

For Public Release

Date: 2025-06-30
Dept: Audit Committee

City of Calgary Infrastructure Review

Interim Report Presentation
Insights & observations

March 13th, 2025

Transmittal

March 12, 2025
City of Calgary
800 Macleod Trail SE,
Calgary AB T2G 2M3

Dear Corrie Smillie,

We have completed our interim report to conduct a review of the Corporate Asset Management Plan (CAMP) and Asset Management Policy (AM Policy), specifically focusing on asset management documentation, practices, and processes, as well as the identification of critical infrastructure, decision-making processes, and investment prioritization. This Interim Report Presentation outlines the interim findings of the review. It includes tasks completed to March 12, 2025. We have completed the Interim Report as per our engagement agreement/program plan. Our services March 12, 2025, were performed in accordance with our engagement agreement, dated January 27, 2025, and our procedures were limited to those described in that agreement, and any subsequent written and agreed changes.

The procedures summarized in our Interim Report Presentation do not constitute an audit, a review or other form of assurance in accordance with any generally accepted auditing, review, or other assurance standards, and accordingly we do not express any form of assurance.

Consistent with our engagement agreement, the Interim Report is intended solely for the information and use of The City of Calgary and is not intended to be and should not be used by anyone other than these specified parties.

We appreciate the cooperation and assistance provided to us during our work. We would be grateful if you would indicate your acceptance of the Interim Report Presentation below. If you have any questions, please call Shane Thompson at 1(587) 582-1623.

Sincerely,
Ernst & Young LLP
Calgary City Centre, 2200 - 215 2nd Street SW
Calgary, Alberta, T2P 1M4, Canada

Client acceptance
Corrie Smillie, Executive Assistant to Audit Committee
City of Calgary

Introductions & Agenda

- 1 Introduction
- 2 Approach
- 3 Interim Observations
- 4 Next Steps & Schedule
- 5 Discussion, Q & A



Shane Thompson

P.Eng. CEM MBA

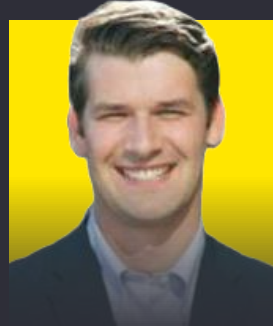
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1. Introduction

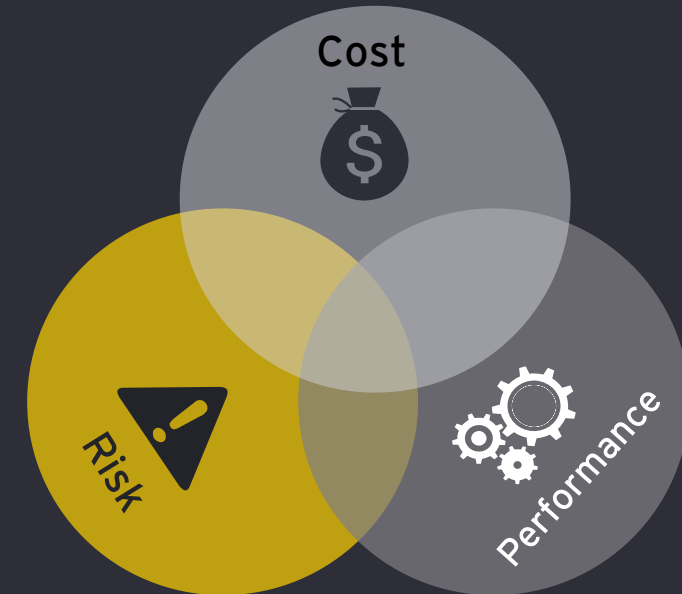


Introduction: Desired Future State

“Asset management is the coordinated activities of an organisation to realise value from assets”

Source: ISO 55000

- ▶ Asset management (AM) involves the **balancing of costs, opportunities and risks, and level of service performance** to achieve strategic goals.
- ▶ Professional bodies & standards ensure a common understanding and application of asset management principles

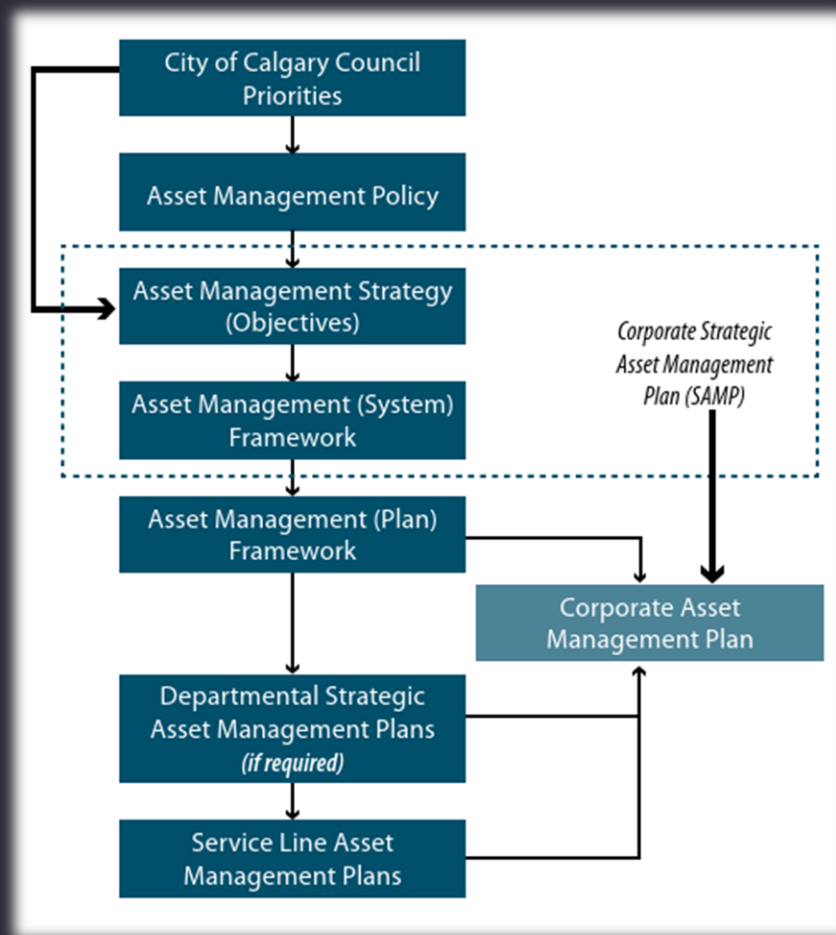
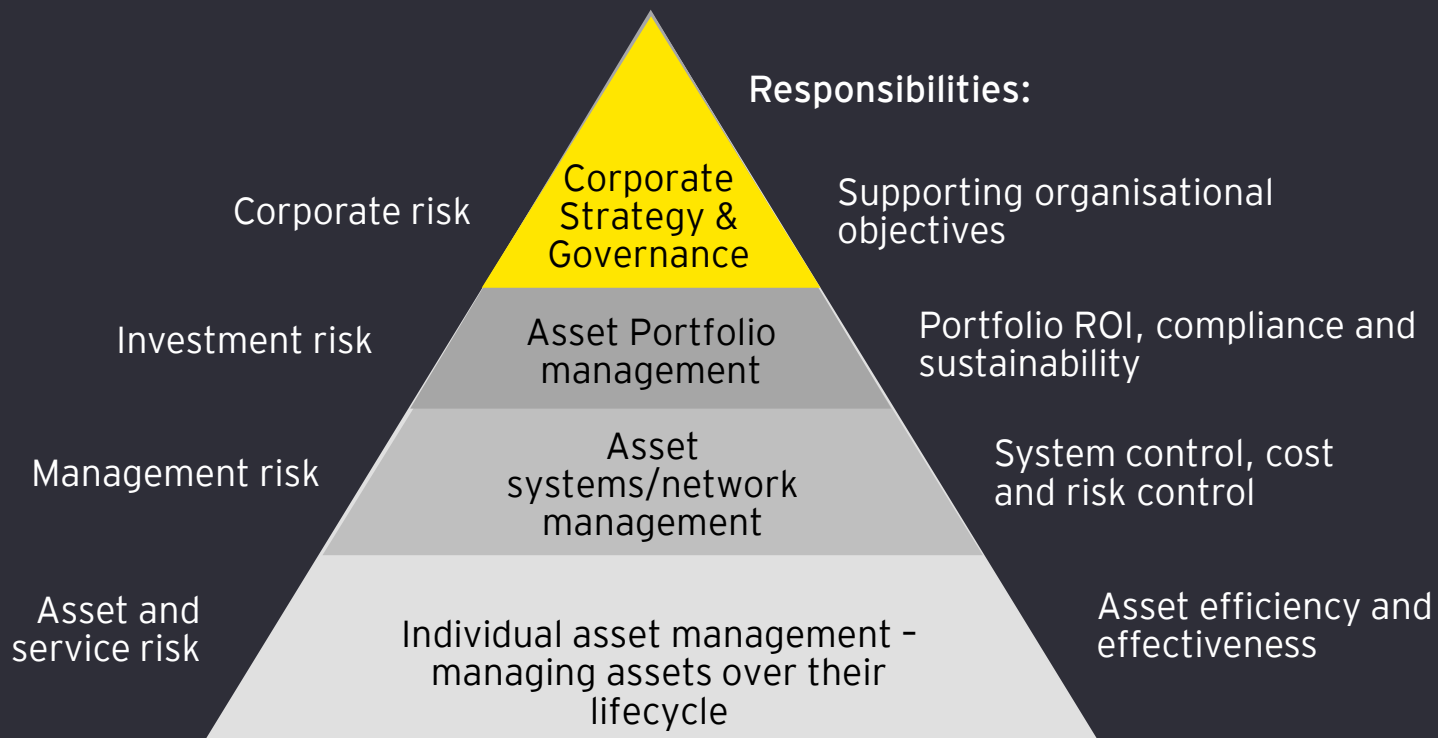


City of Calgary Council's guiding principles:

- Strengthen relationships with Calgarians
- Deliver the right services
- Build strong communities
- Invest in infrastructure
- Finance our future



Introduction: Asset Management System Hierarchy

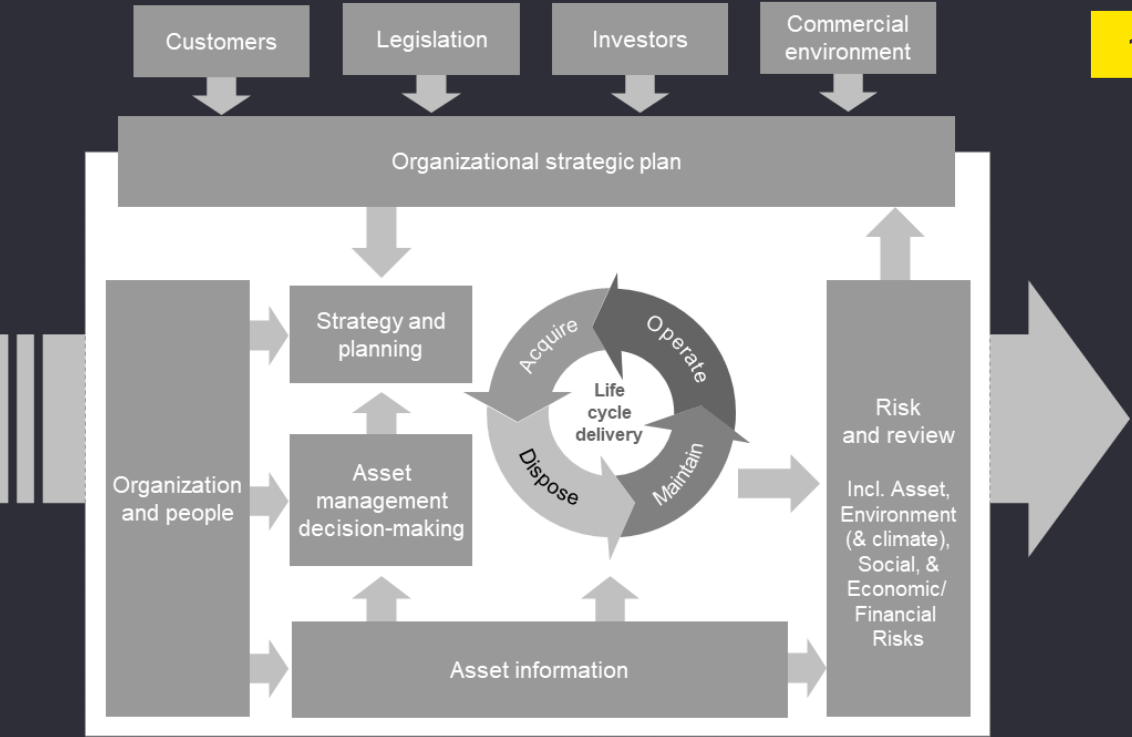


Source: 2022 Corporate Asset Management Plan, City of Calgary

Introduction: Asset Management System Excellence

EY’s proprietary model adapted from ISO 55000 & IAM’s Conceptual Asset Management Model, and insights from EY’s Global Government & Infrastructure team.

The IAM’s Conceptual Asset Management Model



Source: Institute of Asset Management (IAM)

EY Asset Excellence Model



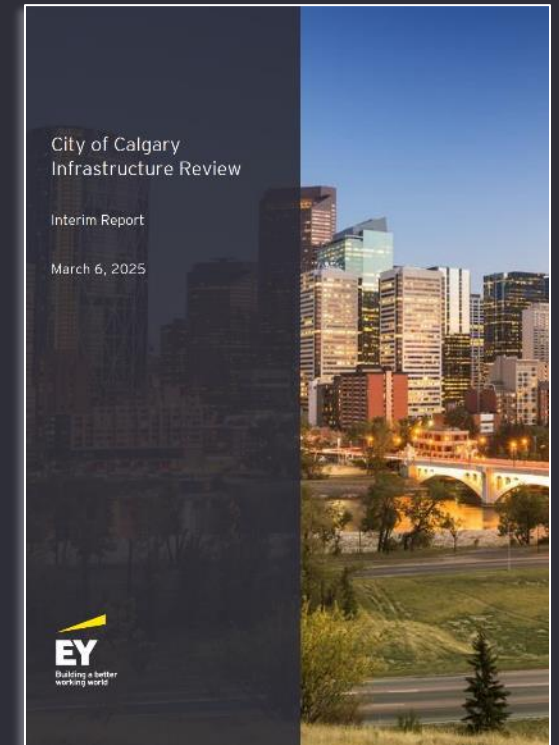
Introduction: Interim Report Context Setting

Report and presentation intent:

- ▶ Communicate initial findings and “what we heard” themes, focused on:
 - ▶ Understanding the asset management system
 - ▶ What’s working well
 - ▶ Insights into opportunities for further consideration
- ▶ Receive feedback and identify areas of focus to inform Final Report

Considerations:

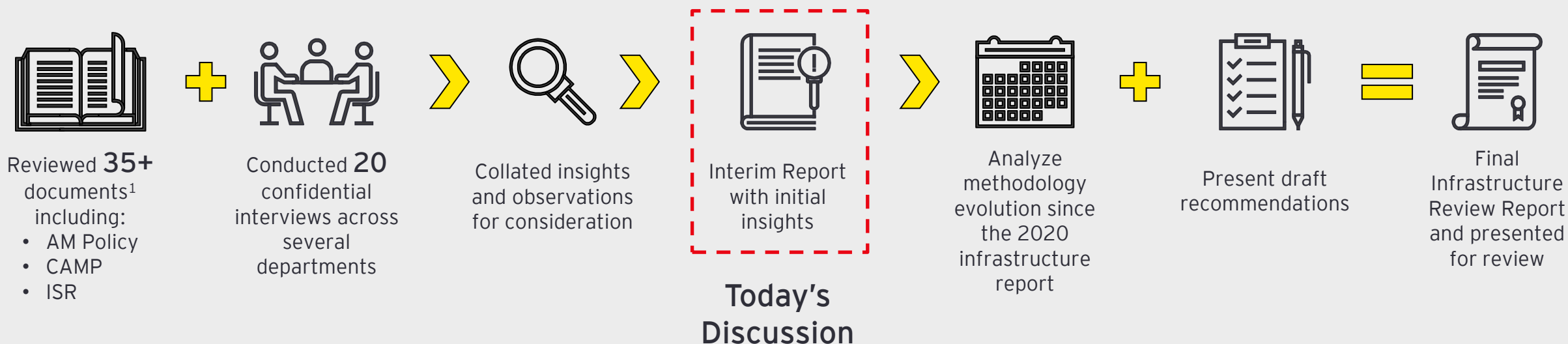
- ▶ Different readers may draw different conclusions
- ▶ General positive support for the realignment, and the importance of an effective asset management system
- ▶ Asset management system is quite advanced, with opportunities to improve levels of service, implementation and alignment across administration
- ▶ An openness by all interview participants to continuously optimize the process, and how asset management and investment is prioritized



2. Approach

Approach: Infrastructure Review

Combination of document reviews and interviews to understand current asset management practices and generate key observations for the Interim Report.



Jan 6 to Feb 7

Feb 3 to Mar 6

Mar 6 to Mar 13

Mar 3 to Apr 11

Apr 14 to May 7

May 8 to May 16

Approach: Participant Interviews



20 confidential interview sessions were conducted

- Interview participants were selected in collaboration with the Audit Committee to provide a representative sample across various departments.
- Insights were gathered across the organization.
- Findings from the participant interviews were collated and analyzed for common themes.

Departments represented:

City Council

Executive Leadership Team (ELT)

Corporate Planning & Financial Services

Infrastructure Services

Operational Services including:

Water Services

Calgary Transit

Mobility

Facility Management

Planning & Developmental Services



Interview topics: Key components of an asset management system

- 1. Introduction:** Roles and responsibilities.
- 2. Context of the organization:** Vision for asset management and service delivery.
- 3. Stakeholder needs and expectations:** Administration, Council, and Community expectations.
- 4. Scope of asset management:** Documentation, asset lifecycle management, criticality, decision-making, and investment prioritization.
- 5. Leadership:** Alignment of asset management, messaging, policy, and standards.
- 6. Support and planning:** Resources, competency, tools, data, standardization, and risk management.
- 7. Performance evaluation:** Evaluating effectiveness and performance.



3. Observations: Interviews





Observations: Interviews

Topic	Current State	Considerations
Introduction 	<ul style="list-style-type: none"> • Reorganization led to the creation of new roles and responsibilities (R&Rs). • The City has made significant progress in defining R&Rs ensuring there are clear guidelines. • Shift to matrix structure has increased collaboration, but some service lines remain siloed. 	<ul style="list-style-type: none"> • Improve alignment across service lines and clarify “asset owner” where some assets and services overlap. • Opportunity to build capacity within and across service lines. • Openness to optimize the process, and how asset management and investment is prioritized
Context of the Organization 	<ul style="list-style-type: none"> • Long-term vision for service lines was mentioned and outlined in documentation. • Acknowledged from stakeholders that more work is needed to align service lines to broader initiatives and visibility. • General positive support for the realignment, and the importance of an effective asset management system 	<ul style="list-style-type: none"> • Better definition and targets associated with Customer Levels of Service. • Improved communication of expectations within administration, and across council and community.



Observations: Interviews

Topic	Current State	Considerations
Stakeholder Needs 	<ul style="list-style-type: none"> • Consistent acknowledgement of the importance of meeting the needs and expectations of Calgarians and Council. • Conflicting priorities between Council and Administration can arise, with respect to investment priorities, especially with public pressure. 	<ul style="list-style-type: none"> • Competing stakeholder needs within the organization need to be addressed. • Improved communication of expectations within administration, and across council and community. • Opportunity to optimize information, level of detail, and how documents and information is communicated.
Scope of Asset Management 	<ul style="list-style-type: none"> • Current Asset Management documents have significant detail, substantially aligned to ISO. <ul style="list-style-type: none"> • Key documents have undergone revisions but have had infrequent updates. • Prioritization process is being currently being updated and interview participants acknowledged the need for more integration with Finance. 	<ul style="list-style-type: none"> • Varied awareness of key asset management documents. • Increase frequency of asset management documents review. • More integration with Finance in the budget process, specifically connecting CAPEX and OPEX.

Observations: Interviews

Topic	Current State	Considerations
Scope of Asset Management 	<ul style="list-style-type: none"> Asset criticality appears to primarily be on asset condition and age of asset. Have developed many technical level of service measures. Minimal development of customer levels of service. Varied to limited integration of climate risks into asset management practices and needs identification. 	<ul style="list-style-type: none"> Establish criticality criteria considerations and alignment across service lines. Customer levels of service performance to support investment prioritization within/across service lines. Integrate climate risks and opportunities into AM practices.
Leadership 	<ul style="list-style-type: none"> Leadership has been building trust and ensuring the overall strategic priorities. Some gaps remain post re-organization such as collaboration across the City, alignment, and R&R but is a work in progress. Some “grey assets”, assets without clear ownership, exist with respect to asset ownership. 	<ul style="list-style-type: none"> Gaps in understanding City Council needs. Opportunity to optimize information, and the level of detail to leadership.

Observations: Interviews

Topic	Current State	Considerations
Support and Planning 	<ul style="list-style-type: none"> Some service lines have more mature processes, suggesting an opportunity to improve alignment and the consistency of asset management processes. Significant amount of data and information to support decision making but some service lines have data gaps. Service lines can vary in data collection, management, analytics, and software. 	<ul style="list-style-type: none"> Varied awareness of key asset management documents. Increase frequency of asset management documents. Varying levels of data availability, management, and analytics.
Performance Evaluation 	<ul style="list-style-type: none"> Key performance indicators are well developed among all service lines. <ul style="list-style-type: none"> Opportunity to develop customer levels of service to better meet customer expectations. Some service lines perform benchmarking to other municipalities. No formal process of sharing best practices or look backs exist. 	<ul style="list-style-type: none"> Customer levels of service metrics and targets.

3. Observations: Asset Management Documentation & Process Review

Observations: Asset Management Policy

Provides a comprehensive framework for managing the City's assets, emphasizing principles and guidelines, while aligning to ISO 55000.

Document Owner: Asset Management Planning.

Distribution: All administration departments, specifically Infrastructure Services and Operational Services, ELT, and Council.

Intent: Provide AM Policy requirements that must be adhered.

Last Revision: 2024 (previously 2010, & 2016).

1 Varied awareness of the AM Policy and overall AM framework

- Some indicated limited awareness regarding the contents of the AM Policy: Several were not familiar with terminology, role, and responsibility of "Asset Stewards," highlighting the need for clearer definitions and education.

2 AM-related documents revision frequency

- AM Policy does not specify frequency of review and revision (Revised: 2010, 2016, & 2024).
- Variability observed in the review and revision cycles of related documents.
- Some service lines hesitant to provide Asset Management Plans (AMPs) due to the age of the documents (>5yrs old).

POTENTIAL RISKS

- Limited awareness of the AM Policy may lead to inconsistent application and understanding of the AM Policy - suggests a gap in communication and training.
- Inconsistent frequency of document revisions may result in outdated asset management practices and processes.

Observations: Asset Management Policy

Provides a comprehensive framework for managing the City's assets, emphasizing principles and guidelines, while aligning to ISO 55000.

Document Owner: Asset Management Planning.

Distribution: All administration departments, specifically Infrastructure Services and Operational Services, ELT, and Council.

Intent: Provide AM Policy requirements that must be adhered.

Last Revision: 2024.

3 AM Policy enforcement

- AM Policy outlines consequences for non-conformance, but specific consequences are not defined, leading to some complacency.
- Some complacency exists regarding escalation measures to address non-conformance, highlighting a need for clearer protocols.
- Several were unaware of non-conformance implications.

POTENTIAL RISKS

- Limited AM Policy enforcement may lead to lack of effectiveness of the Policy and inconsistency across the organization.

Observations: Corporate Asset Management Plan

Consolidates asset information across the City, aligns with ISO standards, and provides guidance on assets current state.

Document Owner: Asset Management Planning.

Distribution: All administration departments, specifically Infrastructure Services and Operational Services, ELT, and Council, and made publicly available.

Intent: Provide asset management guiding principles.

Last Revision: 2022 (reviewed periodically, no specific review cycle).

1 Consideration for evaluating external factors

- The CAMP may consider including a framework for evaluating external factors like employment rates, interest rates, and political changes.
- External factors are referenced several times throughout the document but are not clearly included in evaluation frameworks.

2 Competing stakeholder needs

- The CAMP recognizes service owners and customer levels of service for each service line, addressing the interests of the Council and citizens.
- However, the document does not specifically outline a process for developing and prioritizing customer levels of service.

POTENTIAL RISKS

- Limited framework for evaluating external factors may lead to inconsistent risk assessment across service lines.
- Competing stakeholder needs may result in misaligned decision making, and challenges meeting strategic goals.

Observations: Corporate Asset Management Plan

Consolidates asset information across the City, aligns with ISO standards, and provides guidance on assets current state.

Document Owner: Asset Management Planning.

Distribution: All administration departments, specifically Infrastructure Services and Operational Services, ELT, and Council, and made publicly available.

Intent: Provide asset management guiding principles.

Last Revision: 2022 (reviewed periodically, no specific review cycle).

3 Customer levels of service metrics and targets

- The CAMP emphasizes technical levels of service metrics for each service line, using a performance rating scale (green, yellow, red).
- Customer levels of service are inconsistently described, such as reliability and safety, not necessarily aligned to customer expectations. This appears to be a focus for future phases of work.

POTENTIAL RISKS

- Limited customer levels of service metrics and targets may lead to unsatisfied customers as capital could be invested in areas that do not meet customer expectations.

Observations: Infrastructure Status Report

Provides a comprehensive overview of City-owned infrastructure assets, serving as a critical resource for City Council and ELT to assess asset investment needs.

Document Owner: Asset Management Planning.

Distribution: ELT, City Council, Capital Investment Planning, Finance, Service Owners, and made publicly available.

Intent: Serves as a guide for City Council to make informed infrastructure investment decisions ahead of the development of 2023-2026 service plans and budgets.

Last Revision: 2020 (reviewed and revised each budget cycle, four-year intervals).

1 Optimize information, level of detail, and ISR communication

- The ISR highlights key areas including the infrastructure gap, current replacement value (CRV), and physical condition of assets.
- It does not benchmark changes against the last report or connect data to specific customer levels of service performance, criticality, and risks.
- Measuring customer levels of service performance, funding gaps, asset growth, and resource requirements could enhance understanding.
- Optimizing level/type of detail may provide ELT and City Council with insights for better decision-making and communicate investment implications and risks.

POTENTIAL RISKS

- Level of detail and information within the ISR may result in ELT and Council may not fully grasp the risks and impacts on service performance and infrastructure gaps, complicating the development of prioritized strategies.

Observations: Critical Infrastructure Identification

Process for critical infrastructure identification is somewhat decentralized, with each service line developing its own approach. The CAMP and ISR mention criticality and provide some guidance.

1 Improved alignment across service lines

- Each service line has its own process for identifying critical infrastructure.
- Asset condition assessments and risk management are conducted independently by each service line.
- Service lines develop their own asset management strategic priorities.

2 Varying levels of data availability, management, and analytics

- Budget and resource constraints limit data support for asset management practices.
- Some service lines lack complete asset-related and asset condition data across their portfolios.
- Opportunity to improve asset data for better identification of critical infrastructure and investment prioritization.

POTENTIAL RISKS

- Limited alignment across service lines may create inconsistencies in the identification of critical infrastructure process and asset management processes.
- Varying levels of data availability, management, and analytics of may result in misallocation of funds based on making assumptions from the lack of asset data.

Observations: Asset Re-Investment Decision Making Process

Process is structured and involves multiple steps to ensure alignment with the City, Council, and Community. However, the investment needs decision-making process followed by each service line varies.

1 More integration and collaboration with Finance in the budget process

- Each service line appears to have its own process for initially identifying needs and developing budgets for each budget cycle.
- Opportunity for Finance to collaborate and align with service lines

2 Varying levels of investment detail provided

- Service lines submit budgets using a standard intake form.
- Forms are often incomplete or provided with varying levels of detail.
- Consistent detail in these fields is required to help prioritize investments effectively.

3 Requirement for customer levels of service-based investment allocation

- Some service lines receive funding based on subjective criteria rather than customer level of service requirements.
- Limited frameworks for measuring customer levels of service.
- Service lines justify funding based on economic, social, or political factors.

POTENTIAL RISKS

- Varied integration with Finance in the capital budgeting process may lead to inconsistent risk assessment across service lines and presents opportunity to address external or internal threats. Align CAPEX and OPEX.
- Varying levels of investment detail may result in suboptimal decision making.
- Limited framework for decision making may lead to misdirected budget allocations, reducing trust and confidence in the budgeting process.

Observations: Additional Observations

Other observations for consideration include:

1 Gaps in understanding needs between Administration and Council

- City Council was engaged more frequently prior to the reorganization, allowing better information flow.
- Councillors expressed a desire to see asset condition and critical assets within their Ward to make informed decisions for constituents.

2 Opportunity to build capacity

- Reorganization shifted roles throughout the City, placing individuals in new roles or service lines. This has created varying levels of competency within service lines.
- Service line maturity assessments revealed opportunities to build capacity, highlighting potential for knowledge expansion and competency identification.

POTENTIAL RISKS

- Varied engagement with City Council may lead to inconsistent risk assessment across service lines and presents opportunity to address external or internal threats.
- Varying levels of capacity may result in mismanagement of assets and financial loss.

Observations: Additional Observations

Other observations for consideration include:

3 Central repository for asset management information and guidance

- Asset management documentation is typically confined within service lines.
- No central repository for asset management documentation within the organization.

4 Opportunity to better integrate climate risks into AM practices

- Climate and environment are categories in asset reinvestment decision-making criteria.
- Opportunity to integrate climate and sustainability earlier in the process.
- Contribute to improved resilience of City of Calgary assets and services.

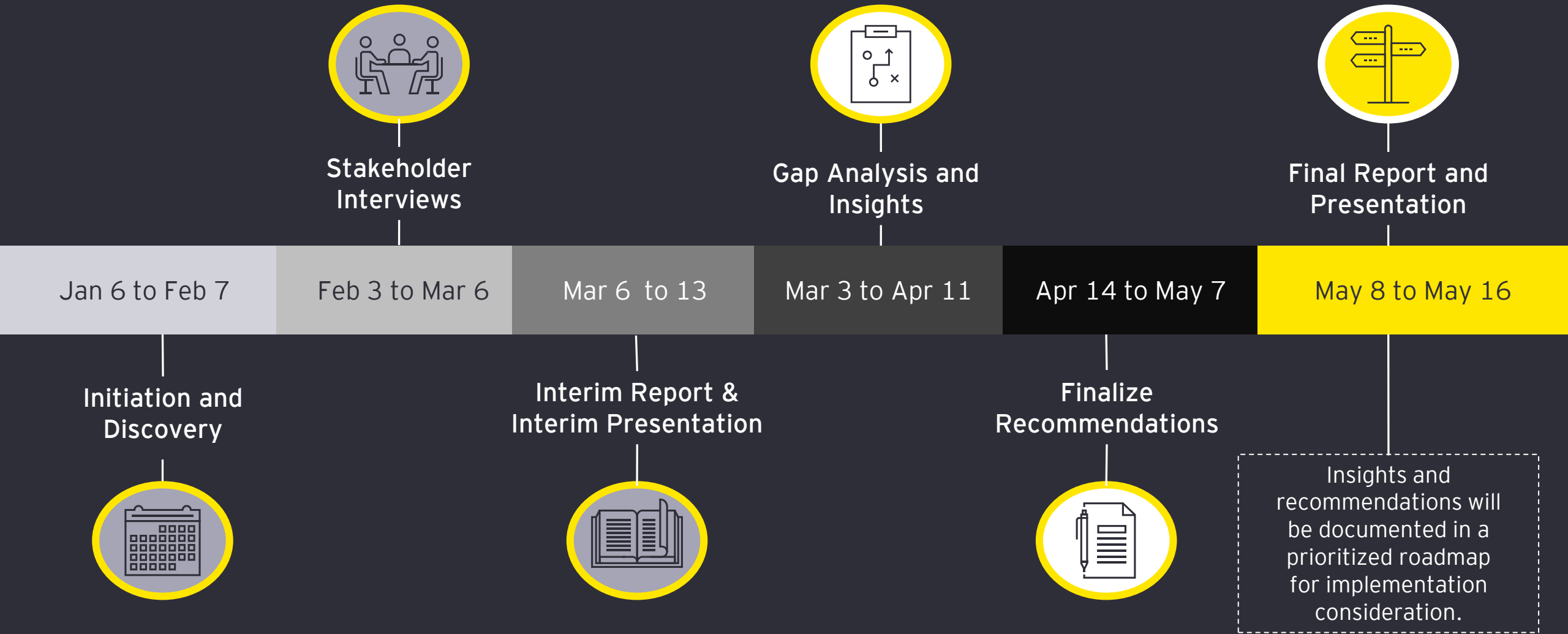
POTENTIAL RISKS

- Lack of a central repository may result in fragmented information, and difficulty accessing critical data.
- Limited integration of climate risks within AM practices may result in missed long-term sustainability goals, increased costs, and regulatory risks.

4. Next Steps & Schedule



Next Steps & Schedule



5. Discussion, Q&A



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