IT Solutions & Support
Led by: Director of Information Technology

Service Description

This service provides and manages the technology, devices, data, infrastructure, and governance that underpins the delivery of all technology solutions for The City. This service develops and maintains both enterprise and line of business applications and improves and automates business processes to enable City business units to deliver services to Calgarians as well as core internal services.

Service Updates

Key Service Results

In collaboration with multiple business units, IT leveraged Artificial Intelligence Machine Learning technology for pavement condition assessments, vehicle predictive maintenance, and wastewater pipeline inspections. In addition, over 40 business processes across the corporation have been automated to reduce manual processing and improve data quality. Internet of Things sensors are being used for asset tracking, water level monitoring, and urban heat monitoring.

New online services were implemented for residential parking permits, the Tax Installment Payment Plan, and external partnerships. Enhancements to online systems for accessible transit services, trade permit intakes, myID for businesses, short-term rentals, demolition permits, and the energy label pilot program were also completed.

The City's Living Labs program has 79 active initiatives including drone traffic management, autonomous vehicle testing, virtual and augmented reality demonstrations, and quantum computing.

The Affordable Hardware Access (AHA!) pilot program provided 234 lifecycled municipal devices to Calgarians nominated by their Community Social Worker for computer equipment to access online services.

Service Challenges

The volume and sophistication of cyber security attacks continue to increase, requiring significant effort to continuously monitor and protect The City's data, systems, and infrastructure.

To ensure The City is well positioned to take advantage of Artificial Intelligence Machine Learning and other new technologies while minimizing risks and impacts, IT has established a new division focused on emerging technologies.

Inflationary pressures and exchange rates have caused significant increases in costs for software licensing and hardware. In addition, market challenges are impacting timelines for procuring resources, services, and infrastructure.

Cloud-based technology limits The City's ability to influence software maintenance schedules.

Technology is a critical part of most new products and services. Increasing demands for technology across the organization are putting additional pressure on The City's technology resources including staff, software licensing, and infrastrastructure.

Trends & Potential Uncertainties

With recent advancements in Artificial Intelligence Machine Learning (AI/ML) technology, cyber attackers can create more novel and targeted attacks by being able to mimic the language and tone of legitimate emails and translate content into almost any language. In addition, AI/ML will enable attackers to leverage automation, data gathering, and social engineering to further personalize each attack.

Changes in the software industry due to vendor consolidations and changes to software licensing models are further limiting The City's ability to influence or negotiate pricing.

The technology industry's procurement processes are seeing overall procurement delays of up to 24 months depending on the type of product or service.

Measuring Our Performance

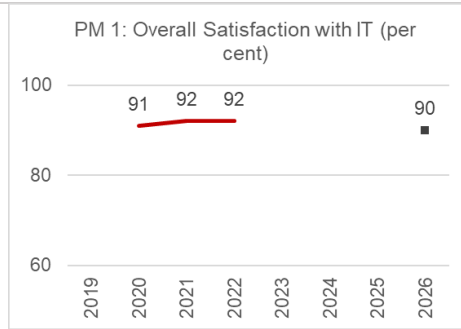| Performance Measures	Story behind the numbers	Status

PM 1: Overall Satisfaction with IT (per cent)

Chart values: 2020: 91, 2021: 92, 2022: 92, 2026: 90 (Expected Future Performance)
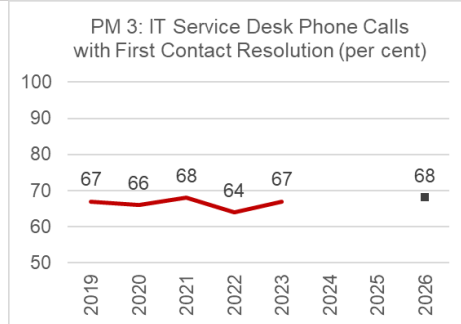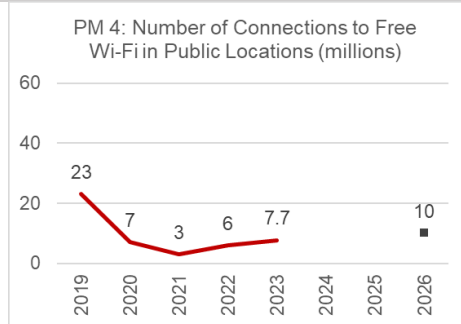
Over the past 9 years, Information Technology (IT) has maintained at least a 90 per cent rating in overall client satisfaction in areas such as equipment availability and reliability, response time, business support services, and new technologies that support changing business needs. The results for 2023 are not yet available as the Information Technology (IT) Client Satisfaction Survey is scheduled for later in 2024.

Status: 🔵➔

PM 2: Number of Community Business Ideas Supported Through Living Labs

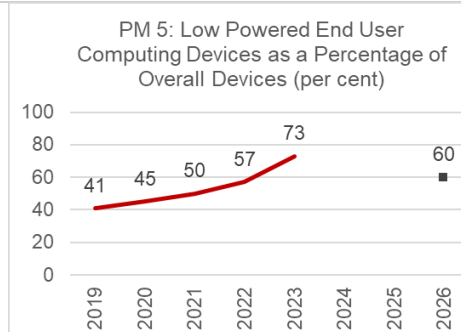Chart values: 2019: 20, 2020: 50, 2021: 80, 2022: 74, 2023: 79, 2026: 130 (Expected Future Performance)
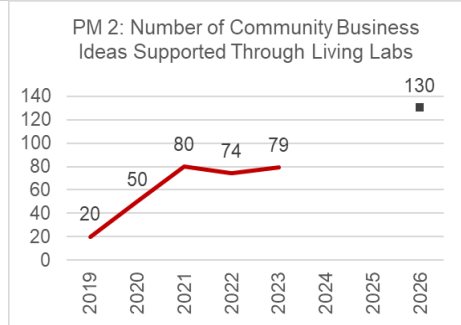
Living Labs, one component of The City's Smart Calgary program, offers City infrastructure for innovators to test ideas and products in a real-life environment. The program currently has 79 active initiatives including drone traffic management, autonomous vehicle testing, virtual and augmented reality demonstrations, and quantum computing research.

Status: 🔵➔

PM 3: IT Service Desk Phone Calls with First Contact Resolution (per cent)

Chart values: 2019: 67, 2020: 66, 2021: 68, 2022: 64, 2023: 67, 2026: 68 (Expected Future Performance)

First contact resolution is considered an industry standard for measuring call center performance. The rate of first contact resolution has been tracking between 64 and 69 per cent since 2018. This level of performance is consistent with the percentages reported by similar organizations.

Status: 🔵➔

PM 4: Number of Connections to Free Wi-Fi in Public Locations (millions)

Chart values: 2019: 23, 2020: 7, 2021: 3, 2022: 6, 2023: 7.7, 2026: 10 (Expected Future Performance)
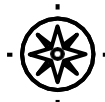
The City's Public Wi-Fi program provides free Wi-Fi service at 79 different City locations including all City-owned arenas, indoor pools, art centers, leisure centers, and Light Rail Transit (LRT) platforms. Since 2014, almost 91 million connections have been made to The City's free public Wi-Fi service.

Status: 🔵➔

PM 5: Low Powered End User Computing Devices as a Percentage of Overall Devices (per cent)

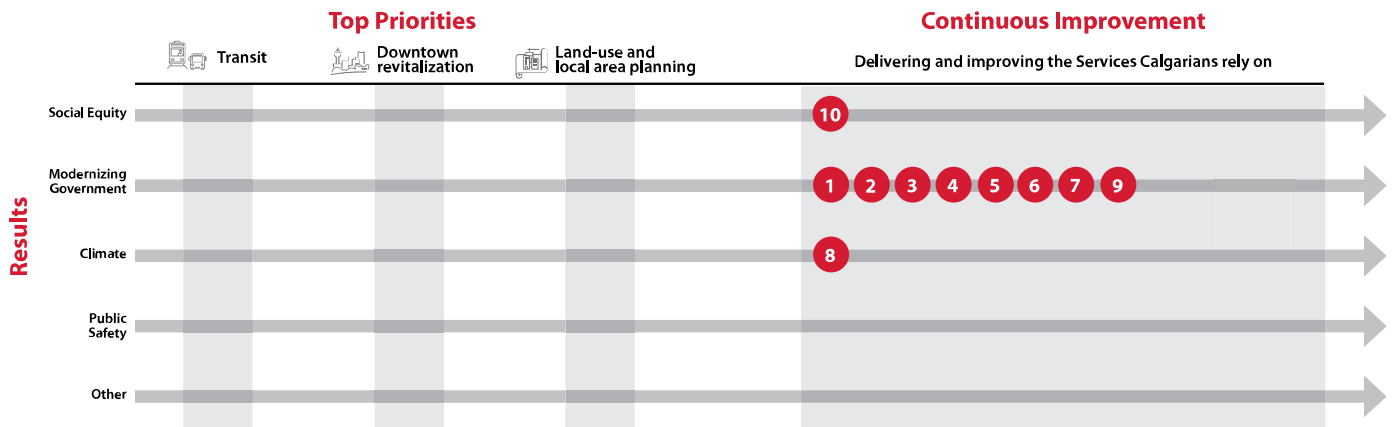Chart values: 2019: 41, 2020: 45, 2021: 50, 2022: 57, 2023: 73, 2026: 60 (Expected Future Performance)

In partnership with its hardware vendors, Information Technology (IT) works to standardize devices that have lower power consumption and configures device settings to reduce power. On average, a desktop computer consumes four times the amount of power as a laptop or tablet. With over 14,000 computing devices at The City, taking steps to reduce power consumption results in a positive impact in support of climate resilience.

Status: 🔵➔

Progress on Service Delivery

Alignment with Council Refined Priorities and Result Areas

Top Priorities

Transit | Downtown revitalization | Land-use and local area planning

Continuous Improvement

Delivering and improving the Services Calgarians rely on

Results:
- Social Equity — 10
- Modernizing Government — 1 2 3 4 5 6 7 9
- Climate — 8
- Public Safety
- Other

Legend
- ✓ Completed
- → Progressing as planned
- ⊖ Not progressing as planned
- ⏻ Not started
- 1 Initiative number

	Initiative	Initiative Update	Status
1	Optimize technology platforms and applications by balancing business technology investment decisions with corporate solutions.	Work to advance Application Portfolio Management (APM) continues to be a key priority for Information Technology. Application Assessments are now presented at Corporate Technology Committee meetings to assist with governance and decision making. The APM team is looking at synergizing data and processes in preparation for potential application rationalization opportunities and is exploring the use of Artificial Intelligence to assist with this effort. The Corporate Technology Plan is being updated and leveraged with an increased focus on reuse of technology platforms and solutions.	→
2	Broker technology services and resources for The City to ensure compliance and cost-effectiveness.	Information Technology continues to leverage its contingent workforce program to hire skilled resources to supplement existing work and support new demands. Feedback from hiring managers is used to continuously improve this program.\n\nContracts are reviewed to ensure alignment with demand and to ensure efficient use of taxpayer dollars. The Information Technology Supplier / Vendor Performance Health Check process is used to manage performance against contracts.	→
3	Improve the availability of City services by building, maintaining and supporting secure and resilient technology infrastructure.	IT implements resilient solutions to enhance the reliability of The City's technology infrastructure and support modernization. Industry best practices for the maintenance and lifecycle replacement of infrastructure assets are followed. The resiliency environment for technology deemed business critical is tested regularly to ensure it is functioning as expected. Software systems that the organization has identified as being essential for service delivery to the community are maintained in a backup, resilient environment which can be activated in the event of failure of the primary systems.	→
4	Manage information as a strategic asset by advancing the use, reliability and value of civic data through improved access and analysis.	Content Server (CS) Modernization project is on track to be completed in 2024 Q2. CS enables The City to safeguard information and decisions made by Council and Administration that directly or indirectly impact Calgarians. IT is collaborating with Corporate Security, Access and Privacy, external vendors to explore approaches to safeguard The City's data and technology infrastructure. This is a vital step in preparing for the rollout of software utilities that will leverage AI and involve implementing measures for data access discovery and control, data protection and data lifecycle management	→
5	Increase availability of online services to Calgarians by providing the technology and support for business units to add municipal services online.	Information Technology continues to add and enhance online services for homeowners, businesses, and the development industry. Some initiatives that were implemented in 2023 include new systems for residential parking permits, the Tax Installment Payment Plan (TIPP), and the system used to manage external partnerships. Enhancements were made to Hastus On Demand for accessible transit services, the trade permit intake system, myID for businesses, the energy label pilot program, the system for short-term rentals, and the demolition permits system.	→

	Initiative	Initiative Update	Status
6	Advance service delivery by exploring, identifying and evaluating emerging technologies.	In collaboration with Mobility, Fleet, and Water Services, IT developed several Artificial Intelligence Machine Learning solutions including pavement condition assessment, vehicle predictive maintenance, and wastewater pipeline inspections to enhance service delivery and improve efficiency. Over 40 business processes across 12 business units have been automated using Robotic Process Automation technology to reduce manual processing and improve data quality. The Internet of Things program is measuring ambient air temperature for the Urban Heat study to aid in heat resilience planning.	→
7	Enable an agile and tech savvy workforce by attracting, developing and retaining people with the right skills for the future.	Information Technology employed a large number of summer students in 2023 and will be supporting a new co-op / intern student program in 2024. In addition, Information Technology invested in additional staff training and development in 2023 following the removal of restrictions for the COVID-19 pandemic.	→
8	Promote climate resiliency in the delivery of technology solutions by investigating, deploying and supporting technologies that mitigate the impacts of climate change.	Information Technology continues to partner with an industry leader in reducing the impact of printing on the environment through global reforestation. Since 2019, just over 18,000 trees have been planted to offset over 151 million pages printed by City employees. Prior to the pandemic, The City's annual printing averaged about 30 million pages per year. These levels were reduced by over 50 per cent during the pandemic and continue to remain significantly lower than pre-pandemic levels.	→
9	Promote local business and academic research by leveraging municipal assets for the testing and development of new products and services in a real-life environment.	Living Labs, a component of the Smart Calgary program, allows for experiments to be tested in a safe environment. The program currently has 79 active initiatives including drone traffic management, autonomous vehicle testing, virtual and augmented reality demonstrations, and quantum computing.	→
10	Reduce digital barriers for all Calgarians by advocating for change across government levels and implementing pilot programs, as part of a digital equity strategy designed with community stakeholders.	The Affordable Hardware Access (AHA!) pilot program, in partnership with Technology Helps, Fair Entry, Investment Recovery, and Asset Management, provided 234 lifecycled municipal devices to Calgarians needing computer equipment to access online services. Of the AHA! users that completed the demographic survey, 74 percent were originally from outside of Canada. Having access to a computer was identified as being key to being able to apply for jobs, take courses, communicate with friends and family, and access support resources and government services.	→

Service Updates on Financial Performance

Net Operating Budget and Actuals as of December 31, 2023
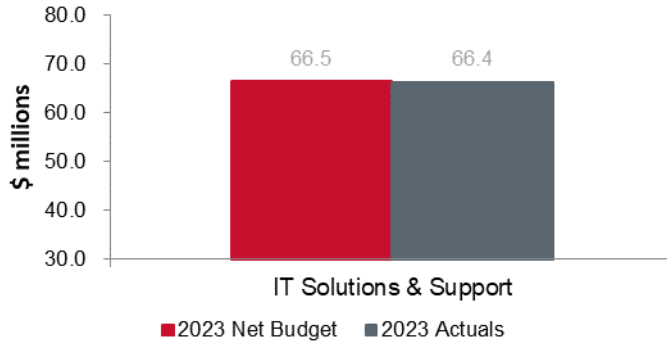

Operating Budget Updates - 2023 YTD net operating budget vs actuals:

Information Technology Solutions and Support Service has a favourable operating variance of $0.1 million. The main reasons that have contributed to the variance are favorability in salary and wages, due to intentional management of the workforce, being offset by higher than budgeted contractual and software expenses.

Costs are increasing in technology commodities due to extraordinary inflationary and market pressures. These pressures apply to both operating and capital investments. Information Technology Solutions and Support is actively managing investment risk and negotiating best pricing to minimize cost impacts.

Capital Budget and Spend as of December 31, 2023
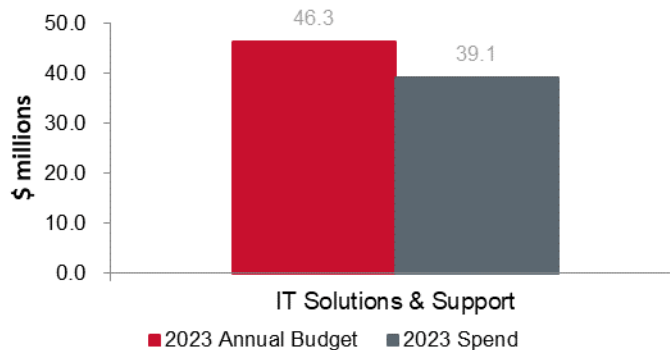
Capital Budget Updates - 2023 total capital budget vs 2023 YTD spend:

Information Technology Solutions and Support Service has spent 84.4 per cent of the 2023 approved capital budget. Capital expenditures have been invested primarily in ongoing software lifecycle maintenance and desktop infrastructure.

Information Technology Solutions and Support continues to invest in technology to cultivate innovation and modernize Municipal service delivery and is prudently redirecting resources into emerging technologies.