OFFICE OF
THE CITY AUDITOR

REPORT
CAPITAL ASSET MANAGEMENT AUDIT

AUGUST 31, 2023

Report Summary

BACKGROUND

The City of Edmonton owns a variety of assets which it uses to deliver services to Edmontonians. These include assets like buildings, roads, bridges, vehicles, parks and play spaces, equipment, and information technology.

Capital asset management is the coordinated activities of an organization to realize value from assets. Successful asset management requires assessment, planning, and implementation throughout an asset's life cycle. An asset's life cycle includes acquisition, operation, maintenance, renewal, and disposal.

At the end of 2022, the City had a total asset replacement value[1] of $34.7 billion.

The City's capital asset management is guided by its Infrastructure Asset Management Policy, the Infrastructure Strategy, and Asset Management Plans.

Lifecycle Management is a section within the Integrated Infrastructure Services Department (IIS). Managers in the Lifecycle Management section:

- Lead asset management policy and strategy development
- Steward of asset management for the City in partnerships with business areas
- Coordinate Asset Management Plans
- Assess the condition of facilities, roads, bridges and open space assets
- Prioritize and plan renewal activities for these assets

For other asset types, business areas have asset managers that implement asset management practices, such as:

[1] Replacement value is the cost to replace an asset. This value remains relatively stable through the life of an asset, with adjustment due to market conditions.

- Acquiring or building new assets
- Operating and maintaining assets
- Assessing the condition of assets
- Renewing or disposing of assets

Business areas asset managers also participate in asset management committees, provide asset management knowledge of the business unit operations, and prepare asset management plans.

AUDIT OBJECTIVES & SCOPE[2]

Our audit objective was to determine whether the City manages its capital assets to optimize investments in existing infrastructure. This includes:

- Developing and maintaining a policy, strategy, and plans to guide, integrate, and direct asset management throughout the City
- Evaluating asset management practices to improve and align practices across the City
- Implementing asset management practices that align with asset management policy, strategy, and plans

This audit focused on the City's processes for funding capital asset renewal. We did not audit:

- Acquisitions, new construction, operations, or maintenance of capital assets
- IT assets, which we audited separately

WHAT WE FOUND

The City has improved the average condition of its existing infrastructure since 2010. At the end of 2010, approximately 18 percent of its assets were in poor or very poor condition, compared to less than 10 percent at the end of 2021.[3]

The City's governance structure for capital asset management includes:

[2] We conducted this engagement in conformance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing.*
[3] From the City's 2021 Infrastructure State and Condition Report.

- An Infrastructure Asset Management Policy
- An Infrastructure Strategy
- Asset Management Plans (AMPs) for some of its significant asset categories[4]

Supporting the policy and strategy, within the City's complex structure of services and assets, the City has put in place a Corporate Asset Management Steering Committee and processes, procedures, and systems to:

- Keep track of asset inventories
- Establish processes for regular asset assessment and inspections
- Run sophisticated risk-based analysis to support capital asset renewal decision-making
- Establish a continuous improvement program to enable better asset management practices
- Increase awareness of everyone's role in asset management

However, the Policy and Strategy do not fully align with some Capital Asset Management best practice criteria.[5] The City has also not developed the first generation of AMPs for all significant asset categories. For the developed plans, they are missing some components, remain in draft form, and are not updated regularly.

We also found that the City does not have guidance for asset disposition, and does not regularly review asset portfolios to identify assets it should dispose of.

We also found that the City does not have documented guidance for asset data verification to improve the accuracy and completeness of its data. We found that asset managers have limited procedures in place to verify the accuracy and

[4] The City chose the significant asset categories based on the replacement value of the assets in the categories.
[5] We based our best practice criteria off of the Government of British Columbia, *Asset Management for Sustainable Service Delivery* and The Federation of Canadian Municipalities, *How to Develop an Asset Management Policy, Strategy, and Governance Framework*. Both these sources base their practices off of the *ISO 55000 Asset Management Standard*.

completeness of the data they collect. This has resulted in some areas with process and documentation issues, as well as some data issues.

The City has developed performance measures for its capital asset management practices. However, it has not yet developed a level of service framework. As well, some of these measures are poorly defined or lack supporting data.

RECOMMENDATIONS

Recommendation 1

We recommend the Integrated Infrastructure Services Department update the Infrastructure Asset Management Policy and the Infrastructure Strategy to better align with best practices and City objectives.

Recommendation 2

We recommend the Integrated Infrastructure Services Department guide the development, approval, and regular updates of Asset Management Plans for significant asset categories.

Recommendation 3

We recommend the Integrated Infrastructure Services Department develop guidance on asset disposition including regular asset portfolio reviews to make better use of budgets.

Recommendation 4

We recommend the Integrated Infrastructure Services Department, as part of improving asset management governance, develop and communicate guidance for asset managers on the requirements of accurate and complete data.

Recommendation 5

We recommend the Integrated Infrastructure Services Department, improve the City's capital asset management performance measurement by:

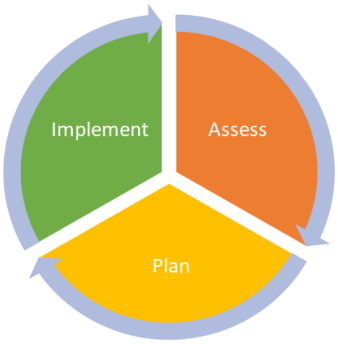
- Developing a level of service framework to support asset managers
- Clearly defining strategic performance measures

WHY THIS IS IMPORTANT

Effective asset management governance, supported by accurate and complete asset information, enables the City to make the most of its assets to deliver services that are of value to Edmontonians. Clear performance measures and regular evaluation will allow the City to measure its progress in achieving asset management goals, and identify and remedy gaps in asset management practices.

Capital Asset Management Details

WHAT IS CAPITAL ASSET MANAGEMENT?



Asset management is the coordinated activities of an organization to realize value from assets. Successful asset management involves:

- Assessment - assessing the current asset management practices and the current state of assets
- Planning - Using the assessment to develop asset management policy, strategy, plans, and a long-term financial plan
- Implementation - Carrying out asset management practices that align with their plans, and measure and report on their progress

The benefits of good asset management include:

- Aligning asset management decisions with the organization's objectives
- Reliably and sustainably delivering critical services
- Reducing costs of service delivery

CITY OF EDMONTON ASSETS

The City of Edmonton owns a variety of assets to deliver services to Edmontonians. It groups them into seven asset portfolios:

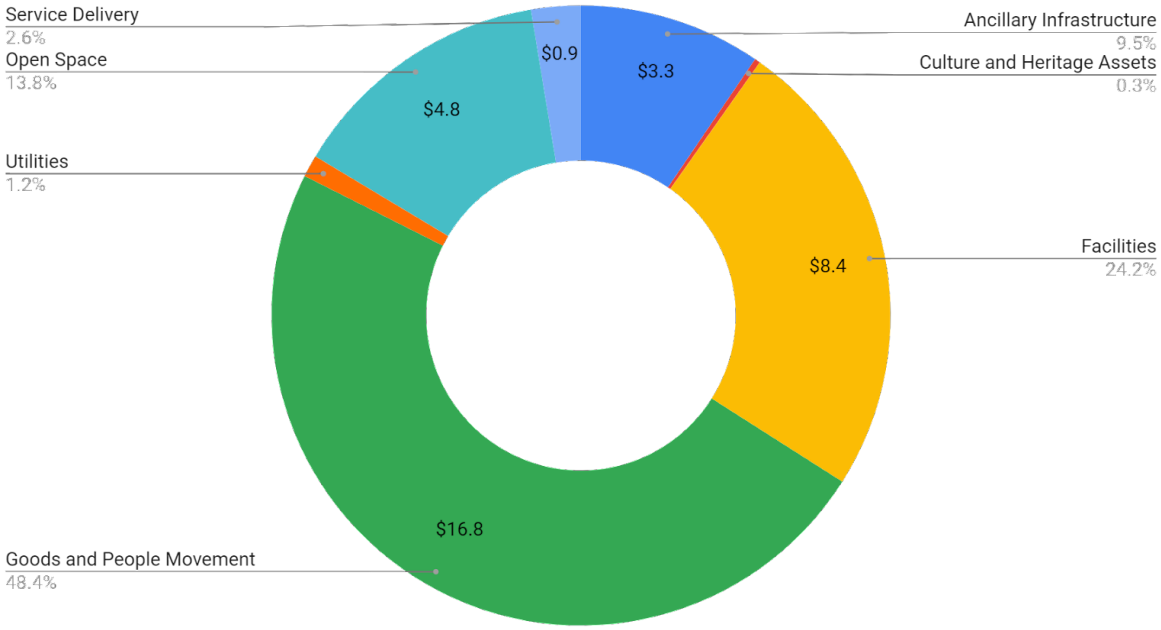
1. Service Delivery - includes assets such as fire rescue equipment, library content, and police equipment
2. Open Space - includes assets such as park utilities and structures, sports fields, and play areas
3. Goods and People Movement - includes assets such as roads, bridges, and LRT
4. Ancillary Infrastructure - includes assets such as buses, other vehicles, signs and signals, and technology

equipment

5. Facilities - includes assets such as City Hall, recreation centers, fire halls, and office towers.
6. Utilities - includes assets such as renewable energy systems, and waste vehicles and equipment.
7. Culture and Heritage Assets - includes assets such as archival documents, historical vehicles, and public art.

At year-end 2022, the City had a total asset replacement value of $34.7 billion.

Distribution of Capital Asset Replacement Values at Year-End 2022 (in billions)



CAPITAL ASSET GOVERNANCE

In 2018, the City created its first Infrastructure Asset Management Policy and updated its Infrastructure Strategy. The policy outlines the City's asset management principles and states the intent of asset management, which is to:

- Maximize benefits
- Manage risks

- Provide satisfactory levels of service in a sustainable manner

The Infrastructure Strategy details how the City plans to manage its assets. The strategy's goal is to help Council and Administration make informed decisions and use resources effectively to ensure that infrastructure is in a good state of repair and able to meet the needs of Edmontonians.

One goal of the Infrastructure Strategy is to develop Asset Management Plans (AMPs). AMPs:

- Guide the decision making and actions to be taken to manage the lifecycle of the asset
- Identify the strategies for managing the assets
- Forecast long-term requirements for these assets

The City has developed AMPs for the following significant asset categories:

- Buildings
- Bridges
- Paved Roads
- Unpaved Roads
- Sidewalks, Pathways, Trails, and Stairs
- Urban Forest

CAPITAL ASSET MANAGEMENT ACCOUNTABILITY AND RESPONSIBILITY

Various business areas and some City agencies have accountability for and responsibility over the City's asset management. All of these parties need to work in an integrated manner, as asset management activities cannot be completed in isolation.

Service Delivery Areas

The role of the service delivery areas (e.g., Community Recreation and Culture, Waste Services, and Fire Rescue Services) is to:

- Identify the need for new infrastructure assets
- Determine the asset functional requirements to deliver their services (service levels)

- Use the assets appropriately and as intended
- Provide input into asset renewal

City Operations Department

The City Operations Department is responsible for properly maintaining the City's infrastructure assets. They enable service delivery areas to continue providing services and to prevent assets from aging prematurely. Operations work needs to be closely coordinated with the renewal activities performed by the Integrated Infrastructure Services Department (IIS).

Integrated Infrastructure Services Department

IIS is responsible for planning, design, and delivery of capital infrastructure. IIS works closely with all of the other areas mentioned previously to:

- Meet citizens' service delivery needs
- Design and build new assets
- Renew assets at the right time and in the right manner to maximize their useful life

Lifecycle Management

Lifecycle Management is a section within IIS. Lifecycle Management leads policy and strategy development, and coordinates asset management plans. For facilities, roads, bridges, and open space assets, Lifecycle Management also assesses their condition, and prioritizes and plans renewal projects.

Within Lifecycle Management, the Infrastructure Strategies and Innovation Unit supports initiatives that improve asset management service. This team reports its progress to the Corporate Asset Management Steering Committee.

Corporate Asset Management Steering Committee

The Corporate Asset Management Steering Committee is made up of asset management leaders from across the City. Its mandate is to provide strategic direction for asset management in the City of Edmonton, and champion the implementation of the Infrastructure Strategy. Its responsibilities include:

- Making asset management decisions that have a broad

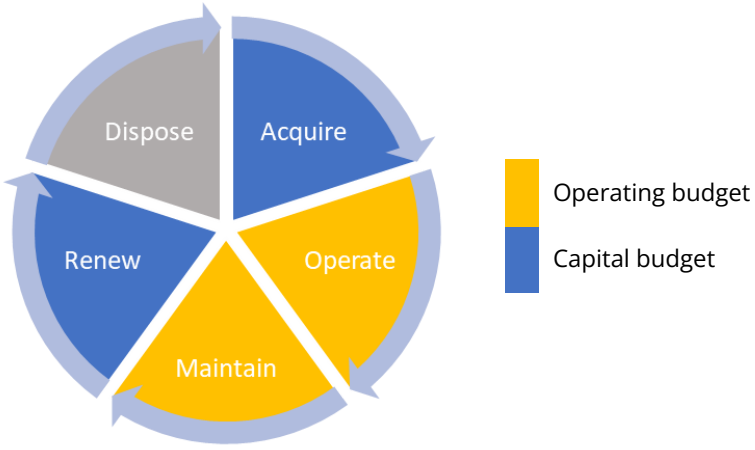
impact across the organization
- Providing strategic advice to the Enterprise Asset Management Team
- Providing resources to advance the Enterprise Asset Management work
- Being a champion for asset management

Other Asset Managers

Other business areas, such as Fleet, Information Technology, and Waste Services, have their own asset managers who assess conditions, and prioritize and plan renewal projects for the assets they own.

ASSET MANAGEMENT FUNDING

Funding for asset management activities comes from the City's operating and capital budget depending on which stage of the asset management lifecycle the asset is in. The asset management lifecycle includes acquisition, operation, maintenance, renewal, and disposal.



The City's operating budget covers asset operating costs and maintenance. The capital budget covers asset acquisition (or growth investments) and renewal costs. Disposal costs can come from either budget depending on the circumstances of the disposal.

Renewal investments focus on making the most of existing assets by restoring them to their former condition and

extending their service life. Renewal includes rehabilitation and replacement, and can apply to individual components of an asset. This stage is the focus of this audit.

RENEWAL FUNDING PROCESS

The City uses the Risk-based Infrastructure Management System (RIMS) software to support capital asset renewal decision-making. RIMS uses asset information to compute ideal renewal funding and distribution to ensure long-term value. RIMS can also test different funding scenarios and forecast future asset conditions.

Asset managers maintain asset information such as quantity, replacement value, age, expected life, and condition of their assets. Annually, Lifecycle Management collects this information from asset managers and feeds it into RIMS, consolidating inventory for reporting purposes. In budget years, this consolidation is used to calculate ideal renewal funding and running scenarios.

RIMS scenarios are used to develop the 10-year Capital Investment Outlook. The Capital Investment Outlook provides a longer-term view of the City's capital program, taking into account Council's strategic vision and goals, ongoing investments required for existing infrastructure, new infrastructure needed, and available capital funding and debt capacity. The Capital Investment Outlook helps Council understand how short-term funding decisions will impact long-term capital investment requirements.

Council allocates capital funding between growth and renewal projects within its Capital Budget. Lifecycle Management allocates available renewal funding to the different asset classes based on priority (e.g., bridges always receive 100 percent of required renewal funding due to the safety implications of letting them fall into disrepair). Program managers for each asset class then use their allocated funding to renew individual assets based on their own risk criteria.

Improve Asset Management Governance Structure

KEY FINDINGS

The City has established a governance structure for capital asset management. It has an Infrastructure Asset Management Policy, an Infrastructure Strategy, and Asset Management Plans (AMPs) for its largest asset categories.

However, we found the City has not updated the Infrastructure Asset Management Policy and Infrastructure Strategy since 2018, and they do not fully align with best practice criteria. They are missing some components that could help the City to make the best use of its existing infrastructure.

We also found areas where the City can improve its AMPs:

- The City does not have plans for all significant asset categories. It has not developed plans for transit buses, LRT, fleet assets, and waste assets.
- As these are first generation plans, some data within a few of the plans is missing, such as level of service targets and long-range operational forecasting.
- Though Lifecycle Management is working on an asset rationalization framework, the majority of the developed plans did not have documented strategies for how and when to dispose of assets in those categories.
- The six completed plans remain in draft form, requiring approval by the Corporate Asset Management Steering Committee. There are components in them that the City has not yet implemented.
- The City is not regularly updating the plans so that they remain useful.

ASSET MANAGEMENT POLICY IMPROVEMENTS

We compared the Infrastructure Asset Policy to best practice guidance documents.[6] The table below shows where the policy does not align with some of these best practice criteria.

Table 1: Areas Where the City's Asset Management Policy Does Not Align with Best Practice

Best Practice for Asset Management Policies	City's Current Policy
References the importance of accurate, complete, and reliable data.	No discussion of the importance of accurate, complete, and reliable data. *Recommendation 4*
Includes clear roles and responsibilities.	All principles refer to "the City" as the responsible party and there are no supporting documents that specify responsible people or groups. *Recommendation 1*
Integrates asset management with land-use planning.	No discussion regarding how asset management is considered or reviewed when planning land use. *Recommendation 1*
Sets clear intervals for reviewing and updating the policy.	No formal timeline for policy review or update. *Recommendation 1*

ASSET MANAGEMENT STRATEGY IMPROVEMENTS

We also compared the Infrastructure Strategy to the best practice guidance documents. The table below shows where the strategy does not align with some of these best practices criteria.

[6]We based our best practice criteria off of the Government of British Columbia, *Asset Management for Sustainable Service Delivery* and The Federation of Canadian Municipalities, *How to Develop an Asset Management Policy, Strategy, and Governance Framework*. Both these sources base their practices off of the *ISO 55000 Asset Management Standard*.

Table 2: Areas Where the City's Asset Management Strategy Does Not Align with Best Practice

Best Practice for Asset Management Strategies	City's Current Strategy
Includes clear objectives that are linked to the organization's strategies.	Includes objectives, but they are not clear (i.e., they do not include specific deliverables, timelines, responsible parties) and are not tied to the City's strategy. *Recommendation 5*
Includes a documented process to define and measure levels of service.	The City lacks a level of service framework. Though some level of service targets are identified in AMPs, they were not developed using a standardized City process. *Recommendation 5*
Requires considering removal, disposal, or divestiture of an asset when making renewal decisions.	There are no documented asset disposal procedures. There is no regular review of the asset portfolio to identify those that can be disposed of. *Recommendation 3*
Links to other organizational plans, City Plans, and long-term planning.	Includes references to previous City strategies and long-term planning documents, as it predates The City Plan. *Recommendation 1*
Includes guidance on asset prioritization.	Includes prioritization criteria considered for capital growth projects, and referenced that RIMS is used to optimize renewal scenarios, but does not specifically state the criteria used in RIMS. *Recommendation 2*
Includes identification and mitigation of risks to achieving strategic goals.	Includes a risk management section, but does not identify specific risks to achieving asset management goals or mitigation strategies. *Recommendation 1*
Defines how often the strategy will be reviewed and updated.	No formal timeline for strategy review or update, however, the strategy states it is intended to cover the 5 years from 2018 to 2022. *Recommendation 1*

ASSET MANAGEMENT PLAN IMPROVEMENTS

Asset management plans (AMPs) define the City's approach to manage specific asset categories over the short, medium, and long term. This includes:

- Describing the current state of assets
- Tracking level of service and performance
- Considering growth and future demand
- Outlining management strategies
- Explaining decision-making
- Identifying and managing risk
- Financial planning

We found areas where the City can improve its AMPs.

Missing Asset Management Plans

The City has begun to develop first generation AMPs for its significant asset categories. The developed plans account for 77 percent of the replacement value of the City's assets and 30 percent of the asset categories. However, there are significant asset categories that do not have plans. They include assets such as transit buses, LRT, fleet assets, and waste assets. In the asset categories without such plans, we found the following gaps in asset management practices:

- Some areas did not have documented criteria for prioritizing asset renewals.
- Some areas did not document the level of service measures they can use to prioritize renewals.
- Some areas do not have a formal process to verify their asset inventory.

Incomplete Asset Management Plans

We reviewed the City's six draft AMPs and found important components were missing. For example:

- Most did not specify who owns the plan, who should be reviewing it, and who should be approving it.
- Some were missing documented level of service measures (discussed later in this report).
- Some were missing long-term projections of operations and maintenance expenses beyond the current budget

cycle. Documenting these projections in the plan consolidates cost information from operations and capital teams, helping to coordinate asset management decisions.

Lack of Asset Disposition Guidance

In most of the developed AMPs, there are no documented disposition strategies. Asset managers we talked to stated that there is no asset disposition guidance at the City.

Asset managers do not regularly review their asset portfolio to identify assets that can be disposed of. The City also does not designate a budget for asset dispositions. Disposition costs usually come from operations and maintenance budgets. However, providing services takes priority over dispositions and limited budgets can lead to deferring dispositions.

Lifecycle Management is developing an Asset Rationalization Program. Asset rationalization involves analyzing assets to see how efficiently and effectively they meet the needs of the services they support. The process helps identify assets for which disposal, repurposing, or renewal would be cost-effective.

Unimplemented Asset Management Plans

All of the completed AMPs remain in draft form. The Corporate Asset Management Steering Committee has not formally approved them. In the plans we reviewed, we found the City included important components, but has not implemented them. This finding includes:

- Risk identification and mitigation strategies - most plans had identified risks faced by that asset category as well as the current and future mitigation action. However, of the two plans we tested, one area had not implemented these mitigation strategies because the plan had not been formally approved.
- Level of service measures - some plans listed proposed level of service measures but business areas had not

formally decided which ones to implement, and some did not have established targets and current state data.

Lack of Regular Updates

Business areas are required to update AMPs every four years to correspond with the budget cycle. However, best practices state that plans should be living documents that are updated more regularly, so that they remain useful and reflect actual practices.

For example, the first generation AMP for buildings was created before the most recent budget, and included strategies based on RIMS ideal renewal funding (e.g., carry out condition assessments on 200 buildings every year). Actual renewal funding was less than the calculated ideal funding. The asset managers shifted their asset management strategies for buildings based on the funding they received. They decided to decrease the number of condition assessments to 140 buildings every year. However, they did not update their plan to reflect these new strategies.

Updating the AMP when these strategic changes happen helps coordinate and align efforts of the different teams managing those assets.

WHY THIS IS IMPORTANT

Regular updates to the policy and strategy will align asset management efforts across the City to achieve asset management objectives. Having complete and updated AMPs helps coordinate actions and decisions that could lead to better use of City assets and improve the services they provide. Without considering when best to dispose of assets, the City risks having more assets than it needs to deliver services to Edmontonians, which could result in inefficient use of budgets.

RECOMMENDATION 1

Update the Infrastructure Asset Management Policy and the Infrastructure Strategy to better align with best practices and City objectives.

Responsible Party

Deputy City Manager, Integrated Infrastructure Services

Accepted

Management Response

The updates to the Infrastructure Asset Management Policy and the Infrastructure Strategy are currently in development as part of the IIS Business Plan for 2023-2026.

Implementation Date

June 30, 2024

RECOMMENDATION 2

Guide the development, approval, and regular updates of Asset Management Plans for significant asset categories.

Responsible Party

Deputy City Manager, Integrated Infrastructure Services

Accepted

Management Response

Administration is continuing to progress on completion of Asset Management Plans (AMPs). The existing first generation AMPs awaiting approval will be prioritized for review and approval

by the Corporate Asset Management Steering Committee.

The balance of assets not currently covered by AMPs will be progressed. Because of the significant number of resources required to input into these plans, progress on developing them is intentionally incremental and will be scheduled to align with the business area's priorities.

The first generation AMPs will be updated and noted areas for improvement will be addressed where practicable.

Implementation Date

December 31, 2027

RECOMMENDATION 3

Develop guidance on asset disposition including regular asset portfolio reviews to make better use of budgets.

Responsible Party

Deputy City Manager, Integrated Infrastructure Services

Accepted

Management Response

Administration is developing an Asset Rationalization Program to begin implementation in 2023. As part of this program implementation, a disposition procedure will be developed in

alignment with this recommendation.

Implementation Date

December 31, 2024

Provide Guidance for Asset Information Accuracy and Completeness

KEY FINDINGS

Asset managers collect information such as replacement value, condition rating, inventory, and renewal interventions for their assets. Lifecycle Management consolidates this information for the City to use as inputs when making renewal investment decisions.

However, we found that the City does not have documented guidance for verifying the accuracy and completeness of its asset information.

As a result, we found:

- Process and documentation issues - some data processes are behind schedule or undocumented.
- Data issues - some data is inconsistent between information systems, and between these systems and Lifecycle Management's consolidation.

NO DOCUMENTED GUIDANCE FOR VERIFYING ASSET INFORMATION

Asset managers collect information such as replacement value, condition rating, and inventory. The City does not have documented guidance for verifying the accuracy and completeness of its asset information. The Infrastructure Asset Management Policy does not reference the importance of accurate, complete, and reliable data. Roles and responsibilities of asset managers in relation to asset data are also not clear.

Without this guidance, we found most of the asset managers we spoke to do not have documented procedures in place to verify the asset data they collect.

The City uses many different asset information systems, databases, and spreadsheets to house asset information.[7] These systems are not integrated with each other or with RIMS by automation or by process.

Asset managers and Lifecycle Management use manual processes to move information:

- From the original source documents to the information system
- From one information system to another
- From the information system to Lifecycle Management's consolidation sheets

For a sample of asset categories, we reconciled the different data sources and systems. We found process and documentation issues, as well as data issues in some of the manual processes described above.

Process and Documentation Issues

We found some areas were not following their own data processes, or had not documented them. In some cases, this led to missing original source documents. For example:

- For facilities, the asset condition data in the information system did not match the original source documents. This is because the asset managers are behind schedule completing condition assessments and have not entered the ones they have completed into the source system.
- For bridges, the 2021 replacement values in the information system did not have an original source document. They are based on historical unit costs plus contingencies. However, the documentation for the contingency rates used in the 2021 inventory was not found.

[7] These are collectively referred to as "information systems" throughout this report.

- For retaining walls, asset managers did not have a clearly documented rationale for calculating replacement values.

Data Issues - Between Information Systems

In some cases, the same asset can have multiple information systems to house its data. For example, an asset's replacement value and condition assessments could be housed in separate information systems. In these cases, we found few business areas reconcile the two systems to make sure shared information is consistent.

We reconciled facility information between two information systems — one for condition and one for inventory. Of the City's 983 facilities, we found 135 facilities had condition ratings in one system but not the other.

Data Issues - Between Information Systems and Lifecycle Management's Consolidation

Lifecycle Management consolidates asset information to create a complete inventory of all City assets. Lifecycle Management asks asset managers to transfer asset data from their information systems into Inventory Collection Sheets (Google Sheets spreadsheet). Lifecycle Management also uses the information on these sheets for input into RIMS.

We found some asset managers are not checking the accuracy and completeness of the Inventory Collection Sheets they submit to Lifecycle Management.

As a result, we found data issues between the Inventory Collection Sheets and the information systems. For example:

- For bridges, we were unable to reconcile the 2021 replacement values in the Inventory Collection Sheet to the information system data.
- For boulevard trees, the replacement values in the Inventory Collection Sheet did not reconcile with what was in the information system.

WHY THIS IS IMPORTANT

The amount of renewal funding allocated to each asset area depends on accurate inventories, conditions, and replacement values. Errors in these inputs can result in asset areas receiving more or less renewal funding than they should.

RECOMMENDATION 4

As part of improving asset management governance, develop and communicate guidance for asset managers on the requirements of accurate and complete data.

Responsible Party

Deputy City Manager, Integrated Infrastructure Services

Accepted

Management Response

As part of the updated Infrastructure Strategy, a procedure to guide asset managers on the requirements of accurate and complete data will be developed in alignment with this recommendation.

Implementation Date

December 31, 2024

Improve Capital Asset Management Performance Measurement

KEY FINDINGS

Performance measurement is the process of comparing outcomes to stated objectives. Evaluating the City's capital asset management practices includes developing performance measures and targets, analyzing the results, and reporting on the results.

The City has developed performance measures for its capital asset management practices. IIS reports on the results of these measures in a number of ways:

- Internally, using the Integrated Infrastructure Services Department dashboard and through strategic initiative progress updates to senior management
- Externally, in the bi-annual Infrastructure State and Condition report, and the Capital Investment Outlook Report

However, we identified important aspects of capital asset management performance measurement that the City can improve:

- The City has not yet developed a Level of Service Framework, and some of the developed AMPs do not include level of service measures.
- Some strategic performance measures are poorly defined, may be inaccurately reported, or lack performance data to report.
- The quarterly strategic initiative update reports provided to senior management are not clear on what is being measured or how the result is arrived at.

LACK OF LEVEL OF SERVICE FRAMEWORK AND MEASURES

A Level of Service Framework should include[8]:

- Defining customer expectations
- Developing levels of service
- Consultation, communication, and approval
- Ongoing review, updates, and improvements

The Infrastructure Asset Management Policy and Infrastructure Strategy, require the City to have a framework to define levels of service and corresponding measures for each asset category. The City has not yet met this requirement.

Our review of the developed AMPs found some had documented level of service measures, such as:

- Percentage of assets in Condition Grade D or F (poor condition)
- Percentage of users satisfied with parks and green spaces
- Average bridge condition index
- Percentage of fire and rescue facilities below capacity

However, some plans did not have level of service measures or stated only potential measures. Some business areas have level of service measures that are not documented in the AMPs.

INACCURATE DASHBOARD PERFORMANCE MEASURES

Lifecycle Management uses the IIS dashboard to report on the overall progress of capital asset management to IIS management. We reviewed a sample of these measures and found some were poorly defined, lacked supporting data, or may be inaccurately reported. For example, we found the following issues:

- The dashboard reports that 80 percent of asset categories are covered by an AMP. However, the City has not yet formally approved these plans. As well, it is not clearly documented if the measure is by replacement value or asset category. Only 30 percent of asset categories are covered by draft plans.

[8] Municipal Finance Officers' Association of Ontario *Asset Management Framework* (2018)

- The dashboard reports that 80 percent of service areas have levels of service defined. However, this is not correct. This number is based on the percent of AMPs in place by replacement value. The plans are in draft form and have not yet formalized their level of service measures.
- The dashboard includes a measure of the percent of City employees with asset management training that require it. However, results are not reported because the City does not have this data. There is no listing of who should have training, so percent of staff completing training cannot be determined.

UNCLEAR REPORTING ON STRATEGIC INITIATIVES

As part of its reporting to Department management Lifecycle Management reports on the Infrastructure Strategy activities. In Q4 of 2022 they reported a result of 96 percent complete. It is not clear in the report or supporting scoping document what they are measuring or how they arrived at 96 percent completion.

There are 10 asset management system improvement activities referenced in the scoping document as coming out of the development of the Infrastructure Strategy. The scoping document also says that Lifecycle Management will be focusing on 3 of them in 2019 and the remaining activities will be delivered over the following 3 years. The scoping document and the Infrastructure Strategy are not clear on what is required to complete these activities.

In our discussions with management, they told us they used the following methodology to calculate the 96% completion:

1. They measured completion on the original three focus activities - Asset Management Plans, Asset Management Training, and Levels of Service.
2. To determine the completion of the AMPs, they included asset categories IIS has control over (roads, bridges, facilities and open spaces) and they consider draft reports as completed.

3. If an Asset Management Plan includes identified level of service measures, and data practically exists, this is considered complete for the Level of Service activity. There is an understanding these are continually improving as processes and data matures. An Asset Management Plan also did not need to have a level of service for every asset it covers for this activity to be considered complete.
4. They consider developing a training course as completion of the Asset Management Training activity.

WHY THIS IS IMPORTANT

Accurate and clear performance measurement and reporting support continuous improvement, consistency, and alignment of capital asset management practices across the City. They also help assess progress in achieving asset management objectives, and identify gaps in existing practices.

RECOMMENDATION 5

Improve the City's capital asset management performance measurement by:

- Developing a level of service framework to support asset managers
- Clearly defining strategic performance measures

Responsible Party

Deputy City Manager, Integrated Infrastructure Services

Accepted

Management Response

Informed by the updated Infrastructure Strategy, a level of service framework will be developed for

use by service owners to identify level of service measures which align with technical levels of service used by asset managers to understand asset performance.

Strategic performance measures for asset management will be developed in alignment with the City's Enterprise Performance Management process with regular reviews and recalibration to ensure reporting is aligned with planned deliverables.

Implementation Date

June 30, 2025

ACKNOWLEDGEMENT

We would like to thank the staff in Lifecycle Management and the staff in the business areas we reviewed for their cooperation during this audit.