. To continue this momentum, the City must remain flexible and adaptable and continue to consider global impacts such as climate change.

The City has a well-established record of fiscal responsibility. One of the most important alignments is the City's [Long Range Financial Plan](#) and the Comprehensive Asset Management Program. The long-range financial plan outlines the City's operating and capital needs over the next 10 years, along with a funding strategy to meet those needs. On October 10, 2012, [Council](#) (ACS2012-PAI-INF-007) approved the formalization of

the Comprehensive Asset Management Program and the Long Range Financial Plan IV. [Council](#) (ACS2017-PIE-IS-0002) received an update on June 14, 2017 on the Comprehensive Asset Management Program, the Long Range Financial Plan for Tax Supported Capital was a companion report. This long-range financial plan set out an affordable and sustainable financial strategy to reduce the annual funding gap, in addition to increasing the annual contribution to renew infrastructure assets every year by the rate of inflation.

Most recently, on May 26, 2021, [Council](#) (ACS2021-PIE-IS-0003) approved an update on the Comprehensive Asset Management Policy and initiatives.

The City's asset management practices and funding targets established in 2012 and updated in 2017, focused on maintaining the City's critical infrastructure in a state of good repair.

Critical infrastructure are the City's assets essential for the functioning of the economy, mobility, and society. For example, in the case of a natural disaster, the critical assets are the priority, this includes arterial roads, pumping stations, bridges or an emergency shelter.

State of good repair means, where the physical condition of an asset is not negatively impacting its intended service. In other words, even if assets are showing signs of deterioration, through maintenance and targeted interventions, the service is being provided at an acceptable level of service.

In 2017, the annual funding requirement to maintain critical infrastructure in a state of good repair over the next 10 years was expected to be higher than funding levels at the time, and a financial strategy was developed to increase the annual base funding each year to achieve the annual funding needed within the 10-year plan.

Council's annual budget directions have ensured that the City is on track to close the funding gap identified by 2026 for tax supported assets and 2023 for rate supported assets.

With Council's investments for infrastructure maintenance and renewal, as well as the City's strong asset management practices, most of the City's assets, especially the critical ones, are in good condition, on average. Condition is the physical state of the asset, the terms used are very good, good, fair, poor, and very poor to describe an asset's condition.

In 2018, the Province introduced mandatory [regulation](#) with the goal of helping municipalities improve and standardize their asset management practices. Given the City already has a mature asset management program, the approach only needs to shift slightly to align to the regulation.

The regulation defines “core municipal infrastructure asset” as any municipal infrastructure asset that is a,

- (a) water asset that relates to the collection, production, treatment, storage, supply or distribution of water,
- (b) wastewater asset that relates to the collection, transmission, treatment or disposal of wastewater, including any wastewater asset that from time to time manages stormwater,
- (c) stormwater management asset that relates to the collection, transmission, treatment, retention, infiltration, control or disposal of stormwater,
- (d) road, or
- (e) bridge or culvert.

This report provides an overview of the Asset Management Plans for the City’s core infrastructure: drinking water, wastewater, stormwater, and transportation. The Provincial regulation requires formal adoption by Council before July 1, 2022. The information will help support long term planning and strategy on how the City manages assets and investments now and into the future.

There is no immediate need to change the current funding model the City has established. The new service levels will be defined in the next phase of this process, which require Council approval by July 1, 2025.

As part of this undertaking, the City will seek public engagement throughout the development of the target levels of service.

DISCUSSION

Overview of the Comprehensive Asset Management Program

Having an extensive program, with over 20 years of experience, Ottawa has become a mentor for other municipalities and other levels of government. Staff have built a

network of peers, navigating and facilitating a respected strategic approach to asset management.

Asset Management draws information from all parts of the organization and this collaborative approach provides the foundation for both short- and long-term planning.

Since amalgamation in 2001, where each of the municipalities and villages had different infrastructure asset conditions and record keeping practices, significant progress has been made.

Staff have established a comprehensive inventory of the City's infrastructure assets and developed a program to prioritize asset renewal strategically, investing the right amount of money, on the right asset, at the right time.

In 2002, the City initiated the first Long-Range Financial Plan, followed by the [Integrated Asset Management Strategy](#) (ACS2003-TUP-INF-0021) in 2003, which defined the City's standards and long-term capital needs and funding strategies. Then in 2004, the [Capital Standards Review for Public Works Infrastructure](#) (ACS2004-TUP-INF-0009) was undertaken to identify opportunities for efficiency in existing policies, guidelines and programs, in association with capital infrastructure.

The Long Range Financial Plans were updated in 2004 and 2007. The third edition, in 2007, was a wide-ranging document and provided a financial profile of the City with a 10-year forecast of capital needs and a four-year term of Council operating forecast.

In 2007, the [Tangible Capital Asset Reporting implementation Project](#) (ACS2007-CMR-FIN-0012), undertaken in response to changing provincial regulations, was completed with an increased focus on capital asset reporting across all service areas.

In 2012, the City's Comprehensive Asset Management Program and Policy were formalized and defined Council's expectations around the management of the City's infrastructure assets. The framework and new level of service adopted in 2012 allows for a risk-based approach to investment decisions, including the targeting of condition assessments, with lower risk to service, like resurfacing of local roads happening less frequently, while works with higher risk to service, like renewal of major highways occurring more frequently. This was to extract the most value for money by focusing funding where it is most effective and has greater impact to the provision of service.

In 2017, Council received a detailed update on the Comprehensive Asset Management Program's defined goals and achievements. It was underscored, however, that the challenges of asset management required a balance of combined funding and non-financial strategies to help sustain the City's assets. The 2017 report shared the City's progress on key Comprehensive Asset Management initiatives, including non-financial strategies. The report reaffirmed the risk-based approach to investment decisions and maintaining the City's infrastructure in a state of good repair, with renewal efforts aimed at assets with a greater risk of impacting level of service.

Council was presented with accomplishments under the Comprehensive Asset Management Program, the City's 2017 [State of the Assets Report](#), and the [Strategic Asset Management Plan](#) – a living document that connects tactical actions at the asset level to service outcomes, based on organizational goals and objectives.

The 2017 report also referenced the beginnings of a framework, which exceeded existing guidelines at the time, to support the future development of service-based Asset Management Plans.

The 2012 Long Range Financial Plan established a new funding target aligned with the capital investment needs to maintain critical assets in a state of good repair. This target was increased in 2017. The annual capital contribution has increased from \$80 million in 2012 to \$158 million in 2022 for Tax Supported Capital and from \$150 million in 2012 to \$250 million in 2022 for Rate Supported Capital.

On May 26, 2021, [Council](#) (ACS2021-PIE-IS-0003):

- Approved an update on Comprehensive Asset Management Policy
- Received the Asset Management Plan Framework
- Received an update on initiatives under the Comprehensive Asset Management Program

Consistent with Council's Strategic Plan and in keeping with sound financial planning practices the Comprehensive Asset Management Program and the Long Range Financial Plan are well aligned.

The City is advancing its asset management practices and aligning to the mandatory Provincial regulations. The Asset Management Plans provide more comprehensive

information, which includes, among other things, information on the condition of the infrastructure.

Prior to having the Asset Management Plans, the State of the Asset Reports in 2012 and 2017, were produced by the City to advance and foster awareness of the Comprehensive Asset Management Program.

The City has matured its asset management practice and is transitioning to a level of service, which considers condition and goes beyond to include service outcomes. Going forward, the City will no longer be producing the State of the Asset Report, since comparable information will be captured in the Asset Management Plans.

Leadership in Asset Management

The City of Ottawa is a recognized international leader in asset management and the associated long-range financial planning. Here are some highlights:

- In 2013, the City was awarded the prestigious Canadian Network of Asset Managers (CNAM) Terezo Award for excellence in asset management, putting Ottawa on the national level of expertise.
- As a testament to City Council's leadership, in 2018, the United States Government Accountability Office visited Ottawa to learn more about our Asset Management Practices and later released a [study](#) referencing the City of Ottawa and the ongoing initiative to provide transparency in communicating the state of the infrastructure with stakeholders.
- Active member and participant of the Canadian Network of Asset Managers (CNAM), the association of public infrastructure asset management in Canada, focusing on policy, tools, and technologies to improve the level of service for infrastructure assets by sharing information with members.
- Collaboration with the Federation of Canadian Municipalities (FCM), including participating in the [Leadership in Asset Management Program \(LAMP\)](#).
- Regular communication with Asset Management Ontario (AMONTario), a non-profit community comprised of asset management practitioners who share information and best practices to advance public sector asset management and stewardship of publicly-owned infrastructure in Ontario.

- Provides guidance to other agencies and municipalities on planning, designing, and building major infrastructure including:
 - Sharing innovation, knowledge transfer and new technologies
 - Public speaking events – at universities and other organizations

Investments in Infrastructure

Infrastructure Services delivers approximately 600 infrastructure construction projects annually valued at approximately \$700 million. These investments deliver improvement and maintenance of infrastructure assets such as roads, bridges, buildings, parks, water mains, sewers, pumping stations, water purification and wastewater treatment plants.

Council has made significant infrastructure investments and has put a priority on critical infrastructure - water and wastewater, arterial roads, and bridges.

In 2022, Council has invested approximately \$702 million in city infrastructure – for a total of approximately \$2.2 billion throughout this term of Council (2019 to 2022).

Here are some highlights:

- \$88 million for road rehabilitation, including resurfacing, geotechnical, guiderails, rural road upgrades and preservation treatments.
- \$45 million structures and bridges
- \$18 million for culverts
- \$47 million buildings and parks
- \$11.5 million to renew sidewalks and pathways
- \$118 million for integrated road-water-sewer reconstruction projects

The City has been successful in receiving funding from other levels of government to offset some of the costs and/or advance the renewal of key infrastructure assets. The City will continue to leverage these external funding opportunities whenever possible and advocate for support from upper levels of government.

Aligning Comprehensive Asset Management and the Long Range Financial Plan

To continue delivering essential services, the City needs its aging infrastructure to remain safe and reliable, and also to respond to population growth and demand for higher safety, health, and environmental standards.

In an ever-changing world, the City has a balanced, dependable, and predictable approach to asset management, with the ability to evolve its tools and processes with best practices and new technologies.

There has always been alignment between the Comprehensive Asset Management Program and the Long Range Financial Plan, with funding targets established in 2012 and updated in 2017, to keep critical infrastructure in a state of good repair while remaining affordable and sustainable.

By 2017, the City had increased annual capital funding to \$125 million for Tax and \$196 million for rate-supported programs. The predicted capital asset requirements were updated in 2017 and it was estimated that the annual contribution should be increased to \$195 million for Tax and \$260 million for Rate. A financial strategy was developed for this funding target to be achieved within the ten-year timeframe and the City has increased the budget each year to stay on track with the 2017 Long Range Financial Plan.

The annual funding target for Tax Supported Capital is expected to be achieved by 2026 and for Rate Supported Capital by 2023.

Asset Management Plans

The Provincial regulation, O.Reg. 588/17, enacted in 2018, requires Council to formally adopt the Asset Management Plans. The Plans build on the progress municipalities have made while bringing consistency and standardization to asset management policy and plans to help spread best practices throughout the sector and enable the collection of comparable data.

In addition to incorporating the necessary changes due to provincial legislation and the evolving landscape of the community, the new Asset Management Plans will be broadened to include all City assets. The plans will also consider accessibility, Council-approved policies, equity, diversity and inclusion and climate change. This will help to

identify opportunities as well as community priorities. The Plans are building on the City's ongoing commitment to transparency and accountability for reporting.

The key difference between the analysis done in 2017 and the analysis done for the Asset Management Plans is the focus on critical infrastructure versus the focus on core infrastructure. Critical infrastructure are the City's assets that are essential for the functioning of the economy and society. Core infrastructure is all of the City's assets that support drinking water, wastewater, stormwater, and transportation. Although there is significant overlap between the City's critical and core infrastructure, they are different.

The information presented in this report is based on estimated preliminary costs and is not intended to represent capital funding requirements.

As per the provincial regulation, the timeline is as follows:

2022

The provincial regulation requires Council to formally adopt the Asset Management Plans for core services – current state.

The province has defined the categories for core infrastructure as municipal infrastructure assets as they relate to drinking water, wastewater, stormwater, roads, bridges, and culverts. The roads, bridges and culverts are included in the Transportation Asset Management Plan.

2024

As per the provincial regulation, Asset Management Plans for other infrastructure (current state) require formal adoption by July 1, 2024.

The City's Strategic Asset Management Plan (2017) identifies the services the City provides. These include Solid Waste; Transit; Parks, Recreation and Culture; Community Services; Emergency and Protective Services (Fire, Paramedics and Bylaw); Libraries; Corporate Services and Information Technology. Recognizing the increased importance of natural infrastructure, the City is also considering including an Asset Management Plan for Greenspace and Urban Forestry.

2025

Council will consider all Asset Management Plans with target levels of service, along with an updated financial strategy.

The Asset Management Plans for drinking water, wastewater, stormwater, and transportation, required by the new Provincial regulation, will be brought to Council for consideration and adoption. However, this does not change the City's current Comprehensive Asset Management Program and planned capital investment requirements. The Long Range Financial Plans for the Tax and Rate capital program continue to reflect the current capital investment needs of the City and the introduction of these new Asset Management Plans has no financial impact on the City's current funding model and financing strategy.

The Long Range Financial Plan for Tax and Rate Supported Capital will be updated in 2024, to ensure the continued affordability of the Transportation Master Plan and Infrastructure Master Plan, taking into consideration the asset renewal requirements of the Asset Management Plans, needed to be completed and approved by Council in 2025.

Drinking Water Asset Management Plan and Wastewater Asset Management Plan

The Drinking Water Asset Management Plan encompasses all infrastructure supporting the delivery of clean, safe drinking water, including the water purification plants, watermains, storage tanks and pumping stations.

The Wastewater Asset Management Plan encompasses all infrastructure supporting the conveyance and treatment of wastewater, including the Robert O. Pickard Environmental Centre Wastewater Treatment Facility, sewers and pumping stations.

The total replacement value of all the City's core drinking water and wastewater assets is \$28.5 billion, and per the current Long-Range Financial Plan, the City's planned investment for the renewal of these assets over the next 10 years is \$1.6 billion, as outlined in Table 1 below.

Table 1 - Total replacement value and planned renewal investment in drinking water and wastewater assets

Service	Total Replacement Value	Planned 10-year Investment to Maintain Critical Infrastructure in a State of Good Repair (per LRFP)	Estimated Preliminary Cost to Maintain All Infrastructure at Current Level of Service (per Provincial Requirement)
Drinking Water	\$15.7 billion	\$0.84 billion	Well-aligned to the current LRFP
Wastewater	\$12.8 billion	\$0.79 billion	Well-aligned to the current LRFP

The preliminary costs are well-aligned to the City's current Long Range Financial Plan (LRFP) and in 2017, Council approved an improved rate structure for water, wastewater, and stormwater to create a more equitable, fair, and more sustainable revenue framework for the City, residents, and businesses. The 2017 Long Range Financial Plan established the revenue increases required to maintain assets in a state of good repair.

Beyond the 10-year horizon, it is expected, future investments will be required to address the wave of renewal needs for infrastructure built in the post-war era.

Staff recommend Committee and Council approve the Drinking Water Asset Management Plan and the Wastewater Asset Management Plan, attached as **Document 1 and 2**.

Stormwater Asset Management Plan

The Stormwater Asset Management Plan encompasses all infrastructure supporting the collection, conveyance, and treatment of stormwater runoff, including storm sewers, pumping stations, outfalls, roadside ditches, and stormwater management facilities. Stormwater management requires a holistic approach from when rain hits the ground to when it enters the receiving environment, as it travels through a combination of hard and natural infrastructure.

Stormwater infrastructure is becoming more and more important in the context of climate change and risks related to flooding.

The total replacement value of all the City’s core stormwater assets is \$12.7 billion, and as per the current Long Range Financial Plan, the City’s planned investment for the renewal of these assets over the next 10 years is \$0.51 billion, as outlined in Table 2 below.

Table 2: Total replacement value and planned renewal investment in stormwater assets

Service	Total Replacement Value	Planned 10-year Investment to Maintain Critical Infrastructure in a State of Good Repair (per LRFP)	Estimated Preliminary Cost to Maintain All Infrastructure at Current Level of Service (per Provincial Requirement)
Stormwater	\$12.7 billion	\$0.51 billion	Up to an additional \$0.58 billion

Up to an additional \$579 million is identified in the estimated preliminary costs to maintain all the infrastructure at the current level of service for the next 10 years.

The information presented only includes stormwater sewers and trunks as there was insufficient data to provide accurate information on the other assets.

It is estimated preliminary costs and is not intended to represent capital funding requirements. New service levels will be defined in the next version of the asset management plans, which are due in 2025.

Also established now is a dedicated stormwater fee and funding source, whereas, before, funding was combined with the sewer surcharge.

The Long-Range Financial Plan (LRFP) in 2017 was the first to specifically plan for stormwater services. Since then, the information that supports the estimated costs has evolved and will continue to evolve, especially as natural infrastructure begins to be more formally recognized as part of the City’s stormwater infrastructure assets. A rising

number of extreme precipitation events as a result of climate change, are increasing demands on the City's stormwater infrastructure.

Staff recommend Committee and Council approve the Stormwater Asset Management Plan, attached as **Document 3**.

Transportation Asset Management Plan

The Transportation Asset Management Plan encompasses all infrastructure supporting transportation, except public transit, including local roads, bridges, culverts, pathways, and sidewalks.

This Asset Management Plan represents the biggest difference from the City's Comprehensive Asset Management Program – the provincial regulation requires all assets to be considered, including local roads, while the City's current plans only included critical transportation assets such as arterial and collector roads.

The total replacement value of all the City's core transportation assets is \$21 billion, and per the current Long Range Financial Plan, the City's planned investment for the renewal of these assets over the next 10 years is \$1.8 billion, as outlined in Table 3 below.

Table 3 – Total replacement value and planned renewal investment in transportation assets

Service	Total Replacement Value	Planned 10-year Investment to Maintain Critical Infrastructure in a State of Good Repair (per LRFP)	Estimated Preliminary Cost to Maintain All Infrastructure at Current Level of Service (per Provincial Requirement)
Transportation	\$21 billion	\$1.8 billion	Up to an additional \$1.1 billion

Up to an additional \$1.1 billion is identified in the estimated preliminary costs to maintain all the infrastructure at the current level of service for the next 10 years.

The information presented is based on estimated preliminary costs and is not intended to represent capital funding requirements. Target levels of service will be defined in the next version of the asset management plans, which are due in 2025.

There are several considerations in the estimated preliminary costs:

- The City's established Comprehensive Asset Management strategy and the Transportation Asset Management Plan are calculated differently. The Comprehensive Asset Management strategy adopted in 2012 and updated in 2017 involves keeping critical infrastructure in a state of good repair. The Transportation Asset Management Plan includes sustaining all the assets for the next 10 years, not just the critical ones and therefore, local roads and other infrastructure assets including sidewalks are now included in the calculation.
- Since 2012, when the City's asset management strategies were first established, the City has experienced changes in levels of service expectations, policy, and legislative changes. As such, replacement costs have increased. These factors have an impact on the costs of renewal work.
- Climate change requires mitigation measures to both reduce future carbon emissions and maintain service despite less predictable weather conditions. For example, this could include increased demand for more sustainable infrastructure such as active transportation networks. It could also include more robust and resilient road and stormwater infrastructure, capable of withstanding increasingly frequent intense precipitation events and freeze-thaw cycles.

The main source of difference is the inclusion of local roads, which have not been prioritized as part of the Council-approved asset management strategies from 2012 and 2017. As per the approach, considerations for local roads include cost effective strategies including ongoing maintenance and operations, such as small repairs and pothole repairs, will be utilized until the roads are in need of reconstruction. Since the Provincial regulation requires all the assets be considered, local roads are now included in the calculation the same way arterial and collector roads are.

Other assets, including sidewalks and pathways are also prioritized with the same asset management strategies, where there are some opportunities to undertake stand-alone replacement projects in addition to those replaced as part of road reconstruction projects to maximize efficiencies.

Like most large and well-established cities, Ottawa will require additional long-term, predictable funding from senior levels of government to complement municipal resources.

Staff recommend Committee and Council approve the Transportation Asset Management Plan (TAMP), attached as **Document 4**.

Conclusion

Community input is integral to the ongoing success of the Comprehensive Asset Management Program, development of the additional Asset Management Plans and target levels of service. Therefore, public and stakeholder engagement will continue as the City moves forward in our steps to meet Provincial regulations.

The next steps, as per the Provincial regulation, by 2024, requires Council to adopt the remaining Asset Management Plans.

Following this, new service levels will be defined, prior to 2025, and will align with the associated financial strategy.

Working with both internal and external partners, staff will continue to implement the Comprehensive Asset Management Program and build its initiatives linking investment decisions to the delivery of services to Ottawa residents, businesses, and visitors.

FINANCIAL IMPLICATIONS

There are no financial implications to this report. The Council approved Long Range Financial Plan for Tax Supported Capital and for Water, Wastewater and Stormwater Rate Supported Programs, remains in effect. The Long Range Financial Plan for both Tax and Rate will be updated as a companion report to the Transportation Master Plan and Infrastructure Master Plan to be brought forward to Council for approval in 2024. The financial strategy developed for those plans will also take into consideration the asset renewal funding requirements of the next version of the Transportation, Drinking Water, Wastewater and Stormwater Asset Management Plans to be approved by Council and made available to the public prior to July 1, 2025.

LEGAL IMPLICATIONS

The recommendations in this report ensure that the City meets its continuing legal obligations contained in Ontario Regulation 588/17 under the *Infrastructure for Jobs and Prosperity Act, 2015*.

COMMENTS BY THE WARD COUNCILLORS

This is a city-wide report – not applicable.

CONSULTATION

From June 2 to June 16, 2021, the City of Ottawa provided residents with an opportunity to provide feedback on the development of the first four Asset Management Plans, water, wastewater, stormwater, and transportation. The online engagement opportunity was hosted on [Engage Ottawa](#).

The survey was promoted to internal and external stakeholders, social media, and the Comprehensive Asset Management Steering Committee.

ACCESSIBILITY IMPACTS

The City's Comprehensive Asset Management Program and practices intend to maximize benefits, reduce risks, and provide safe and reliable levels of service to all community users by:

- Consulting with the public and the Accessibility Advisory Committee as required by the Integrated Accessibility Standards Regulation 191/11;
- Including the Provincial Design of Public Spaces requirements in the City's Accessibility Design Standards;
- Ensuring that people with physical disabilities and other types of disabilities can access City facilities and infrastructure through accessible design.

ASSET MANAGEMENT IMPLICATIONS

The implementation of the Comprehensive Asset Management Program results in timely decisions that minimize lifecycle costs and ensure the long-term affordability of assets.

Supporting the recommendations of this report ensures the City of Ottawa aligns to the mandatory Provincial regulation.

RISK MANAGEMENT IMPLICATIONS

Risk management implications are contained in the report. The City's Comprehensive Asset Management Program involves a risk-based approach in the decision-making process for the City's infrastructure assets.

RURAL IMPLICATIONS

The Comprehensive Asset Management Program provides a holistic approach to managing the City's infrastructure, including infrastructure that support services delivered to rural residents and businesses. The Asset Management Plans include more asset classes and identify the level of service indicators, which will be critical in the ongoing stakeholder engagement and outreach. They also acknowledge the necessity of measuring the responding to the influence of external factors, such as climate change or the diversity of client needs to align with other City policies. The information in these documents will inform and guide future service level decisions, which in turn will guide decision making regarding the management of the City's assets, including those situated in rural areas.

TERM OF COUNCIL PRIORITIES

This report supports the 2019 to 2022 Term of Council Priority of 'Sustainable Infrastructure: ensuring sustainable infrastructure investment to meet the future growth and service needs of the city.

SUPPORTING DOCUMENTATION

Document 1 Drinking Water Asset Management Plan

Document 2 Wastewater Asset Management Plan

Document 3 Stormwater Asset Management Plan

Document 4 Transportation Asset Management Plan

DISPOSITION

Following Council's approval, staff will implement the Asset Management Plans in accordance with the provincial regulations.

Going forward, the General Manager, Infrastructure and Water Services Department will be the Executive Lead for the Comprehensive Asset Management Program and Policy.