

CITY POLICY



POLICY NUMBER: C598

REFERENCE:

None

ADOPTED BY:

City Council March 20, 2018

SUPERSEDES:

New

PREPARED BY: Integrated Infrastructure Services

DATE: March 2018

TITLE: **C598 - Infrastructure Asset Management Policy**

Policy Statement:

The City of Edmonton owns a variety of infrastructure assets which support the delivery of services. These assets require responsible acquisition, operation, maintenance, rehabilitation, and eventual replacement and/or disposal.

Asset Management is the coordinated activities of an organisation to realise value from assets. It involves City departments, stakeholders, citizens, and Council. The intent of asset management is to maximize benefits, manage risk and provide satisfactory levels of service to the community in a sustainable manner.

The City's Infrastructure Asset Management Policy is a critical element of the City's overall framework for asset management, which also includes the City's Infrastructure Strategy and the development of asset management plans.

This policy is subject to any specific provisions of the Municipal Government Act or other relevant legislation or Union Agreement.

The purpose of this policy is to:

1. Provide guidance to staff in carrying out the organization's long-term business strategies, mid-term asset management plans, and current asset management activities;
2. Provide clear direction for Asset Management through defining key principles that underpin Asset Management and assist with developing the organization's Asset Management objectives;
3. Align upwards with the organization's vision, goals and objectives, and alignment downwards to current and future procedures for asset management activities, and;
4. Provide clarity to what outcomes are required when implementing the AM policy

Definitions

- Asset - An asset is an item, thing or entity that has potential or actual value to an organization. The value can be tangible or intangible, and financial or non-financial.
- Asset Management - Coordinated activity of an organization to realize value from its assets.
- Asset Management Plans - A plan developed for the management of infrastructure assets that combines multidisciplinary management strategies (including technical and financial) over the lifecycle of the asset in the most cost-effective manner to deliver a specified level of service. It specifies the activities, resources and timescales required for individual assets (or asset groups) to achieve the organization's asset management objectives. A significant component of the plan is therefore a long-term program of works and cash flow projection for the activities. Each plan will vary in complexity depending on the asset group it pertains to.
- **Disposal - Actions necessary to decommission, dispose, or repurpose assets that are no longer required.**
- Holistic approach - Considers a complete system rather than isolated analysis of individual parts.
- Infrastructure Asset - The physical assets that support social, cultural and economic outcomes and deliverables (services), and also includes Natural Assets and software, but not data and information. Infrastructure assets are intended to be maintained indefinitely at a particular level of service potential by the continuing replacement and rehabilitation of their components.
- Levels of Service - The parameters or combination of parameters that reflect socio-cultural, financial/economic and environmental outcomes that the organisation delivers. They describe the outputs or objectives that the City intends to deliver; includes measures at the corporate, stakeholder, and asset operator levels of the organization. They are the composite indicators such as quality, quantity, reliability, responsiveness, safety and cost, for a particular activity or service area against which service performance may be measured.
- Life Cycle Cost - Sum of all recurring and one-time (non-recurring) costs over the full life span or a specified period of an asset. It includes planning, design, construction, acquisition, operation, maintenance rehabilitation and disposal costs.
- Whole Life Cost - An approach for comparing investment options across the same time horizon (which may not be the full lifespan of the asset).
- Net Present Value (NPV / NPC) - is the sum of the discounted cash flows, where future cash flows are discounted by the discount rate. At high discount rates and long periods into the future the Present Value of money is small.
- Maintenance - all actions necessary, excluding renewal actions, to address deterioration of an asset to preserve its condition and achieve its expected useful life. Maintenance does not

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increase the level of service of the asset or increase its service life, rather it slows down deterioration and delays when renewal actions are necessary. Within the City of Edmonton context, maintenance actions are not capitalized, and should be proactively built into operating budgets.

- Natural Assets - the land, air, water, living organisms and other formations, such as aquifers, creeks and rivers that provide equivalent civil engineered municipal goods and services.
- Renewal - Investment in existing infrastructure to restore to its former condition and may extend its service life. Capital investment in renewal extends the period of service potential but does not change the replacement value, and so does not increase the size of the infrastructure asset portfolio. Renewal includes rehabilitation and replacement:
 - Rehabilitation: The action of restoring or replacing parts or components of an infrastructure asset to a former condition or status. Generally involves repairing the asset to deliver its original level of service without resorting to significant upgrading or renewal, using available techniques and standards.
 - Replacement - The action of replacing an infrastructure asset so as to provide similar, or an agreed alternative, level of service.
- Resilience - The concept of resilience is wider than natural disasters and covers the proactive capacity of public, private, and civic sectors to withstand disruption, absorb disturbance, act effectively in a crisis, adapt to changing conditions including climate change, and grow over time.
- Stakeholder - In this policy includes but not limited to internal and external partners (such as operators, maintainers, utilities (EPCOR, Atco Gas, Telus and Shaw), citizens, visitors, and explorers.
- Sustainability - is meeting the needs of today without compromising the needs of future generations. It is about improving the standard of living by protecting human health, conserving the environment, using resources efficiently and advancing long-term economic competitiveness. It requires the integration of environmental, economic and socio-cultural priorities into policies and programs and requires action at all levels--citizens, industry, and governments.
- Triple Bottom Line - Expands on the traditional view of an organization's financial/economic bottom line by also measuring the organization's commitment to socio-cultural and environmental factors and including all three factors in decision making.

Asset Management Key Principles:

The following outlines fundamental asset management principles that will be developed over time and implemented across both the organization and third party organisations responsible for City Assets for application when making decisions pertaining to the Infrastructure Assets the City owns.

Service Delivery to Stakeholders

It is important for the City to adhere to defined levels of service (LOS), and in doing so balance stakeholder expectations, risk, affordability, time constraints, supporting Council priorities, and exploring technological advances and evolving markets.

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The City shall:

- Have clearly defined LOS, and will target investments to:
 - maintain and manage assets at the defined LOS; and
 - recognize that LOS can change over time, and therefore monitor standards and service levels to ensure they continue to support community and Council expectations and objectives, and legislative/regulatory compliance.
- Create a common framework for establishing LOS. The framework should compliment and adhere to other City Policy, including the public engagement policy.
- Establish LOS that will be supported by:
 - Adherence to all relevant legislative, regulatory, and statutory requirements, where applicable
 - A risk-based decision making framework that considers impact to stakeholders when evaluating decisions on maintaining and enhancing, or reducing the LOS performance.
 - Determining the adequate balance between the value of stakeholder service and the cost.
 - Regular communications to Council and citizens on service performance and/or asset condition.
 - A clear understanding and evaluation of all options available to provide the service (or its elimination), recognizing advances in technology, market place, and changing business models.
 - Adherence to industry best practice(s), where applicable.

Long-Term Sustainability and Resiliency

Infrastructure assets should be socio-culturally, environmentally, and economically sustainable and resilient into the long-term. This involves triple bottom line consideration, long-term planning, and implementing resiliency actions.

The City shall:

- Make appropriate long-term decisions to better enable assets to meet the challenges of changing:
 - stakeholder expectations,
 - legislative requirements,
 - environmental impacts,
 - technological advancements.
- Consider socio-cultural, environmental, and economic factors and implications during asset management and investment planning processes.
- Consider proactive resilience when making infrastructure asset investment decisions, including but not limited to capital renewal and operational maintenance.

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An Integrated, Holistic Approach

The concept of thinking holistically across departments and disciplines when managing services, capital assets, stakeholder experience, and other resources while efficiently delivering quality, and asset value by managing risk and maximizing value.

The City shall:

- Implement a holistic approach to asset management that considers the impacts of decisions on stakeholders, and will make informed, evidence-based decisions using formal and consistent methods.
- Consider the assets in their system context, and their interrelationships, as opposed to optimizing individual assets in isolation. This includes systematically building resilience characteristics into infrastructure systems.
- Take a comprehensive approach to asset management that looks at the complete lifecycle of the asset, including planning, design, construction/development, operation, maintenance, rehabilitation, replacement, and disposal.
- Take steps to encourage collaboration, synergy, and cooperation across all business units as appropriate in order to build effective working relationships and sharing of information. The City should also extend this approach to regional, provincial, and national entities.

Investment Decision-Making

Demonstrate fiscal responsibility and transparency in decisions related to the management of all City assets.

The City shall develop and maintain appropriate long-term plans for infrastructure investment, which include:

- Implementing and maintaining appropriate planning and assessment resources;
- Evaluating asset investment decisions (**construction/material specifications, procurement methodologies, maintenance strategies, value engineering, etc.**) based on life cycle cost to assess the full financial impact through acquisition, operation, maintenance, renewal and disposal
- Embracing opportunities and challenges that arise from innovation and new technologies (including disruptive technologies);
- Developing prioritized and optimized capital investment plans that will enable rational transparent investment decisions to be made on an asset base.
- Clear line of sight to the service benefiting from the investment, and appropriate measures, outcomes, and targets to evaluate the effectiveness of the investment.

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Innovation and Continuous Improvement

Create a culture that values innovation and continuous improvement in asset management practices to fully realize asset value and achieve sustainable communities.

The City shall:

- Focus on driving innovation in the development of processes, tools, techniques, and solutions as required.
- Continually measure the effectiveness of its asset management programs and adjust, as applicable.
- Provide the necessary education and training in asset management to internal and external stakeholders.

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