

Staff Report



To	Committee of the Whole
Service Area	Infrastructure, Development and Environment
Date	Tuesday, June 4, 2024
Subject	2024 Corporate Asset Management Plan and Levels of Service

Recommendation

1. That Council approve the 2024 Asset Management Plan, including the baseline asset levels of service, and direct staff to submit it to the Ministry of Infrastructure on or before July 1, 2024.
 2. That staff bring back an update to the projected year of reaching sustainable funding based on updates made to capital funding levels for infrastructure renewal and the associated implications for state of good repair and service levels through the 2025 budget confirmation process.
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Executive Summary

Purpose of Report

The purpose of this report is to seek Council approval of the updated 2024 Corporate Asset Management Plan (AMP) and report on implementation progress of the Corporate Asset Management Program and Asset Management Policy objectives.

Key Findings

The 2024 AMP is due to the Provincial Ministry of Infrastructure by July 1, 2024 per the Infrastructure for Jobs and Prosperity Act and specifically [Ontario Regulation \(O.Reg.\) 588/17](#).

The 2024 AMP reports on over 200,000 City-owned assets with a total replacement value of approximately \$7.7 billion, compared to \$4.4 billion in 2020 (approximately \$50,278 per resident in 2024 vs. \$36,041 in 2020). This equates to a 28 per cent increase and it is not unreasonable compared to inflation and growth experienced through this period. The change in value is a result of several factors including inflation, an improved asset inventory, and growth in the asset base as more assets have been created over the past four years.

The 2024 backlog of renewal work is estimated at \$354.3 million (\$2,316 per resident). This value represents assets that have passed what is considered a normal lifecycle and should have already been replaced. Assets in this category are still functioning, but likely require higher maintenance needs and are at a higher risk of sudden failure. The 2024 value is higher than the \$289M backlog that was identified in 2020 because of inflationary factors and updated asset inventories, however, as percentage of the total asset inventory replacement value it is lower at

5.5 per cent in 2024 compared with 6.6 per cent in 2020. This is indicative that the asset management program and associated funding investments are working, but there is more work to be done.

The projected year of reaching sustainable annual funding for all services was previously estimated to be 2037; however, given the increased backlog it is now estimated to be approximately 2044. This year was calculated using forecast reserve fund levels established through the 2024-2027 Multi-year Budget (MYB). Any changes to the infrastructure renewal funding assumptions through 2025 budget confirmation may impact the projected year of reaching the sustainable funding level.

The AMP is not the budget, nor is Council asked to make any budgetary decisions by approving this report. However, it is an important tool used during the budget process and can help Council and the public understand the current state of the assets, the predicted impacts to the services provided by the assets with the current funding strategies in place, and the associated risks of limiting funding.

In accordance with O.Reg. 588/17, the 2024 AMP documents the existing Levels of Services (LOS) each asset service area is delivering and the associated costs to the City for the LOS. In 2025 the AMP must be updated to include desired target asset LOS as well as financial plans to achieve them. There are planned community, staff, and Council engagement sessions over the next year to educate people about LOS and collect feedback on the desired target asset LOS as part of the 2025 LOS project.

Continued investment in an ERP program will allow our City to increase data driven decisions and data transparency, while significantly maturing our corporation's Asset Management Program.

The City of Guelph is tasked with a complex challenge to provide reliable services to the community, while also managing pressures such as aging infrastructure, financial sustainability, affordability, and community expectations. When balancing priorities, it is critical to address the aging infrastructure risks to ensure levels of service are maintained. This requires sustained infrastructure renewal funding strategies to continue so that the City looks after what it owns and does not increase risk through lack of funding, which would place an infrastructure and fiscal burden on future generations.

Strategic Plan Alignment

This report aligns with 4.2 – Update the Corporate Asset Management Plan to achieve the greatest benefit to our community. The Corporate Asset Management Plan is the tool used to document asset LOS and to understand the condition, replacement needs, scheduling, and funding for all City-owned assets.

Future Guelph Theme

Foundations

Future Guelph Objectives

Foundations: Maintain the City's healthy financial position

Financial Implications

This report includes no specific financial requests. However, the 2024 AMP is a tool used to support corporate budgeting and long-term financial planning. The plan outlines the financial resources required to carry out the required maintenance, renewal, and replacement of the assets used to deliver services for the community. The AMP is used in the capital budgeting process to help prioritize projects across the organization to make the best use of available funding. It also determines the long-term level of sustainable infrastructure renewal funding required, which is the basis for the Infrastructure Renewal financial strategy.

This plan confirms that increasing infrastructure renewal investment is required to support both tax supported and non-tax supported services to reduce the backlog and achieve the sustainable funding targets. Balancing investment in infrastructure renewal funding requirements with other organizational priorities and objectives is outside the scope of this plan and resides with the budget process.

Report

Introduction

The City of Guelph contributes to a high quality of life for the community by providing diverse services such as drinking water, wastewater treatment, solid waste collection, public transit, transportation networks, culture, recreation, stormwater management, and emergency services. These services rely on thousands of different assets to function. Asset management provides the framework that allows City staff from multiple departments to manage such a complex set of services and different types of assets. Built infrastructure is expensive to construct, expensive to operate, and will eventually stop working no matter how well it is looked after. The asset management (AM) processes and strategies being used are designed to make sure that each asset will be able to deliver its intended function to the maximum lifecycle possible, thereby maximizing the benefit of every dollar invested in those assets.

If the assets that support City services were to be replaced today, it would cost \$7.7 billion, or \$50,278 dollars per resident. The backlog of infrastructure renewal work is estimated at \$354.3 million, which confirms the need for continued investment to reach sustainable funding levels.

The Financial Accountability Office of Ontario (FAO) reported Ontario's municipal infrastructure backlog in 2020 at \$52 billion, representing 11.9 per cent of the total cost to replace the assets. When comparing the City of Guelph to the Province, the backlog is 5.24 per cent of the total cost to replace the assets. In addition, the backlog cost per resident reported in 2020 was \$2,140 which is less than the Province at \$3,531 per resident (refer to Table 1). The common funding strategies include consistent IR Levy increases, a commitment to capital reserve transfer targets and some municipalities projected a tax increase of 20-25 per cent over the next 10 years. Overall, the City of Guelph is below the average backlog within the province of Ontario, which is positive, but Guelph, like other municipalities, needs to continue investing in its existing infrastructure to reduce the service continuity risk.

Table 1 – Backlog Comparison between the Province and The City of Guelph (2020)

	Population (2020)	Reported Backlog (2020)	Cost per Resident (2020)
Province of Ontario	14,726,022	\$52,000,000,000	\$3,531
City of Guelph	135,000	\$289,000,000	\$2,140

The 2024 Corporate Asset Management Plan (the AMP) documents, analyses, and reports on the City’s assets: their condition, replacement needs, and the levels of service that they are providing. The 2024 AMP builds off work done for the [2020 AMP](#) and the [2021 Core AMP](#) (water, stormwater, wastewater, and roads assets only).

To comply with the requirements of O. Reg 588/17, the City must submit a Council-approved AMP to the Provincial Ministry of Infrastructure by July 1, 2024. Refer to the [Corporate Asset Management Plan](#) for more details.

The AMP is not intended to be presented as a financial strategy for Council approval. It is a collection of facts about the state of the assets and the funding required to mitigate risks associated with assets in poor or failing condition, which forms an important input into the budget process.

Asset Management Program Progress

One of the primary goals of asset management in general and the AMP in particular is to establish a baseline of information about the City’s assets and current practices that will help inform future capital and operations workplans. To do this requires an iterative process where the goal of continuously improving the asset management program and processes at the City is accepted by all the different services that manage assets.

Since being first established in 2017 Guelph’s AMP has significantly moved forward with improvements in the accuracy of asset information, adoption of whole-life planning for asset needs and improved collaboration among all the City departments and staff. On a scale of 1 to 5, the goal was to reach a state of advanced maturity of 4.6 out of 5 by 2024. Since 2020, there has been a focus on strengthening the City’s data, condition assessments, risk management and information systems. Strengthening the data takes a significant level of effort and time, this is the foundation to an AMP to ensure in the future we can make data driven decisions. This work will continue and as the program continues to mature the City estimates it will meet the goal of attaining an advanced asset management maturity rating by 2030. Figure 1 presents a depiction of the maturity levels since 2017.

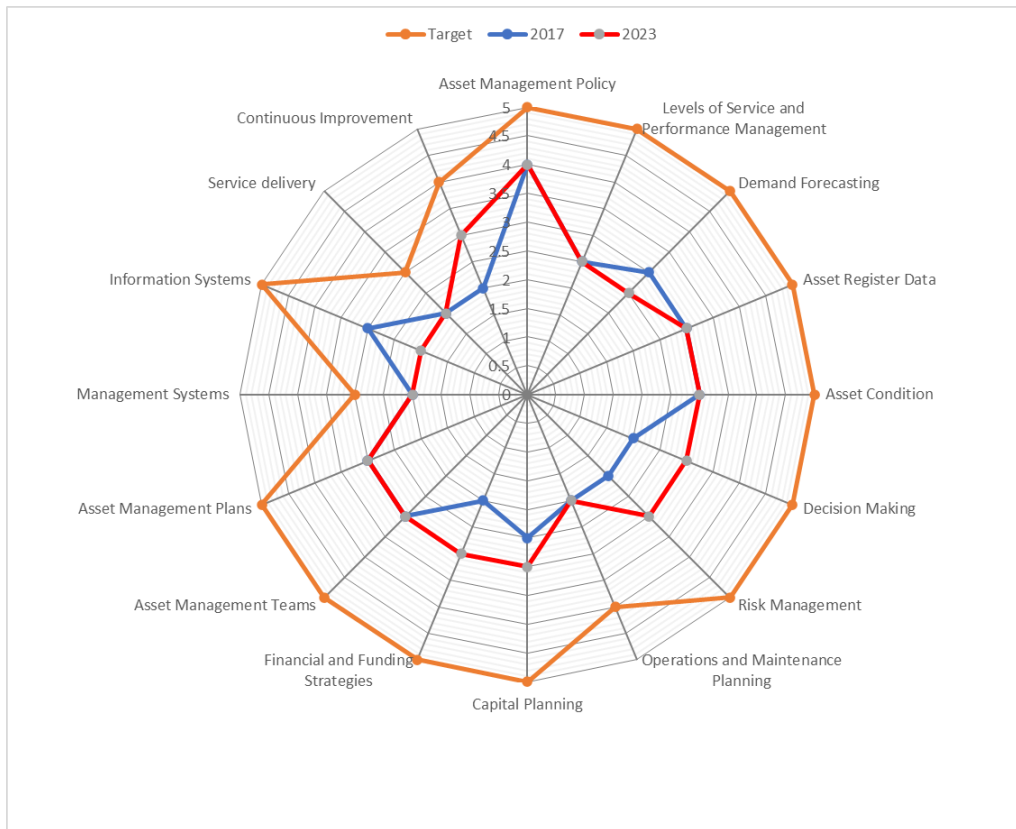


Figure 1 – Asset Management Maturity Illustration

Since 2020 the Corporate Asset Management (CAM) team has been actively working to advance City asset management culture and processes. A lot of this has focused on the baseline asset inventory and ensuring the information available is current and accurate.

- Since 2020 staff reviewed 200 thousand assets compared to about 97 thousand in 2020. This was a result of more complete datasets for asset types that were not previously available, and extensive work by the City’s GIS team to validate pre-existing data.
- Valuation of the assets has been done using actual contract and tender values from proposals submitted in response to RFPs. This means real Guelph cost values are being referenced whereas previously costs were developed from generic reference sources.
- A series of assessment programs for buildings and facilities, stormwater pipes, roads and structures have been implemented. Engineering consultants who are subject matter experts in the respective asset types provided actual condition information and needs recommendations related to the assets.

The City of Guelph is already viewed in the industry as having a strong asset management culture. Guelph has surpassed the Ontario Regulations, has integrated asset management into the Capital and Operating Budget cycles, created innovative tools to identify priorities for renewal and replacement work, presented at various conferences and are continuously approached by other municipalities to share our developments and experiences. Guelph was among the first to incorporate Natural Assets as an asset comparable to built infrastructure.

Levels of Service (LoS)

The O. Reg 588/17 requires the 2024 AMP to document the existing LOS delivered across all the City's asset categories, and the costs of the LOS. For 2025, the City is required to establish desired future LOS along with funding strategies to attain those targets from what the LOS is today.

The 2024 AMP documents the existing LOS across a variety of metrics in each of the asset chapters. These have been established in conjunction with each asset owner/operator. The LOS metrics in the 2024 and 2025 AMP documents do not/will not override LOS set and approved through various master plans or governed by other regulatory maintenance standards.

For example, the AMP can document the condition of the pavement as a road asset LOS, and a desire to maintain or improve the condition of the pavement. A road asset LOS under the context of the AMP would *not* include items such as where transit routes should be, which roads should have bike lanes, etc., all of which would have been established in the Transportation and Transit Master Plans. Additionally, operational decisions such as speed limits would not be considered relevant to the AMP. See Attachment-2 for further information of what is and is not an asset level of service.

The 2025 AMP will include desired future LOS targets. Surrounding municipalities are in the process of meeting the legislation by documenting existing LOS and aiming to set targeted LOS through outreach with the community and City Council. Attachment-1 includes an overview of planned touchpoints with Council and the community for education and feedback as the 2025 LOS project progresses.

Climate Change & Natural Assets

The O.Reg 588/17 requires the City to specifically address how climate change risks affecting the infrastructure assets will be mitigated. This includes cost estimations for any work that is identified. Currently, the City of Guelph has existing and/or planned adaptive measures to address 95 per cent of the highest risk interactions. Many of these have evolved from (or were inputs to) the first Climate Adaptation Plan which was delivered in 2023 to better identify the challenges posed by climate change and what the City should do to mitigate risks from those challenges.

Areas where infrastructure will potentially be adversely affected by more extreme weather conditions were identified and adaptation measures were developed. In total the Climate Adaptation Plan identifies 163 adaptation measures for the City to pursue. Just over half of these measures are already part of programs and plans the City is already acting on in response to climate-related risk. Future asset management work including AMP documents will contain even more specifics identifying the needs of the assets with attention to the climate change issues. As work continues towards reaching the advanced asset management maturity level the Corporate Asset Management Program has improved the level of sophistication and detail in both the funding allocation, data and project optimization, and the integration between asset management planning and capital budgeting will continue to be strengthened. Overall, this will help ensure the best possible decisions are being made regarding our City's assets, using evidence-based data to develop business cases, project needs and long-term financial forecasts supporting sustainability.

2024 Corporate Asset Management Plan

The AMP is a strategic document that states how the City's assets are to be managed over a ten-year period of time. The Plan describes the characteristics and condition of infrastructure assets, the level of service (LOS) that the assets provide, and a sustainable funding analysis. The following sections provide a brief overview of the plan. The complete 2024 AMP is available [online](#).

The City's Asset Portfolio

The total replacement value of the City's assets is **\$7.7 billion**. Figures 2 and 3 break down the replacement value of assets by asset type.



Figure 2 - Value of tax funded service portfolios

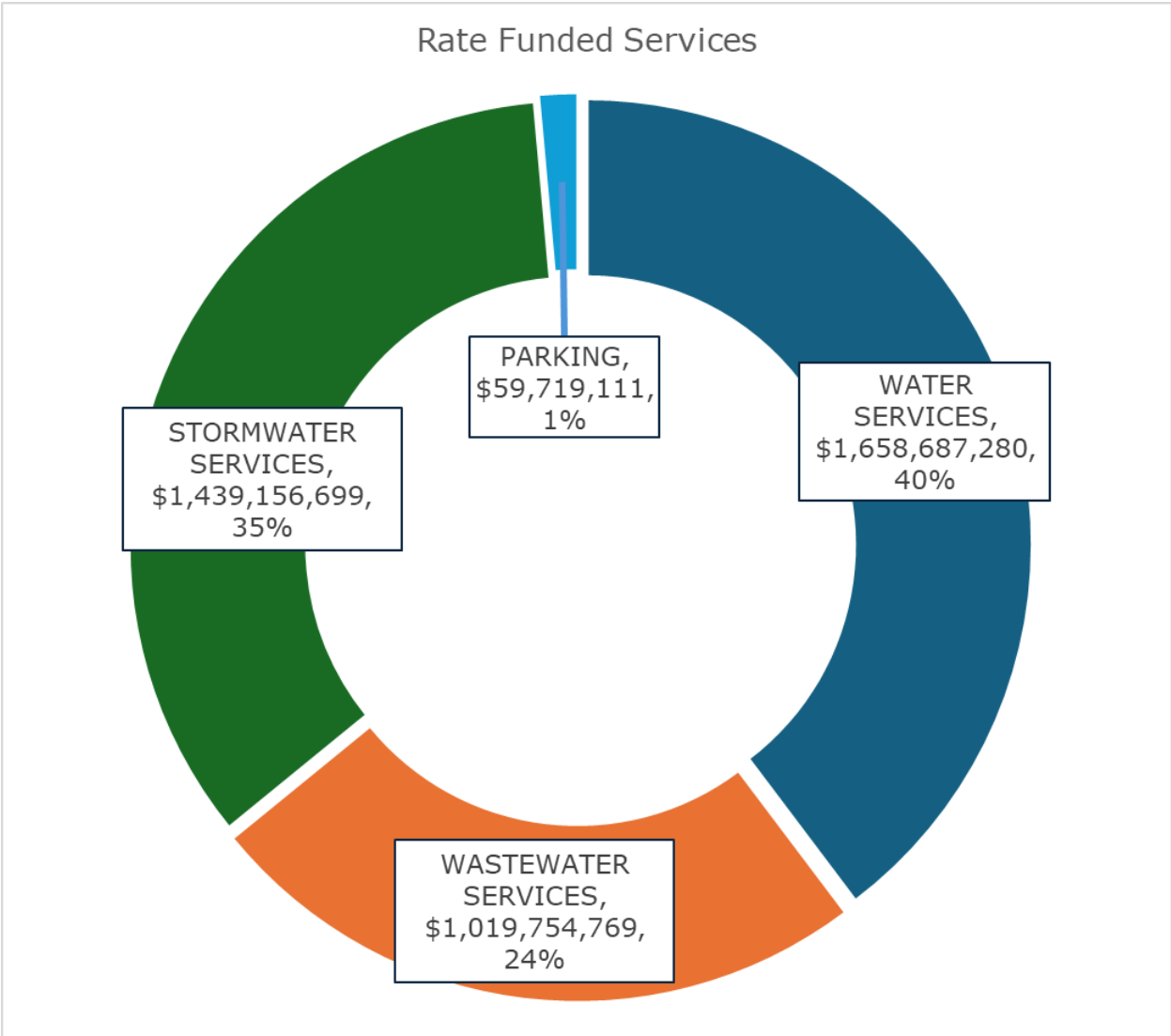


Figure 3 - Value of rate funded service portfolios

State of the Assets

The average condition of the City’s assets is fair (the scale is past due, very poor, poor, **fair**, good, very good, not available (N/A)). Figure 4 shows the overall condition ratings of all City assets based on the value of the assets.

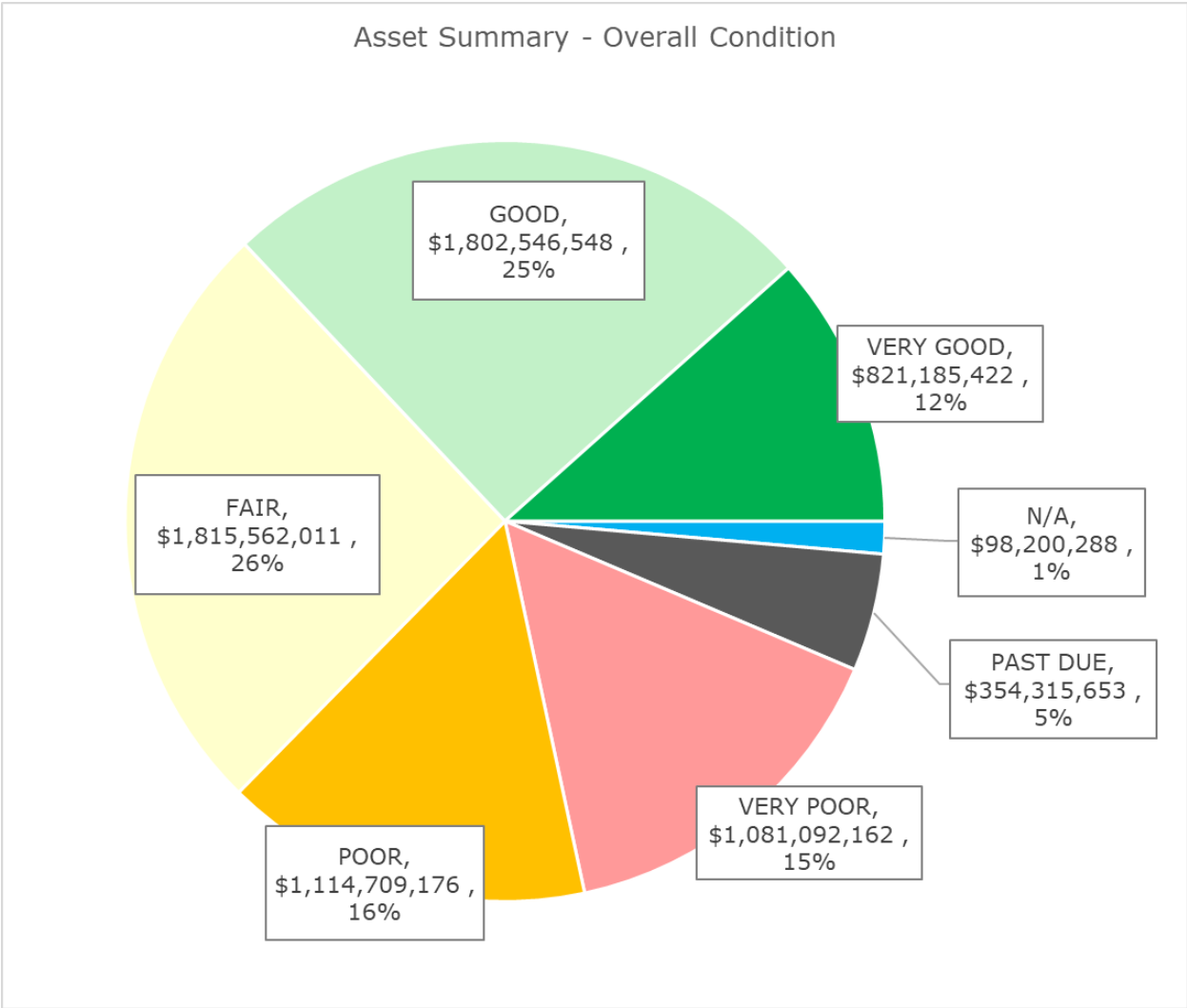


Figure 4 – Overall condition ratings

About 62 per cent of the assets by replacement value are rated as being in fair or better than fair condition. The balance (about 38 per cent) are rated as less than fair condition. In 2020 the comparable ratios were 68 per cent in fair or better condition and 32 per cent in less than fair condition.

Importantly, approximately \$1 billion worth of assets are in the very poor condition rating category compared to \$741M in 2020¹. The implication of “very poor” represents that value of work in need of replacement or repair in the near term (e.g., less than 10 years), and \$354 million worth of assets are considered past due which means that these assets are past their theoretical service life but remain in service. These assets in the past due and very poor categories are at a higher risk of failure or not being able to deliver their intended levels of service, therefore

¹ 2024\$ value: \$637M reported in 2020

representing an important metric that indicates the need for infrastructure renewal funding strategies to be in place.

Infrastructure Backlog

The backlog value of deferred work is calculated at \$354.3 million (minus any contingency). This is defined as the value of asset renewal work that should be done in 2024 or earlier years but was not. In most cases this is a result of a years and decades-long trend of insufficient infrastructure renewal funding being available, limiting the ability to complete all the work that was identified as needed as addressed through the [Capital Plan Resourcing Strategy](#). The value of the backlog is closely related to the Infrastructure Funding Gap.

The value of the backlog as a percentage of the total value of assets has trended downwards since the first corporate AMP in 2017, indicating that the City’s plans to address the backlog through various funding strategies and project prioritization is working, though more remains to be done. In addition, this relates to the increased maturity in our data and updated condition assessments. The values of the infrastructure backlog reported in 2017 and 2020 are compared to the value of the 2024 backlog in the following table (all values inflated to 2024\$).

Year	Backlog Value (\$2024)	per cent of Total Value	\$ per resident
2017	\$603 million	12.1%	\$4,763
2020	\$331 million	6.6%	\$2,371
2024	\$354.3 million	5.4%	\$2,461

Table 2 –Trend of Infrastructure Backlog Values

The 2024 value is higher than the \$331 million backlog that was identified in 2020, however, as the percentage of the total asset inventory replacement value it is lower at 5.5 per cent in 2024 vs. 6.6 per cent in 2020.

Since the beginning of the COVID pandemic, ensuing rapid and higher than predicted inflation means the costs of completing infrastructure work have increased reducing the effectiveness of available funding: not as much work can be done for the same dollar value in 2024 as in previous years. However, the reduction of the ratio of the backlog compared to the total inventory value shows that asset management and funding strategies that have been implemented since 2017 are working, albeit slower than initially planned. Council needs to consider investing more into the existing infrastructure to reduce risk and asset failures.

Assets in the past due (i.e. the backlog) and very poor condition categories present a financial and service level risk to the City. These are assets that are nearing or past the end of their useful lives, and failure before they can be replaced is a real possibility. Given their conditions, it is almost a certainty that the levels of service these assets can deliver is not at their intended or desired levels. These are risks that must be addressed through continued dedicated infrastructure renewal funding and through strategic prioritization of operations and maintenance activities, and renewal and replacement projects across service area work plans.

Core assets which make up 81.5 per cent of our inventory (water, wastewater, stormwater, and transportation) make up 64 per cent of the total backlog at \$227 million, but make up 97 per cent of the replacement value of assets in the very poor condition category. The risks and consequences of not addressing this needed renewal will be reduced performance and quality of critical infrastructure, much of which is related to ensuring the health and safety of the city is protected.

In addition to infrastructure renewal needs, daily operations and maintenance tasks that keep infrastructure functioning and can help to extend the time between needed renewals will continue. Improving funding for these tasks can allow more effort to be focused on specific needs that will extend the useable lifecycle of the assets more effectively than simply planning to replace them.

Sustainable Funding Analysis

Sustainable funding is achieved when the backlog has been reduced to zero and the amount of annual funding meets or exceeds the amount of annual renewal needs. It is important to note that the funding information is based on anticipated reserve balances established during the 2024-2027 MYB process, and extended beyond the available 10-year information in a linear manner.

Staff will prepare updated sustainable funding projections based on updated capital funding information established through the 2025 budget confirmation process, which will be included as part of the updated Infrastructure Renewal strategy presented with the budget confirmation materials in the fall of 2024. The sustainable funding projected year for rate-funded services is 2038. The projected year of reaching sustainable funding for tax-funded services is approximately 2056, although the gap begins to close around 2047. The overall projected year of reaching sustainable funding for all services is 2044, as shown in Figure 5.

From 2024 to 2040 the funding gap between needs and available funding is forecast to continue to expand in the negative values. This is due to a combination of the backlog of work identified in 2024, the volume of assets identified in very poor condition and the available funding being less than the total needs. With tax and rate decreases, overtime there will be an increasing reliance on debt required to address the funding gap.

In 2041 and 2043 the forecast needs are less than the funding, and then beyond 2044 the funding is greater than forecast needs. The positive annual funding gap allows the cumulative negative gap to start to close around 2041 and continue to be closer to zero eventually reaching positivity in 2048 with multi-years in succession having greater than needed funding. This analysis was based on the 2024-2027 MYB process that is not fully funded, in Fall 2024 the upcoming MYB discussions will provide updated budget that will be presented in our 2025 AMP.

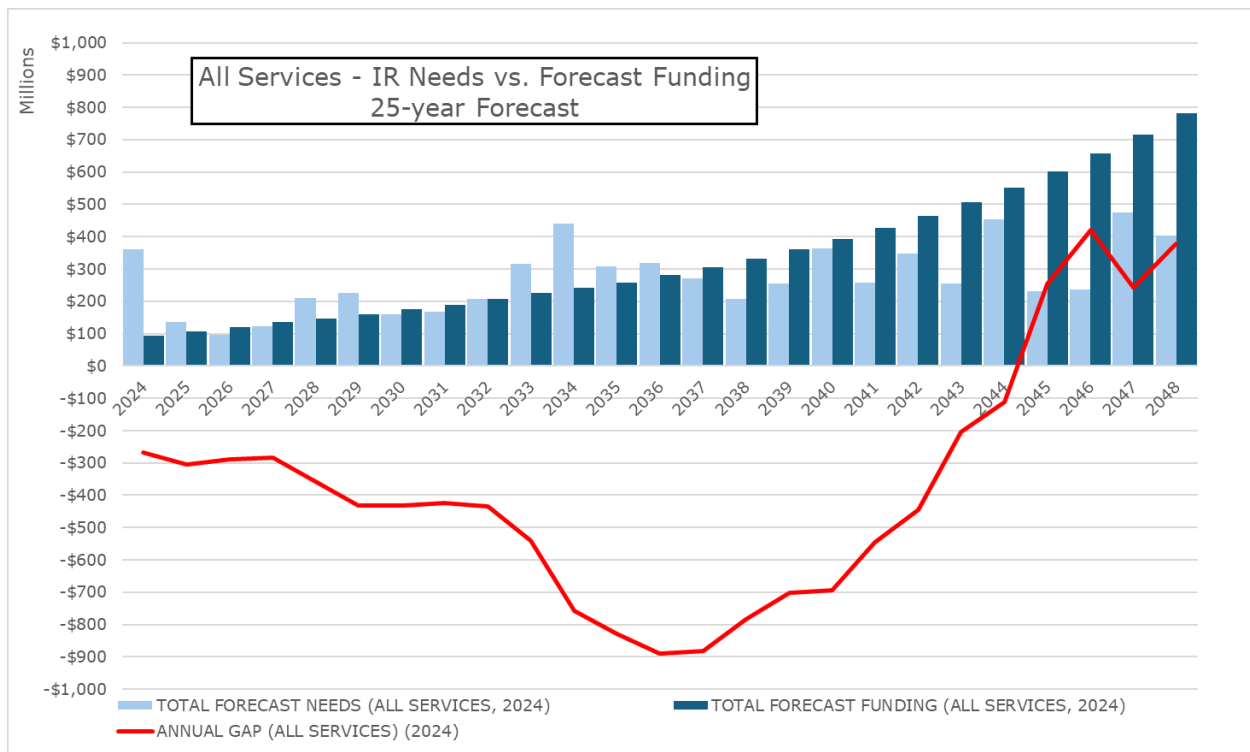


Figure 5 – Sustainable funding for all services achieved in 2048 (when the funding gap crosses zero)

Surrounding municipalities have reported a backlog but on average are closer to 4 per cent, the City of Guelph’s backlog is 5.5 per cent which is slightly higher than the average. The common funding strategies include consistent Infrastructure Renewal Levy increases, a commitment to capital reserve transfer targets and some municipalities projected a tax increase of 20-25 per cent over the next 10 years. We are not alone in this journey, but need to stay the course and continue prioritizing the assets we own today.

Conclusion

The City has established itself as an industry leader in asset management practices. Over the past 4 years, there has been significant progress in the Asset Management Program, and the program is positioned to move from a core to an advanced rating by 2030. Please refer to the [Asset Management Website](#) for more information.

As the City matures the Asset Management Program, improvements continue in the confidence of data, which improves the accuracy of calculations including the City’s backlog and sustainable funding targets. Based on current calculations, the City owns \$7.7 billion assets, that are on average in fair condition, indicating aging infrastructure. The backlog of infrastructure renewal work is estimated at \$354.3 million, which confirms the need for continued investment to reach sustainable funding levels. The data that has been collected and analyzed to calculate these values will continue to be reviewed in more detail and used to inform budget priorities. Updated information about the impact of updates to funding for infrastructure renewal will be provided as part of the budget confirmation process.

In addition to infrastructure renewal needs, daily operations and maintenance tasks that keep infrastructure functioning and can help to extend the time between needed renewals will continue. Improving funding for these tasks through the ongoing investment in the City's operating budget can allow more effort to be focused on specific needs that will extend the useable lifecycle of the assets more effectively than simply planning to replace them. In addition, continued investment in an ERP will allow our City to increase data driven decisions and transparency, through one data source.

The data presented through the Asset Management Plan clearly indicates that the City must continue investing in our existing infrastructure, reducing the infrastructure gap should be a priority to reduce the chances of asset failure. The consistent use of asset management guidelines and principles, with an effort placed on continuous improvement, will lead to an optimized balance between asset performance and asset risks, creating real value for the City of Guelph and its current and future citizens.

The AMP does not seek Council decisions on changing funding strategies or service levels; however, Council's endorsement and approval of the plan recognizes the existing state of assets and their projected funding requirements, as required by the Provincial Legislation. Understanding the current forecasted estimates will support future decisions in 2025 and beyond.

Financial Implications

This report includes no specific financial requests. However, the 2024 AMP is a tool used to support corporate budgeting and long-term financial planning. The plan outlines the financial resources required to carry out the required maintenance, renewal, and replacement of the assets used to deliver services for the community. The AMP is used in the capital budgeting process to help prioritize projects across the organization to make the best use of available funding. It also determines the long-term level of sustainable infrastructure renewal funding required, which is the basis for the Infrastructure Renewal financial strategy.

This plan confirms that increasing infrastructure renewal investment is required to support both tax supported and non-tax supported services to reduce the backlog and meet service level expectations. Balancing investment in infrastructure renewal funding requirements with other organizational priorities and objectives is outside the scope of this plan, and resides within the budget process.

The [October 11, 2023 Council Orientation and Education Workshop](#) provided context on how asset management and financial strategies are interlinked. Additionally, the [2025 Budget Confirmation Planning – 2024-166](#) report provided a framework that focused on two main factors: how "prioritizing investment or deferment carries a high or very high level of financial, regulatory or public risk" and, where possible, "prioritizing investments where divestment is deemed to have a significant impact to the residents based on existing service levels and expectations." Further, it was communicated that protecting funding for infrastructure renewal as much as possible will be the priority over funding the Service Enhancement or 100RE financial strategies. The information in the AMP is used to inform departmental work plans and priorities reflected within these identified budget priorities. To be good stewards to the current and future generations of Guelph, the City will advocate for sustained infrastructure renewal

funding to be in place to maintain a state of good repair program with responsible management of risks.

Consultations and Engagement

The process to prepare the AMP has been collaborative effort with participation from staff in all City service areas. Internal consultation has occurred with each asset owner/operator to collect/review asset data, establish level of service metrics, and review the fiscal analysis. The General Manager of each asset area has reviewed and signed off on their assets chapter of the AMP.

Finance and asset management staff have been working closely throughout the preparation of the AMP and the sustainable funding analysis. Further, progress on and information about the AMP has been presented monthly to the Capital and Asset Management Steering Committee, which has acted as the program steering committee for this work.

A detailed communication and consultation plan for community, staff, and council engagement is part of the scope of work for Phase 2 of the Level of Service project, which looks at the desired target LOS between now and July 2025.

Attachments

Attachment-1 2024 Asset Management Plan

Attachment-2 What is an Asset Level of Service

Attachment-3 Asset Levels of Service Project Timelines

Departmental Approval

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