Corporate Information Technology Strategic Plan

Vision:

Great service experiences powered by technology and data, available anywhere, anytime

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This Corporate Information Technology Strategic Plan introduces a new vision for the City's technology program.

Great service experiences powered by technology and data, available anywhere, anytime

The vision means that future customer and staff interactions will be facilitated by simple, easy to use technologies. Moreover, data that flows through the systems will enable City management to make decisions that improve service quality and efficiency.

The vision encapsulates several important ideas:

- That the City exists to deliver services to the community that are efficient, accessible, easy to use, and cost-effective;
- That the City intends to become data driven, including digitizing data, in order to derive insights that inform good decisions to the benefit of the community; and
- That the City intends to modernize how it delivers services by taking advantage of technologies, thereby creating internal efficiencies and improved customer experiences.

It places a heavy emphasis on transforming our processes to electronic platforms, a change commonly referred to as digitization.

- Digitizing city services will enhance service efficiency.
- Digitized City information and mechanisms to access it support data driven decision making and transparent reporting.
- Digitizing City information enables the City to take advantage of new technologies and further improve staff and customer experiences.
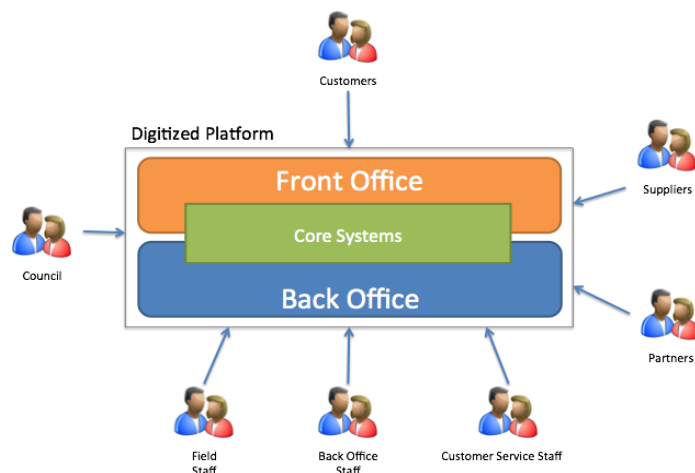
Principles:

The following principles guided the creation of this vision and strategy and will guide future technology decision making.

1. There is only one customer: the end user (solutions are designed for the service consumer and these consumers may be the public or City staff)
2. Services should be demonstrably better as a result of investments in technology
3. Enterprise systems should be deployed if they meet at least 80 per cent of business needs
4. Data is an asset
5. Our approach to technology reflects our desire to be an employer of choice
6. An enterprise-wide perspective will define technology priorities
7. Technology investments must be supported by key indicators showing short and long-term value earned
8. Technology is a means to an end – success is the result of collaboration
9. Architecture and standards drive decision making
10. Timely results and appropriate project oversight are key

Although this is an IT strategic plan, it is all about the future service experience of our customers. The plan envisions a future where each customer interaction leaves a lasting impression of competence and trustworthiness and allows for more effective engagement with more transparent government processes. These are not dreams of a Jetson's future. Municipalities across Canada are increasingly delivering services in this way. For instance, citizens in Guelph, Waterloo and Cambridge can submit and track building permits and drawings online. Burlington staff and management handle their time and attendance processes via an employee app. In Oakville, people can report potholes via smartphone, search and review planning applications and associated drawings online, or generate their own tax certificate online. Brampton and London fire departments use their Geographical Information System (GIS) to identify hot spots, focus their fire prevention and education work, and reduce risk and loss in their communities.

Digitization: A Necessary Precondition for Successful Transformation

Before the City can meet this vision, it must digitize its processes. Today, many processes such as work management, land development, finance and Human Resources are paper based and manual – inhibiting the ability to deliver improved service experiences. The term **digitize** represents a movement away from paper-based process to electronic, online, workflow managed, real time processes. The term **platform** represents a common set of processes and technologies that connect staff and customers to deliver a set of services. The **digitized platform** supports electronic end to end processes as shown below:

The digitized platform is centered upon a powerful central core of business systems (e.g. Enterprise Resource Planning, Customer Relationship Management, Work Management, permitting, licensing and Land Management, Recreation Management) that drive most of the operation of the City. These core business systems will be common and shared.

Digitization allows the City to track its own processes, to share information between staff, and to track important management metrics that provide insights

that contribute to improved process effectiveness.

Transforming from paper-based to digitized processes will involve persistent organizational as well as technological change for both IT and each business unit. This strategy lays out an approach to accomplish this.

Achieving the Vision: Our Top Three Desired Outcomes

We know we are successful when:

1. **The City can routinely demonstrate proper management and investment in technology**

   Routinely demonstrating proper management and investment in technology means establishing an effective, enterprise-wide technology program that is well governed, focused on agreed priorities, resourced and effective at delivering business-technology solutions. Practically, our first steps toward producing such a program involve reviewing policies and processes related to IT Governance, technology funding, and IT project and process resourcing.

2. **Key municipal services are appropriately supported by technology so that service performance meets end user expectations**

   Ensuring key municipal services are appropriately supported by technology is fundamentally important for building the community's trust and confidence in the corporation. While assessment of our current infrastructure (Layer 1 in the graphic) is shaded green to indicate robust existence of the necessary components, certain key services are implemented with dated technologies that are now non-standard and do not integrate well, nor do they meet end user expectations for a modern technology experience.

Similarly, the yellow shading in layers 2, 3 and 4 in the graphic highlights a need to focus more attention on these layers. As an example, the City does not yet have a Customer Relationship Management (CRM) tool that allows for management of customer relationships in a consistent, enterprise-wide way, ensuring that both information management and the user experience is as efficient as possible. There is a need to find ways to collect data once and use it across different service platforms so that it is consistent, accurate and provides the information staff need to understand the full scope of a customer's service experience across the corporation. We are missing certain key business systems, such as a Land and Property Management System, and others, such as our customer relationship management system, need to be upgraded or replaced. The diagram represents the lower numbered layers as

the foundations for the higher numbered layers and illustrates that the strategy will focus on building strong foundations.

3. **The City staff demonstrate a high degree of ability to anticipate, adapt and integrate technology in ways that improve key results**

   Having staff that can demonstrate a high degree of ability to anticipate, adapt and integrate technology into services in ways that improve key results is the outcome of a tech-savvy culture where staff across the corporation collaborate to first define the value of new technology investments and then measure and deliver that value. This includes organizing for success, technology training, and changing our expectations in terms of technical education and experience when hiring across the organization.

Strategic Actions:

Priority One: Properly Manage and Invest in Technology

Improve oversight, coordination and focus around the technology program, ensuring that resources, including funds and people are allocated to those activities that will have the highest value impact, and that the initiatives that are undertaken deliver on expected outcomes.

   a. Implement a new governance model, including structured decision making groups, that engages leadership, management and IT in steering the technology program, setting investment priorities and monitoring the delivery of the program;
   b. Improve the investment selection process to match initiatives with realistic available capacity and allow a greater focus on fewer initiatives to improve outcomes;
   c. Improve project delivery outcomes through the adoption of project management best practices;
   d. Improve project portfolio reporting to more effectively monitor the delivery of projects within the technology program;
   e. Develop and round out IT policy and standards and use a "bottom up" IT architecture to drive technology decision making;
   f. Develop and implement an IT project intake and selection process to support a. and b. above;
   g. Track and report on IT processes and projects measuring, at a minimum,
      i. Resource allocation,
      ii. Project execution;
   h. Report annually on agreed set of strategy success measures;
   i. Reorganize and strengthen common, shared technology resources to be more effective, while empowering divisions and departments to own business outcomes and drive innovation. Adopt a centralized approach to technology management and appropriate accountability, roles and responsibilities. Increase investment in IT resources. Specifically, building stronger capacity and leadership in IT around business analysis, project management, enterprise systems management, GIS, business intelligence and architecture; and

j. Departments and Divisions play an active role in leading business process change enabled by technology and adoption of using data to inform business practices. Deliver technology and data solutions in a business partnership model where IT understands end-user needs and the departments and divisions strive for enterprise solutions.

Priority Two: Improve Service Performance With Technology

Prioritize significant investments in core Enterprise and Corporate Business Systems, specifically:

k. A new Land and Property Management System;
l. New Customer Relationship Management system for case management;
m. Implement priority Cityworks features to support Asset and Work Management processes, including mobile fieldworker technologies;
n. Extend PeopleSoft; shifting the system towards an enterprise, rather than Finance and HR system that supports self-service;
o. A new Recreation and Facilities Management system to replace CLASS;
p. Implement CGS's GIS Strategy. Although this is described in a separate document, it is aligned with the IT Strategic Plan. It anticipates increased integration with corporate and external systems, empowerment of staff and citizens to take broader advantage of GIS, increased use of mobile GIS to support data collection and management, use of GIS analytical tools and integration with the governance model in a. and b. above.
q. Assist all CGS Departments with the development and implementation of a citizen facing dashboard describing key service outcome data; and
r. Explore all available strategies for increasing investment in IT and use of alternative resourcing strategies. This strategy assumes increased investment in IT operating expenditure of approximately 15 to 20 per cent in the 2018 to 2019 timeframe and significant project spending. Expenditure oversight will be consolidated in IT and service partnerships will be identified.

Priority Three: Anticipate, Adapt and Integrate Technology Into All Aspects of Work

Modernize technology tools available to staff and to residents and organize for success.

s. Implement modernized communication and collaboration tools to enhance the employee experience;
t. Significantly increase the use of mobile technology by field workers;
u. Improve the availability of flexible working options with Wi-Fi, including new device choices and remote working capabilities;
v. Implement progressive periodic releases of features for core systems after they are implemented to support a culture of continuous improvement;
w. Engage residents when implementing new digital delivery channels that residents can access;
x. Develop and enable departmental capabilities around business transformation, business process design and data analytics; and
y. Implement a technology training model aimed at improving information systems and data literacy and provide oversight to technology staffing needs across the organization.

Timeframe and Measurements:

The vision is an eight to 10 year description of a desired state where customers benefit from great service experiences because of the organization and delivery of digital services. The purpose of this plan is to achieve the strategic activities listed above within an initial four year time frame. Three stages are planned for rolling-out this strategy.

Stage 1: Building Conditions for Success: 2018 – 2019
During this stage, the City will be establishing the new governance model, readying for the 2019 budget process with new intake processes, applying project management best practices, establishing the new IT organization structure and integrating new team members. This is a period of transition where projects will continue to be delivered, but where the focus will be on *how* things get done in the future.

Stage 2: Building with Success: 2020 – 2021
During this stage, the governance processes and new organization will be in place, and the engine of delivery will begin to develop. Project capacity and delivery should begin to ramp up, and a number of the significant enterprise business systems projects will be underway.

In four years time, progress will be measured and the strategy will be calibrated to ensure it adequately captures emerging opportunities and addresses risks or threats to realizing the vision. The measures for this strategy include:

- Overall IT satisfaction rating (an annual IT survey should be conducted). Current satisfaction rating is below our 80 per cent target;
- The percentage of projects that meet defined milestone gates within +/-10 per cent of budget and schedule;
- The number of business processes that have been digitized. This will involve identifying an inventory of processes that the City operates using the Municipal Reference Model tracking and reporting on the digitization status of each process;
- Training is a key focus area for the Strategy, therefore tracking and reporting on training hours received by IT and business staff will be important to assess the anticipated upswing in training hours;
- An IT risk management program will be formalized and a report developed on risks identified, type, status, mitigations, and incidents;
- Given the levels of investment in IT, monitoring the IT investment situation is important, an annual calculation of the total cost of IT per employee is a good measure, that will allow for ongoing comparison with other organizations;
- Annual comparison of the percentage of work that is characterized as either "Run", "Grow", "Transform". Run, Grow and Transform is an industry standard way to measure technology investment which enables comparisons to others. Over time the percentage of activities should migrate from simple, "Run" work into the "Grow" and "Transform" categories.

Stage 3: Leveraging Success: 2022 and beyond
During this stage the City's technology governance will have been refined and functioning well, including regular progress measures. Projects that require long-term, persistent work such as digitizing City records will be providing citizen access to information. Annually, the roadmap of strategic technology projects will have been updated with new projects that deliver value to the City as well as ensure the City continues to adjust to the ever changing technology environment.

Roadmap:

The following timeline identifies the major and strategic activities that are recommended for the next four years.

Run, Grow, Transform	Project Type	Project Name	2018	2019	2020	2021+
Transform	Bus Sys	ACR Replacement (new Customer Relationship Management System)	☐	☐	☐	
Transform	Bus Sys	LPMS (Land Property Management System) - Implementation	☐	☐	☐	☐
Run	Bus Sys	CLASS Replacement (recreation and facility booking system)	☐	☐		
Transform	Bus Sys	AMI (Advanced Metering Infrastructure) and AMR (Automatic Meter Reading)	☐	☐	☐	☐
Grow	Bus Sys	CityWorks (municipal asset management system) - Periodic Releases - delivering approved features	☐	☐	☐	☐
Grow	Bus Sys	ERP (Enterprise Resource Planning)/PeopleSoft - Periodic Releases - delivering approved features	☐	☐	☐	☐
Grow	Bus Sys	ECM (Electronic Content Management) / ERM (Electronic Records Management) strategy			☐	☐
Transform	Integration	Dashboarding/BI: Continuous implementation of IT Strategy recommended: corporate analytics platform, data warehouse, standard inquiry tools, data sharing privacy	☐	☐	☐	☐

Run, Grow, Transform	Project Type	Project Name	2018	2019	2020	2021+
		assessment				
Grow	Integration	GIS (Geographical Information System) Strategy implementation	☐	☐	☐	☐
Grow	Infrastructure	Mobile computing strategy / architecture (for field workers) - to support Cityworks, GIS and LPMS	☐	☐	☐	
Grow	Infrastructure	Modernized Employee Experience: Communications & Collaboration, remote access, WIFI, BYOD (Bring Your Own Device)	☐	☐	☐	☐
Run	Infrastructure	Community data network planning to support SCADA, Smart City, ATMS (Advanced Traffic Management System) and other initiatives		☐	☐	
Run	Infrastructure	Security improvement: Continuous implementation of IT Strategy recommended: security assessment, Disaster Recovery (DR), card access standardization.	☐	☐	☐	
Run	Governance	Enterprise Information & Technology Governance; including annual Council Updates on strategy progress	☐	☐		
Run	Governance	IT Management Support for Governance: Continuous implementation of IT Strategy recommended: functions, project portfolio, policies and IT Service Management processes	☐	☐	☐	
Grow	Training	IT Training: Continuous implementation of IT Strategy recommended training for: staff, management and IT staff (in IT and business)	☐	☐	☐	☐

Run, Grow, Transform	Project Type	Project Name	2018	2019	2020	2021+
Transform	Architecture	IT Architecture: Continuous implementation of IT Strategy recommended: Standards, Review and Procurement process	☐	☐	☐	

Legend:

Run = activities needed to maintain existing technology

Grow = activities that expand upon existing technology

Transform = activities that introduce significant new organizational capabilities