

OFFICE OF THE CITY AUDITOR

# REPORT

## Building Assets Inventory System - Data Analytics Audit

May 11, 2026

Edmonton

# Background

## OVERVIEW

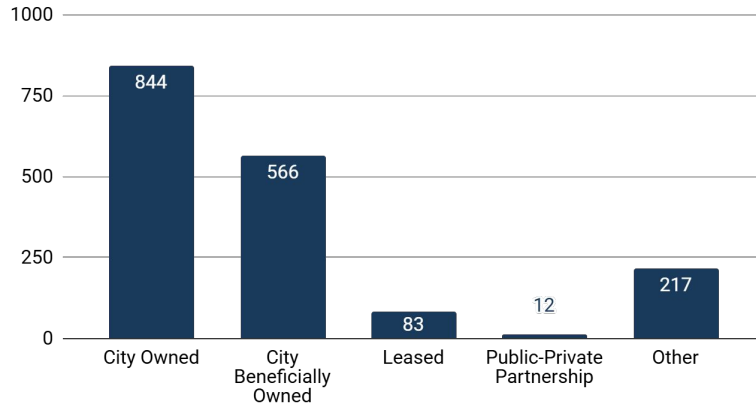
- The City of Edmonton owns and leases a number of building assets it uses to deliver services to citizens.
- Accurate, complete, and reliable building asset information is important for effective asset management, accurate financial forecasts, and informed decision-making.

## PROCESS

- The City's Building Assets Inventory System (Tririga) stores data on the City's building assets and leases (both what the City leases to others and what the City leases from others). This includes information such as:
  - Status of the building (active versus retired)
  - Physical condition rating
  - Gross area (square feet) and floor plans
  - Age of the building
  - Lifecycle information of leases
  - Lease payment data
  - Lease and building cost centre
- Tririga is managed by Property Services in the Real Estate Branch, which resides in the Infrastructure Services Department.
- Tririga is integrated with other City systems such as the financial reporting system, the tax assessment system, and the risk and insurance system.

# Background

**Chart 1: Number of Active Buildings by Tenure  
(as of April 7, 2026)**

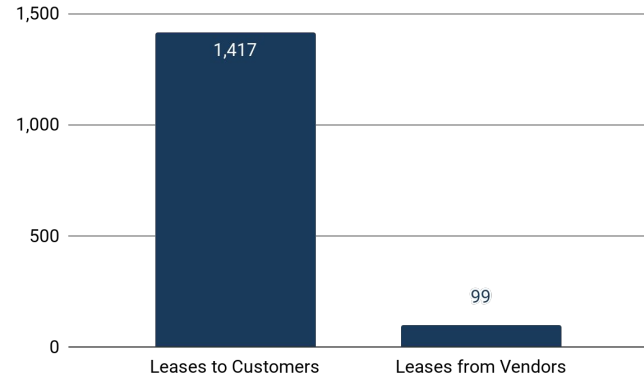


City owned buildings are ones where the City owns the building and the land.

City beneficially owned buildings are when the City owns the land and allows a tenant to construct a building on it. They are tracked so the City is aware of the potential risks related to buildings on City lands. When tenants abandon their land leases, the vacated buildings become the property of the City.

Leased buildings are owned by others that the City leases for its use.

**Chart 2: Number of Leases by Type  
(as of April 7, 2026)**



Leases from vendors is higher than the 83 active leased buildings in Chart 1 because it includes land leases.

# Audit Overview

## OBJECTIVE

To assess the effectiveness of access controls, and the accuracy, completeness, and reliability of the City's building assets inventory system (Tririga).

## CONTROL OBJECTIVES

- **Properly accessed** - Access to building assets inventory data is restricted to relevant information and employees with a valid business need.
- **Accurate and complete** - Data in the building assets inventory management system is accurate and has all relevant fields.
- **Reliable** - Data in the building assets inventory management system is trustworthy and up-to-date, meaning it matches other City records and shows regular activity to prove the assets actually exist and are being managed.

## SCOPE

This audit covered building assets and leases managed within Tririga. We also examined integration points between Tririga and other City systems by comparing data for alignment. This audit focused solely on Tririga and did not assess the accuracy or validity of data in the other City systems.

## APPROACH

We tested the control objectives using data analytics. We flagged exceptional cases for further review by the Branch. We have also developed an internal dashboard with the results of the tests to support the Branch in ongoing monitoring. *(See Appendix 1 for more information on the dashboard)*

# What We Found

Overall, the Real Estate Branch has not met the objective of ensuring the effectiveness of access controls, and the accuracy, completeness, and reliability of the City's building assets inventory system (Tririga).

Control Objective	Summary of Findings	Data Analytics Outcome*
Properly Accessed	<ul style="list-style-type: none"><li>• Some users are able to both initiate and approve the same transactions.</li><li>• Some users on the access list may not have a relevant business need.</li><li>• No terminated employees are listed as active users.</li></ul>	1
Accurate and Complete	<ul style="list-style-type: none"><li>• There is a lack of clarity on:<ul style="list-style-type: none"><li>○ The type of assets that belong in Tririga.</li><li>○ The information recorded for each asset type.</li></ul></li><li>• A number of building and lease records are missing information.</li></ul>	2
Reliable	<ul style="list-style-type: none"><li>• Replacement values are not accurate.</li><li>• Data points between Tririga and other City systems matched.</li></ul>	2



Partially met



Not met

\*Number shows corresponding recommendation for the control objective

# Audit Recommendations

## RECOMMENDATIONS TO THE REAL ESTATE BRANCH

**Recommendation 1:** Implement a formal access management plan to improve segregation of duties and restrict access to users with a relevant business need.

**Recommendation 2:** Develop and implement a formal data governance standard for the Building Assets Inventory System. This standard should clearly define:

- **Asset Inclusion:** Which asset types belong in the inventory.
- **Data Requirements:** The specific required data fields for each asset type.
- **Update Protocol:** The methodology for updating these data fields and the required update frequency.
- **Roles and Responsibilities:** Assignment of responsibility for managing data elements.

## WHY IS THIS IMPORTANT

Implementing strict access controls and segregating duties will mitigate the risk of unauthorized changes, data integrity issues, and inappropriate data access.

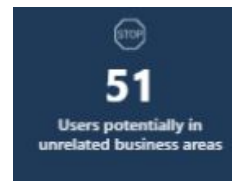
Implementing a data governance standard to clarify what belongs in the system and the specific data requirement will help reduce the risk of system clutter and improve the reliability of the system as the source of truth for building and lease information.

# Recommendation 1 - Improve User and Access Management

We found that some users are able to both initiate and approve transactions. We also found that access is not restricted to employees with relevant business need.

## Key Findings

- 27 users both initiated and approved over 1,300 transactions in the system, including the full revision and termination of leases.
  - The City's exposure is limited by contractual controls, as the physical signed agreements remain the final authority over any system-entry changes.
- 51 users may have access to Tririga data without a relevant business need.
  - The majority of these users have viewing access only.






## Why this is important:

- Restricting the ability for a single user to both initiate and approve tasks will help reduce the risk of unauthorized changes in the system, including errors.
- Restricting access to only users with a documented business need will help reduce the risk of inappropriate access to data by employees in unrelated business areas.

# Recommendation 1 - Improve User and Access Management

## Recommendation 1

	Implement a formal access management plan to improve segregation of duties and restrict access to users with a relevant business need.
	<b>Responsible Party</b> Branch Manager, Real Estate
	<b>Management Response</b> Real Estate will work with Open City and Technology to implement a formal access management plan. This plan will define the segregation of duties so that staff who initiate a data change are not able to approve that change as well. The plan will also ensure that only staff with relevant business needs have access to the Building Assets Inventory System.
	<b>Implementation Date</b> August 31, 2026

# Recommendation 2 - Develop and Implement Formal Data Governance Standard for Tririga

Our testing found accuracy and completeness issues in Tririga. The system lacks clear scope and as a result includes data on many non-buildings. Information such as replacement values and asset condition ratings are tracked inconsistently and is present for some non-City owned buildings but absent for others. Some building and lease records are missing information. We also found reliability issues in the replacement values as they are not consistently updated.

## Key Findings


### Accuracy and Completeness

- There is no clearly defined scope of what belongs in Tririga. The system contains close to 1,000 non-building records, such as bridges and structures.
- There is no clarity on what information should be recorded for each asset type. As a result we observed instances of:
  - Recording potentially unrequired information in Tririga:
    - Asset condition and replacement value are being recorded for some but not all City beneficially owned and leased buildings.
    - While non-City owned buildings are generally not expected to have replacement values or condition ratings recorded, 179 active non-City owned buildings currently have replacement values and 35 have physical condition ratings.




# Recommendation 2 - Develop and Implement Formal Data Governance Standard for Tririga

- Not recording potentially required information in Tririga:
  - Out of 844 active City owned buildings, 844 were missing at least one of 13 fields tested:
    - 844 were missing estimated asset life
    - 349 were missing the maintenance responsibility
    - 219 were missing physical condition rating
    - 38 were missing replacement value
  - Out of 1,500 leases, 73 were missing at least one of 11 fields tested:
    - 61 were missing a leasing agent
    - 11 were missing lease class
    - 10 were missing a contract status

  
**844**  
City-owned buildings  
missing at least one  
relevant field

  
**219**  
City-owned buildings  
missing/invalid  
condition rating

  
**73**  
Lease records missing at  
least one relevant field

# Recommendation 2 - Develop and Implement Formal Data Governance Standard for Tririga

## Reliability

- Various methodologies are used to populate replacement values. The replacement value helps in determining the amount of insurance coverage needed to fully replace a building after a total loss.
- Replacement values have not been adjusted for things like inflation since 2023.
- Prior to 2023 replacement values were adjusted, however:
  - There are 49 active City owned buildings where replacement values increased by more than 50% or decreased by more than 20% year-over-year. From the data it is not clear if there are valid reasons for these fluctuations or if these resulted from data entry errors.
  - There are 28 active City owned buildings where the replacement value was not adjusted by the standard annual factor and 7 where values remained identical to the previous year despite expected changes.
  - There are 117 active City owned buildings where the recorded replacement value was \$0 for at least one year.



# Recommendation 2 - Develop and Implement Formal Data Governance Standard for Tririga

## **Why this is important:**

- Establishing clear rules for what types of assets should and should not be in the system will help reduce the risk of inaccurate reporting and poor data quality.
- Defining clear standards for both City owned and non-City owned records will help reduce the risk of confusion and optimize resources if certain fields do not need to be populated.
- Providing clarity on required data fields for each asset type will help reduce the risk of inconsistent tracking and ensure the system remains a reliable source of truth.
- Ensuring all relevant building and lease data fields are fully populated and regularly updated with consistent methodology will help reduce the risk of inaccurate reporting and reliance on inaccurate data by users.

# Recommendation 2 - Develop and Implement Formal Data Governance Standard for Tririga

## Recommendation 2

Develop and implement a formal data governance standard for the Building Assets Inventory System. This standard should clearly define:

- Asset Inclusion: Which asset types belong in the inventory.
- Data Requirements: The specific required data fields for each asset type.
- Update Protocol: The methodology for updating these data fields and the required update frequency.
- Roles and responsibilities: Assignment of responsibility for managing data elements.



### Responsible Party

Branch Manager, Real Estate

# Recommendation 2 - Develop and Implement Formal Data Governance Standard for Tririga

## Recommendation 2



### Management Response

Real Estate will lead the development and implementation of a formal data governance standard for the Building Assets Inventory System. This work will include the participation of representatives from other city sections including Lifecycle Management, Insurance and Claims Management, and Affordable Housing and Homelessness. At a minimum this standard will address asset inclusion, data requirements, update protocol and roles and responsibilities.



### Implementation Date

December 31, 2026

# Appendix 1: Internal Dashboard for Ongoing Monitoring

## **DASHBOARD**

In order to support the Real Estate Branch in ongoing monitoring of the Building Assets Inventory System (Tririga), we have developed a dashboard with the results of our audit tests. The dashboard has a summary page with highlights of the tests conducted. The Branch can also see detailed information about the test results and follow up on specific cases that have been flagged as needed. This dashboard has been fully automated and set to refresh monthly with new data.

A screenshot of the summary page is provided on the next page.

# Screenshot of Internal Dashboard for Ongoing Monitoring

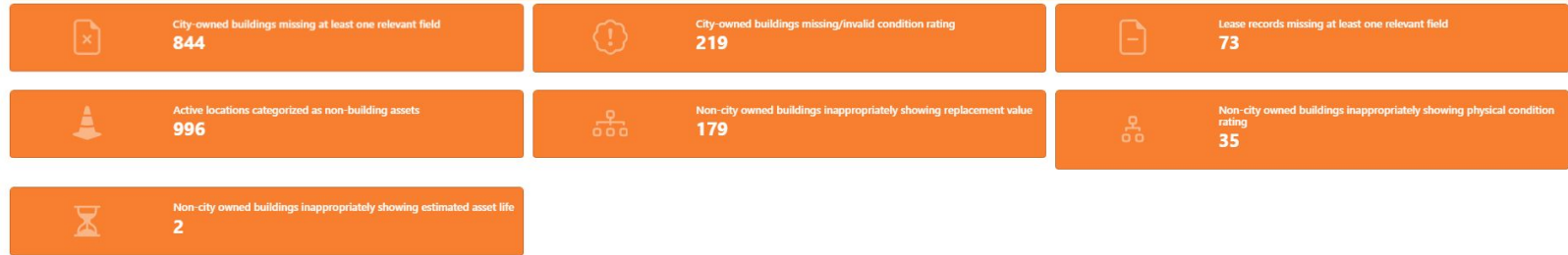
Tririga Audit Dashboard [Overall Summary](#) [Summary of Tests](#) [Details of Tests](#)

## Tririga Audit: Executive Summary

### 1. Properly Accessed



### 2. Accurate and Complete



### 3. Reliable



# Appendix 2: Global Internal Audit Standards Requirements and Acknowledgement

## **AUDIT STANDARDS**

We conducted this engagement in conformance with the Institute of Internal Auditors' Global Internal Audit Standards .

The Institute of Internal Auditors' Global Internal Audit Standards require us to report the significance and prioritization of our findings. This report contains all our significant findings and those that we deemed not significant, but that still support our recommendations. We prioritized each significant finding based on how important it is that management address the finding. This report contains only those significant findings that we prioritized as management must address, or should address.

## **ACKNOWLEDGEMENT**

We would like to thank the staff in the Real Estate Branch for their cooperation during this data analytics audit