

Infrastructure & Engineering

Led by: Director of Business & Engineering Services

Service Description

The Infrastructure & Engineering service enables the highest asset and project management standards on The City's infrastructure projects for public safety, regulatory compliance and investment optimization. This support service is provided to teams involved in new capital projects or managing existing assets. The service includes:

- Asset and project management
- Project Management Consulting
- Corporate energy oversight
- Field surveying
- Right of way management
- Grants, Partner & Industry Relations

Service Updates

Key service results

With drone technology, we delivered efficient and high-quality surveying services for over 750 projects and inspected survey control networks.

We completed 185 design reviews, 110 access design reviews, 70 building assessments, and pre-qualification and project scope reviews, ensuring City's buildings and designs are compliant.

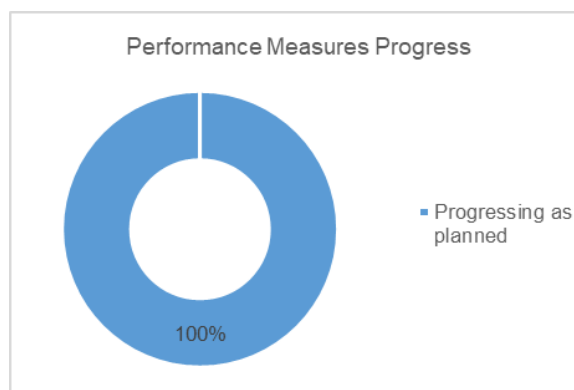
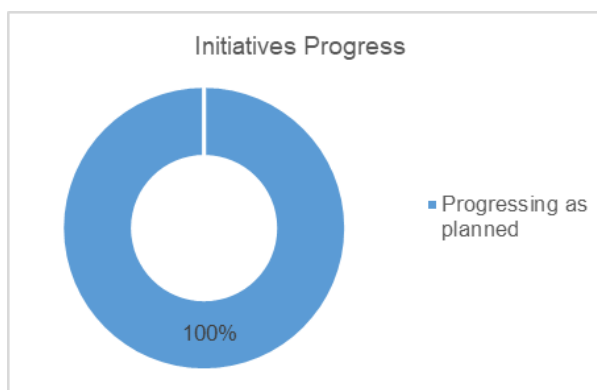
We led the procurement of renewable energy, updated the Sustainable Building Policy, delivered 24 solar installations generating over 1.6 million kWh of clean energy annually, and drafted the first corporate Green House Gas Reduction Implementation Plan summary, improving our service sustainability.

To enhance service and transparency, we developed a new application platform for Right of Way, reached an agreement with Rogers for 5G infrastructure, and launched a public Capital Projects Map.

To improve practices in Asset & Project Management (AM & PM), we finalized the Corporate PM Framework, updated the AM Admin Policy, advanced the procurement of a new City AM/Investment Planning system, and trialed the Better Value for City Asset framework.

To support capital funding, we hired new members and submitted 10 grant applications totaling over \$2 million.

Progress summary



Risk(s) impacting the progress

Non-compliance to standards, policies, legislations, and best practices
Escalating costs of service
Capacity/Resources Constraints



Measuring Our Performance

Legend

— Actuals

■ Expected Future Performance

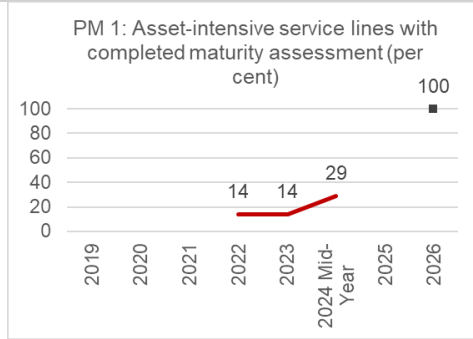
➔ Progressing as planned

⊖ Not progressing as planned

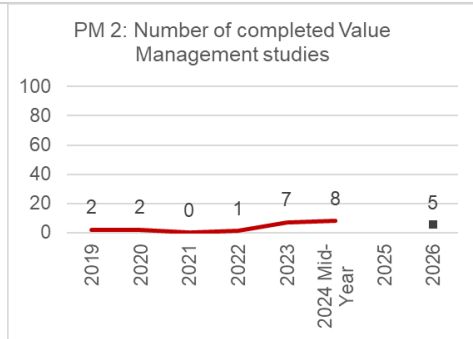
Performance Measures

Story behind the numbers

Status



An Asset Management Maturity Assessment has been completed for Mobility. The Maturity Assessment for Potable Water is undergoing final review. The Assessment for Wastewater is underway, and work is progressing on developing improvement strategies and plans. The Stormwater assessment has been delayed until later in the year. Although some assessments have proceeded slower than expected, primarily due to resource constraints and the response to the Bearspaw South feeder main break, we still expect to achieve our goal by the end of 2026.



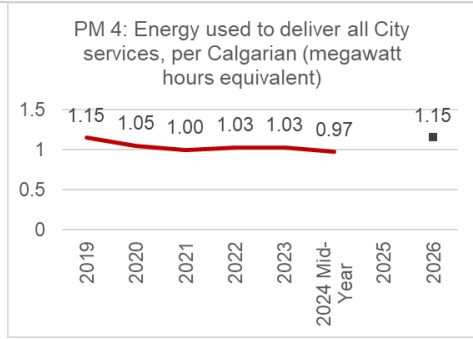
In 2024, we completed one Value Management Study for Richmond Green Park by Parks and Open Spaces to ensure it achieves its objectives in the most efficient and effective manner. Key outcomes of the Richmond Green Park Study include adjustment of initial cost estimates for contractor markups and inflation rates, aligning the project with its budget, potential savings of approximately \$2M identified from the original \$25M estimate, and generation of numerous ideas to improve the park's use for all Calgary residents.



Preliminary conversation is underway for another study for Capital Priorities & Investments in Fall 2024.



The percentage is calculated by dividing the 2024 budget of projects managed in the Project and Program Management (P2M) system by the approved total 2024 budget of the corresponding projects in the Financial & Supply Chain Management (FSCM) system. To enhance this value, we have made efforts to identify capital projects and programs that are not yet managed in P2M, collaborate with stakeholders to transition them to the P2M platform, and provide subsequent training.



The latest energy per capita metric is 0.9722 MWh (mega watt hour equivalent) per citizen. This metric is calculated based on the total energy used by The City in the most recent 12-month period with available energy data and the City's population during that time. The significant year-over-year increase in population between 2023 and 2024 is a notable driver for changes to our energy per capita metric compared to last year.



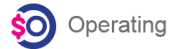


Progress on Service Delivery
















PROGRESS STATUS






FUNDING TYPE



Initiative 1		Impact Area: City-wide	Funding Type:
Optimize investment in Calgary infrastructure by successful integration of the corporate project management software system across City operations to improve consistency and maximize efficiencies in planning, delivery, monitoring and reporting on capital projects.			
UPDATE 	We currently have 1,125 projects and programs in the Project and Program Management (P2M) system, which accounts for 55% of total capital projects by budget and have trained 1,051 users across the organization. This is the result of our ongoing efforts to identify capital projects and programs not yet managed in P2M and to work with stakeholders to transition using the P2M platform.		
Initiative 2		Impact Area: City-wide	Funding Type:
Champion project and contract management excellence at The City as foundational for successful project delivery by providing project and contract management supports, training and stewarding of policy and standards.			
UPDATE 	To enhance our corporate project management excellence, we have finalized a new version of the Corporate Project Management Framework (CPMF) Program Charter and the CPMF Steering Committee Terms of Reference. Additionally, we are actively developing the Benefits Management Framework to support our Program Management Practices.		
Initiative 3		Impact Area: City-wide	Funding Type:
Deliver a seamless customer service experience for Calgary businesses by continuing to effectively manage access to City lands for installation of shallow utilities and implementing a new online solution for effective processing of requests for access to City assets for installation of wireless infrastructure.			
UPDATE 	We have maintained the three week standard service level agreement for reviewing and approving all shallow utility submissions while taking on various other applications (Encroachments, Circulations, Capital Project relocations, etc.) to ensure the right of way is managed in all aspects. Initial steps have been taken to increase customer experience by combining all permitting applications under Right of Way Services into a single platform. The Wireless Infrastructure team is nearing the completion of an online application for wireless submissions which is expected to be live in October.		
Initiative 4		Impact Area: City-wide	Funding Type:
Maximize The City's efforts in securing funding for capital projects and strengthen our relationship with the development and construction industry by launching a capital grant management program and continuing to organize annual partnering with industry events.			
UPDATE 	We successfully delivered the 2024 Partnering With Industry Symposium in February 2024, along with an internal Capital Plan Overview session for employees. We continue to assess and evolve our grant management program to proactively and effectively access grant opportunities. Moving forward, we will implement an Industry Relations Strategy based on recommendations from our consultant. This work will transition to Business and Community Relations.		
Initiative 5		Impact Area: City-wide	Funding Type:
Maximize The City's infrastructure value for Calgarians by optimizing capital contract management practices across the organization.			
UPDATE	We have collaborated with our partners in Infrastructure Services and Supply to establish various contracts within a Contracting Quilt framework, a structured approach to managing contracts and relationships with various stakeholders		

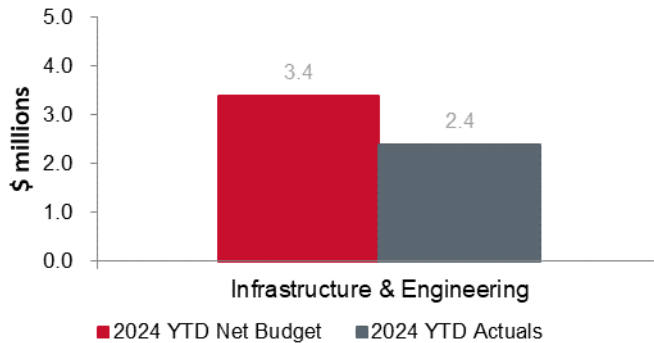
	involved in a project or initiative. This encompasses cost estimating resources, project management consulting resources, project engineers, building commissioning services, geotechnical consulting services, and management consulting resources.	
Initiative 6	Impact Area: City-wide	Funding Type:  
Ensure the highest infrastructure and land development standards through delivery of land measurement surveys, modernizing surveying technology and ongoing maintenance of survey control networks for which The City is responsible.		
UPDATE 	By mid-2024, the Field Surveying & Geomatics Engineering sub-service has delivered surveying services for approximately 750 infrastructure and land development projects. The sub-service has introduced advanced drone technology capable of capturing Light Detection and Ranging (LiDAR) data and thermal images of infrastructure. Survey control activities have primarily focused on inspecting the existing networks.	
Initiative 7	Impact Area: City-wide	Funding Type: 
Improve building safety, reliability and efficiency by providing building engineering advisory services and by ensuring adherence to engineering and/or architectural professional standards across The City.		
UPDATE 	The Technical & Advisory Services team, formed by the Executive Leadership Team, supports City-funded capital projects with technical expertise and design reviews. They ensure compliance with the Engineering and Geoscience Professions Act of Alberta regulations and the Calgary Corporate Accessibility Policy by collaborating with City Project Managers and adding Accessibility Strategists for Access Design Standards stewardship and advocacy. This initiative aligns with professional oversight requirements, progressing as part of regular service delivery.	
Initiative 8	Impact Area: City-wide	Funding Type: 
Oversee the practice of engineering and geoscience at The City by ensuring that professional members have completed the required professional practice training and development.		
UPDATE 	In the first half of 2024, 152 professional members completed professional practice training and development through sessions held on March 6 and June 12. Additional sessions are planned for the remainder of the year.	
Initiative 9	Impact Area: City-wide	Funding Type:  
Advance The City's climate goals by guiding business units across the Corporation towards efficient energy management and reduction of green house gas emissions through advisory services, stewarding relevant City policies, standards and initiatives.		
UPDATE 	We have completed engagement with five priority business units in the development of a draft of the first corporate GHG Reduction Implementation Plan. This report summarizes the current state of corporate emissions and provides an inventory of GHG emissions reduction actions from priority business units. We are currently supporting more than 35 major corporate and civic partner building projects in aligning with the requirements of the Sustainable Building Policy. Notable projects in progress include Varsity Multi-Service Redevelopment, Arts Commons, Calgary Event Centre, Glenmore Twin Arena.	
Initiative 10	Impact Area: City-wide	Funding Type:  
Optimize City-wide infrastructure investments to ensure safety and reliability through stewardship and implementation of asset management policy, practices, processes, and systems across corporation.		
UPDATE 	The review and update of the Asset Management Administration Policy have been completed. The updated policy is expected to be communicated and posted in Q3. A review and update of Asset Management Practices and Guidelines has been initiated. The procurement process for a City Asset Management/Investment Planning system has progressed to the point where a solution has been selected. The next stage of the process, including negotiation and proof of concept, will commence shortly in Q3.	
Initiative 11	Impact Area: City-wide	Funding Type: 
Ensure tax and rate payers receive full value from investments in infrastructure assets through a City infrastructure asset portfolio evaluation to be undertaken within the Better Value for City Assets (BVCA) program.		

UPDATE 	Development of the Better Value for City Assets framework is complete, and our team is presently trialing the framework to evaluate specific opportunities.	
Initiative 12	Impact Area: City-wide	Funding Type: 
Deliver service and asset-specific asset management plans, condition inspections and performance assessments to drive optimal infrastructure asset investment, with a particular focus on critical infrastructure in Roads, Transit, Water, and Waste and Recycling.		
UPDATE 	Asset Management Planning is continuing to expand the team to support ongoing work in reviewing, updating, and delivering Asset Management Plans.	



Service Updates on Financial Performance

**Net Operating Budget and Actuals
as of June 30, 2024**



Operating Budget Updates - 2024 YTD net operating budget vs actuals:

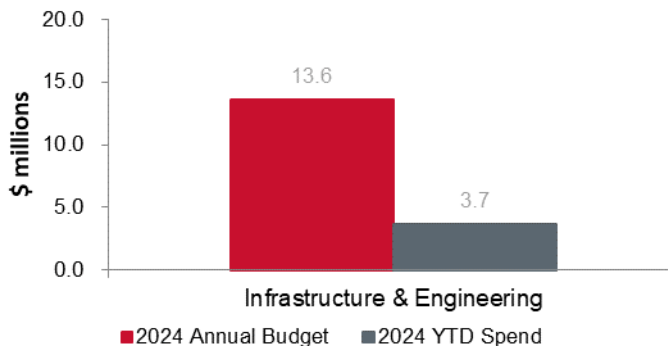
Infrastructure & Engineering Service has a favourable operating variance of \$1.0 million. This variance represents the net effect of both positive and negative outcomes attributable to several key factors.

The service's positive performance was primarily driven by a revenue of \$1.8 million generated from the sale of surplus Renewable Energy Certificates in 2024, along with \$0.1 million of unbudgeted recoveries.

The service also had over-budget expenses of \$0.9 million, stemmed from specific expenses, including a shortfall of \$0.1 million in salaries and wages due to a growing workforce, unbudgeted communication expenses of \$0.4 million, and an upfront payment of \$0.4 million for corporate asset maintenance software.

During this period, our Service achieved significant milestones and initiatives, including the launch of the Capital Projects Map, updates to asset management policies and guidelines, development of the Better Value for City Asset framework, and improved data quality and quantity in project management tools such as Project and Portfolio Management (P2M) platform.

**Capital Budget and Spend as of June 30,
2024**



Capital Budget Updates - 2024 total capital budget vs 2024 YTD spend:

Infrastructure and Engineering service has spent 27 per cent of the 2024 approved budget. In 2024, the capital expenditures have been used to deliver the following:

- Enhancements to the Project and Portfolio Management (P2M) platform, improving user experience, operational efficiency, and decision-making capabilities through streamlined Dashboards and reports.
- Modernization of survey control, enhancing surveying services and infrastructure monitoring with advanced technologies like drones, Unmanned Surface Vessel, and 3D scanning, resulting in improved accuracy and efficiency in land surveying and spatial data management.
- Integration of sustainability and climate measures into nine new construction projects, aligning with The City's Sustainable Building Policy and Calgary Climate Strategy.
- Construction of the Household Hazardous Waste Transfer Facility Solar PV System, scheduled for completion by the end of August.
- Advancement in mapping the named green spaces within the Parks Asset Reporting and Information System.
- Development of Right-of-Way Management Services processes for Phase 2, aimed at increasing efficiency and compliance.

The current spend rate is below expectation due to several factors. Final invoicing for solar projects is pending, as they are billed upon project completion. Delays in obtaining provincial funding for the advanced design for shovel-ready projects have impacted spending timelines. Extra work was necessary to address impact of Microsoft support changes on P2M.

We expect the spend rate to catch up by year-end as final invoices are received, provincial funding is secured, and additional resources are employed to expedite progress.