

# City of Belleville

Report No: IT-2024-01

Meeting Date: September 09, 2024



**To:** Mayor and Members of Council

**Department:** Information Technology

**Staff Contact:** Marc Coyle, Director of Information Technology

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**Subject: City of Belleville - Information Technology Review**

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## Recommendation:

"THAT pursuant to the Director of Information Technology Report No. IT-2024-01, the Information Technology Services Review and Master Plan be Approved"

## Strategic Plan Alignment:

The City of Belleville's Strategic Plan identifies nine strategic themes. This report aligns with each of the City's nine strategic themes and the City's mission statement by providing innovative and efficient services in support of our community's vision.

## Background:

At the 2023 Operating budget, council approved funding for the creation of an Information Technology Service Review and Master Plan. RFP IT-2023-01 was issued in March of 2023 and Perry Group Consulting was awarded the contract shortly afterward. The enclosed ITSR report was created between July of 2023 and June of 2024. Full details of the background and objectives are contained within the report itself.

This Digital Strategy includes a framework & roadmap for moving Information Technology (IT) & Digital Transformation initiatives forward. Outlined in the ITSR/Master Plan are a number of recommendations, work streams and supporting programs which, when combined, foster and support digital transformation for city services. The proposed Strategy includes a phased approach to implementation and identifies a number of resource requirements that will be required to achieve desired outcomes.

In order to be able to provide efficient end-to-end digital services to our citizens, there are a number of core business processes that must first be digitized. The Digital Strategy identifies work streams to address both areas and where possible, initiatives that focus on digital service

delivery and core process digitization will be actioned in parallel through the phased implementation of the strategy.

The Digital Strategy sets a vision for digitally enabled city services through a collaborative approach to delivering customer-centred, digitally powered City services. The City will take a Digital First approach to service delivery when designing new services and re-designing existing services while continuing to provide for traditional channels of service delivery of which citizens have become accustomed.

The goal of Digital Strategy is to provide the required framework to capitalize on opportunities to drive efficiencies throughout the organization, to increase staff productivity, and to gain insights into service delivery that will pinpoint areas for improvement. Perhaps more importantly, the Digital Strategy strives to better position the City to meet ever-growing customer expectations of high quality self-serve digital service offerings.

**Financial/Analysis:**

Cost estimates will be reviewed on an annual basis for each project in the ITSR/Master Plan, and timing and estimated costs updated to align with budget submissions.

Costs associated with projects identified in the work streams are estimates for some of the projects. Cost estimates will need to be further refined as the scope and resource requirements for each project related to the ITSR/Master Plan is reviewed.

The implementation of the identified projects will follow a multi-year phased approach. Operating, Capital (including staffing expansions) related to advancing the ITSR/Master plan will be identified and requested through the annual budget process for Council consideration.

IT will explore a range of alternative funding sources and if viable, bring them forward for consideration.

All of these initiatives align with the proposed 10 year capital budget for the Information Technology Department.

Start Year	Project ID	Initiative Name	Estimated One-Time Cost	Estimated Operating Cost Impact
2025	BP-1	Initiate an IT Governance Framework	\$60,000	\$0
2025	SPR-1.1.2	Business Continuity Planning & Disaster Recovery	\$40,000	\$0
2025	MW1.3	Human Capital Management (HRIS solution)	\$350,000	\$60,000
2025	SPR- 1.2.1	Network (Administration, Operations, Provisioning)	\$240,000	\$48,000
2025	SPR- 1.2.1	SIP Lines for Teams	\$50,000	\$10,000

Start Year	Project ID	Initiative Name	Estimated One-Time Cost	Estimated Operating Cost Impact
2025	STAFFING	Business Analyst / Constand Improvement	\$0	\$150,000
2025	STAFFING	Security and Risk Specialist	\$0	\$150,000
2025	SERVICES	Hardware deployment	\$150,000	\$0
2025	ASSET MAINTENANCE	End User device updates (Windows 11)	\$150,000	\$0
<b>2025</b>	<b>TOTALS</b>		<b>\$1,040,000</b>	<b>\$418,000</b>
2026	SPR-1.1.1	Security and Risk Management Program	\$50,000	\$0
2026	SPR-1.1.1.	Cyber Incident Response Plan Update	\$50,000	\$0
2026	MW1.4	Asset & Work Management Enhancements – KPI and data analysis	\$500,000	\$40,000
2026	CE 1	Digital customer service strategy	\$50,000	\$0
2026	CE6	Public Notification System	\$100,000	\$20,000
2026	ASSET MAINTENANCE	Network and Server updates	\$220,000	\$33,000
2026	ASSET MAINTENANCE	End User Hardware updates	\$75,000	\$0
2026	STAFFING	Information and Data Analyst	\$0	\$150,000
<b>2026</b>	<b>TOTALS</b>		<b>\$1,045,000</b>	<b>\$255,000</b>
2027	SPR-1.1.3	Cloud Strategy (Governance, Maturity, Risk, Roadmap)	\$50,000	\$0
2027	BP-3	Capacity Planning	\$50,000	\$0
2027	MW1.5	Financial System Review and Workplan	\$1,000,000	\$100,000
2027	ASSET MAINTENANCE	Network and Server updates	\$220,000	\$33,000
2027	ASSET MAINTENANCE	End User Hardware updates	\$75,000	\$0
2027	MW2.3.6	Future Harbours Management System	\$100,000	\$20,000
2027	MW2.3.7	Museum solution refresh	\$100,000	\$20,000
2027	STAFFING	Information and Data Analyst	\$0	\$100,000
2027	<b>TOTALS</b>		<b>\$1,595,000</b>	<b>\$273,000</b>
2028	MW2.3.3	CRM (Client Record Management) Solution	\$100,000	\$10,000
2028	MW1.6	GIS Roadmap Update	\$50,000	\$0
2028	CE 1	Digital customer service	\$150,000	\$40,000

Start Year	Project ID	Initiative Name	Estimated One-Time Cost	Estimated Operating Cost Impact
		strategy and services		
2028	ASSET MAINTENANCE	Network and Server updates	\$220,000	\$33,000
2028	ASSET MAINTENANCE	End User Hardware updates	\$75,000	\$0
2028	MW General	Bluebeam Expansion - Engineering	\$100,000	\$0
<b>2028</b>	<b>TOTALS</b>		<b>\$720,000</b>	<b>\$83,000</b>
2029	MW2.3.4	Purchasing - Extend Solution Functionality	\$50,000	\$10,000
2029	MW3.4	Emergence of Artificial Intelligence	\$300,000	\$60,000
2029	MW 4.2	Technical Training and Proficiency	\$60,000	\$0
2029	ASSET MAINTENANCE	Network and Server updates	\$220,000	\$33,000
2029	ASSET MAINTENANCE	End User Hardware updates	\$75,000	\$0
<b>2029</b>	<b>TOTALS</b>		<b>\$705,000</b>	<b>\$103,000</b>
	<b>ITSR</b>	<b>5 Year Project Grand Totals</b>	<b>\$5,105,000</b>	<b>\$1,130,000</b>

A summary of the annual costs and tax impacts over the next 5 years is attached for council's reference.

**Conclusion:**

This IT service review reflects the input of all staff across the City of Belleville. Surveys, workshops and priority setting exercises were used to ensure the projects identified reflected the entire City's needs and outcomes. Every effort was made to align with the City's strategic plan and all other business unit plans while looking to the future needs of the City in the rapidly changing world of technology. Adopting this plan is essential to delivering on the promise of a modern Belleville for its residents and staff.

**Attachments:**

[Belleville - Information Technology Review - Final Report](#)  
[ITSR Costing](#)

**Approved by:**

Brandon Ferguson, Director of Finance, Treasurer  
 Katy Macpherson, Deputy City Clerk  
 Matt MacDonald, Chief Administrative Officer

**Status:**

Approved - 04 Sep 2024  
 Approved - 04 Sep 2024  
 Approved - 04 Sep 2024





# IT Services Review & Master Plan

## Final Report

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August 2024



[www.perrygroupconsulting.ca](http://www.perrygroupconsulting.ca)  
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# 1.0 Executive Summary

The following report summarizes the findings of Belleville’s Information Technology Service Review and Master Plan, a review that consisted of understanding the current state, working with the organization to identify opportunities, and develop a roadmap to sequence the opportunities into an achievable plan moving forward.

Through the Discovery work it became apparent that City staff recognize the value of technology as an enabler and to provide a modern experience for both staff and the public. It was acknowledged that in order to achieve this, IT needs to be positioned as a partner to assist the departments in service delivery, and the need for governance of the technical investment, corporate data, systems and resourcing.

The Discovery work led to many opportunities being identified, with four themes emerging for the work ahead:

- IT as the Business Partner- building an environment in which business units and IT actively cooperate and collaborate for service delivery.
- IT Service and Performance Resiliency- ensuring the foundations of technology, the network, infrastructure and services provided by IT provide a secure, reliable environment.
- Enabling the Modern Workforce- ensuring that staff have the right tools to perform their jobs.
- Enhancing the Customer Experience- providing easy-to-use, simple services that meet customer expectations.

Further, in collaboration with EMT, a Technology Vision statement was developed:

*Empowering innovation through technology, data, and people to serve our community.*

The report recommends changes to the way IT service is governed and proposes a revised organizational model for IT. Through prioritization exercises and review of the resource capacities, the opportunities identified within the report help to better position Belleville as a modern municipality to meet both public and staff demands.

## 2.0 Introduction

Today, most municipalities, including Belleville, are increasingly dependent on technology to operate. Municipalities are challenged to stretch resources while still delivering high quality customer service that meets the expectations of the modern resident, to manage and sustain new and aging assets, and to effectively engage customers in decisions related to the building of the community.

Technology is central to the City's ability to deliver services and the City needs to be well-equipped and well-positioned to implement, manage and leverage technology to deliver better and more efficient services. Currently, manual processes inhibit City departments' ability to move at the speed they need, while balancing corporate controls. Core functions – used by all departments – must be efficient, effective and operate in real-time if the City is to be successful.

Increasingly, municipalities across the world – and here in Ontario – are turning to technology as a means of addressing these challenges and seeing positive results.

The City's recognition of its need for an enhanced Information Technology department reinforces its desire to optimize the effectiveness of technology and communications among all City departments as well as with the public.

Information Technology and GIS have transitioned from the Information Systems section delivered under the Corporate Services Department to the Information Technology Services Department. An Information Technology Services Review (ITSR) and IT Master Plan (ITMP) will help ensure established business objectives *and* corporate objectives are realized and will provide realistic and tangible ways to continuously improve and evolve service delivery as the city moves forward.

## 2.1 Background

In March 2023, the City of Belleville (the "City") issued RFP IT-2023-01 for an Information Technology Review. Perry Group was the successful proponent and hired by the City to assist in conducting an Information Technology Services Review (ITSR) and development of this Information Technology Master Plan.

Perry Group Consulting is a firm that specializes in technology for municipalities. Our mission is *building better municipalities* and we have worked with over 200 municipalities across Canada on technology strategy and planning work, business process optimization and solutions implementation.

The engagement, which began in July 2023, was sponsored by the City’s Director of Information Systems with support from the CAO and Executive Management Team.

The consulting team spent a considerable time meeting with representatives from IT and all departments to fully understand the current situation and goals.

## 2.2 Objectives

Creation of an IT Master Plan involves undertaking a detailed review of the IT operation, its investments, and resources to fully understand the state of technology in the City. Then determine the path forward and develop a realistic and sustainable Information Technology Services Master Plan that supports corporate priorities and allows the City to take advantage of emerging technologies.

The objectives of the project are to conduct a review of IT services and to develop an IT Master Plan that will:

- Assess the current state of the City’s technology environment and identify opportunities to better and further utilize technology to support business related functions and to identify where costs and efficiencies can be achieved.
- Examine and evaluate the City’s existing hardware and software infrastructure and provide viable recommendations that support remote working, Cloud computing, GIS, and effective communication in a secure environment.
- Conduct a review of current IT processes and practices with an emphasis on security-related processes to identify potential risks and opportunities.
- Review the current online services and digital services being offered to users (internal as well as external customers) to identify potential opportunities for enhancements.
- Review and analyze the staffing and budgeting of/for the Information Technology department and making recommendations for staff complement and technology budget that accord with comparable municipalities.
- Develop a realistic and sustainable Information Technology Master Plan that reflects enhanced technology capabilities for today, tomorrow, and beyond.

This initiative for Belleville is about leveraging a secure, effective technology environment to better serve its community, meeting expectations and making customer (residents, businesses, visitors) and staff experiences measurably better and more efficient.

It is about using technology to its fullest and in the most efficient and coordinated manner; it is about ensuring operational effectiveness and achieving quality connectivity to support excellent internal and external services.

The IT Master Plan will provide a framework that enables the Belleville to:

- Optimize existing processes and process automation with the use of technology
- Improve or re-invent the services provided
- Extend outreach as a Corporation to engage with the public
- Empower municipal employees to use technology to serve both internal and external clients.

## 2.3 Developing the IT Master Plan – Approach

Given the importance of the role technology can play in service delivery for the City, from the onset, this project was approached as an enterprise initiative, engaging stakeholders from across the organization.



As illustrated above, the project was developed in three stages and contained the following activities:

- **Stage 1 – Discovery.**
  - Conducted an all-staff ideation survey.
  - Conducted interviews with IT staff and department stakeholders.
  - Conducted current state assessments on technology, digital maturity, and online services.
  - Reviewed background documentation.
  - Presented findings in a Discovery Report

- **Stage 2 – Strategize.**
  - Conducted workshop with IT on Data and Information Management and strategic directions.
  - Developed themes and opportunities to for review and consideration by both IT and key stakeholders.
  - Working with EMT, developed a vision statement to help set IT strategic direction.
  - Identified key priorities.
- **Stage 3 – Plan.**
  - Developed the draft IT Master Plan with identified recommendations, roadmap, and resource requirements.
  - Build an implementation plan with timing, cost, and resource capacity considerations.
  - Finalized and delivered the IT Service Review and Master Plan (this report).
  - Reviewed the Report with IT and key stakeholders.
  - Present the report to Council.

## 2.4 Strategic Alignment

As described in the RFP, Belleville’s Strategic Plan identifies the importance of continuous improvement in municipal service delivery to residents and businesses. As a major employer in the Municipality with a focus on delivery of public services, the Information Technology (IT) resources management function is very important to the success of seamless public service delivery.

In an effort to optimize service delivery, this Information Technology Services Review (ITSR) will inform the Municipality on efficiencies, effectiveness and appropriateness of the current delivery of IT services as well as ways to evolve the department and modernize service delivery.

Recognizing the role the ITSR can play, this report was not developed in isolation, consideration was given to other corporate initiatives and supporting strategic plans including:

- Organizational review (2023)
- City of Belleville Strategic Plan (2022)
- GIS Program and Roadmap (2022)
- Parkland and Recreation Master Plan (2021)

- Transportation Master Plan (2020)
- Corporate Technology Strategic Plan (2018)

## 2.5 Acknowledgements

Perry Group would like to acknowledge the active involvement, cooperation and support of Belleville's staff, leadership and stakeholders throughout this project.

### 3.0 Discovery – Current State Assessment

The discovery stage of work provided an understanding of the current state of technology in Belleville to better appreciate the challenges and identify a path forward based on the current situation.

The consulting team conducted a detailed assessment of the current technology environment including background document reviews, staff consultation, technology service assessments, and an IT operational review. These are depicted in the Figure below. All the component pieces gathered help to achieve a better understanding of the current situation.

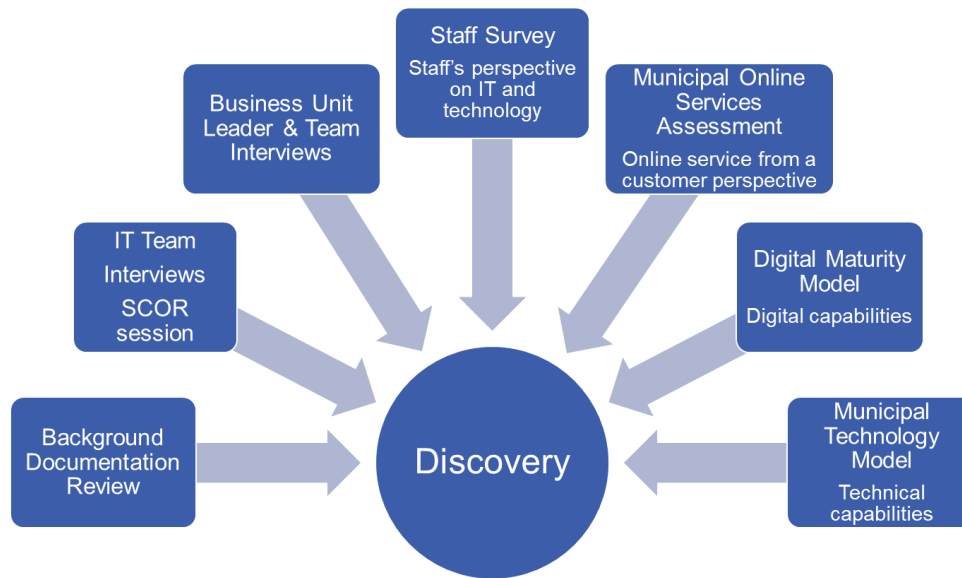


Figure 1- Key Discovery Activities

Findings were then compiled into a Discovery report which was shared with IT staff and executive management in November 2023.

Some of the key insights through the discovery work:

- Technology is recognized as an enabler of service delivery excellence
- Recognition of the value of technology in providing modern, accessible services through an enabled workforce



- Understanding that change is needed to maximize the potential of technology solutions and to become a “smart City”.
- Acknowledgement that IT needs to be positioned as a partner for departments and the organization, with skillsets in data and business analytics, project management, and solution consulting/advisory services.
- Need for organizational governance and collaboration frameworks for technology investment, corporate data, technology systems and solutions (i.e. GIS), and resourcing

The following sections provide an overview of the Discovery results to provide context for the rest of the plan. As mentioned above, more details on these activities have been provided to staff.

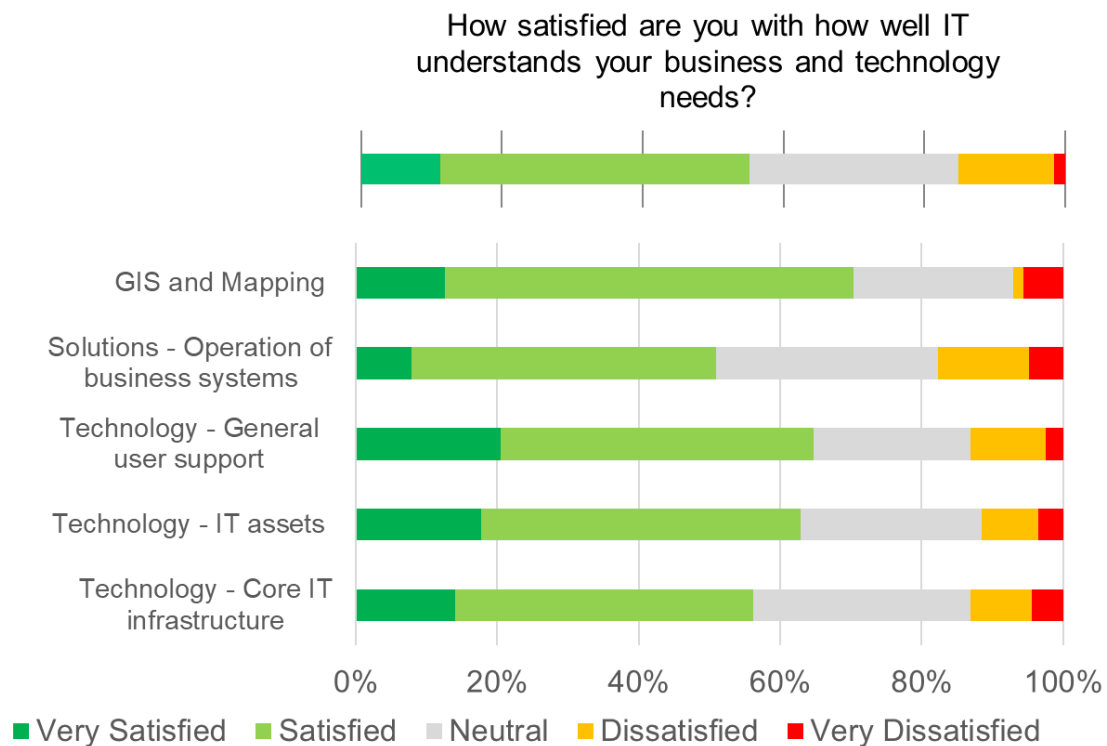
### 3.1.1 All Staff Survey Summary

An online survey was conducted with Belleville’s internal staff and management via email invitations. Those without access to email were provided the opportunity to submit a paper version of the survey. Of the 202 total staff, 141 completed the survey, a response rate of 70%. This is an excellent survey response rate, indicative of the importance of technology to staff.

#### Primary findings:

- While IT support is seen as knowledgeable and responsive, comments indicated that IT lacks the capacity to fully meet the needs of the organization
- There is considerable dissatisfaction with the current technology solutions and support
- Connectivity and access to technology was a common source of dissatisfaction
- Respondents consistently identified a need for more training and support, especially of business solutions

Overall, staff are happy with the services and support they receive from IT, although they are looking for more support with their business solutions. There is a high degree of satisfaction, 80%, with the knowledge of IT staff, and over 80% satisfaction with response time. However, as noted in the following chart, there are opportunities for improvement in support of the Business systems



*Figure 2 Satisfaction with IT Services*

Staff members perceive numerous opportunities for enhancing their daily workflow, such as optimizing data sharing and embracing hybrid work arrangements. The top 5 areas listed below in the chart indicate that a significant portion of staff work relies on office attendance requirements (72%), forwarding information or data to colleagues (84%), also a considerable amount of time is spent gathering information from various sources (66%) and performing manual tasks (50%). These areas present digital avenues for enhancing the employee experience, ultimately leading to increased employee engagement and improved customer service.

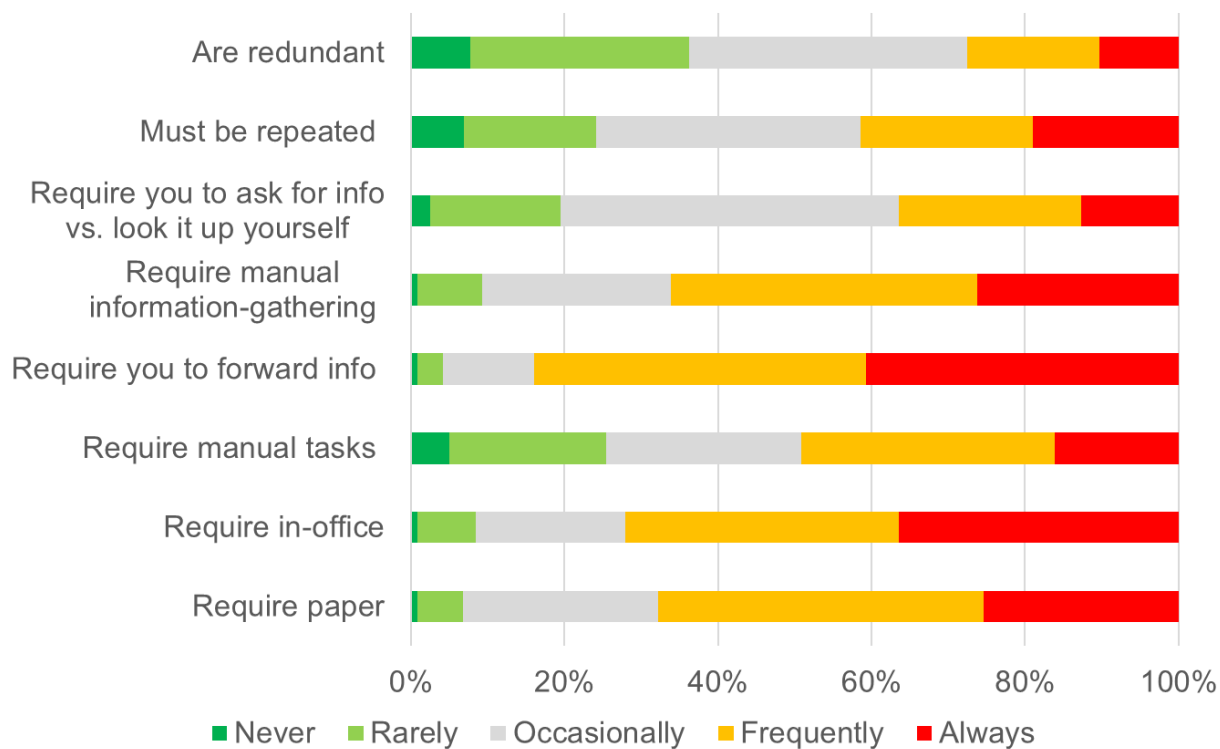


Figure 3 Staff Digital Experience

Detailed results from the Survey were presented in the Belleville - IT Master Plan - All-Staff Survey - Consultant Report.

### 3.1.2 Department Interviews

Over 20 interviews covering all departments and conducted in two streams - individual leader interviews and department team interviews. The interviews gathered an understanding of both what the departments have today for technology and current challenges, and a look forward at opportunities to address business challenges and improve service delivery using technology.

In general, some of the bright spots from the interviews included:

- Staff were generally supportive of IT, and complimentary toward IT staff and recent improvements in service
- Recognition of the importance and potential of technology to enhance business and services.
- Support for expanded IT resources
- There is leadership and staff interest in offering digital service to the community in most departments
- Interest in both staff tools and external user solutions
- Acknowledgment that a more strategic approach to technology would benefit the City

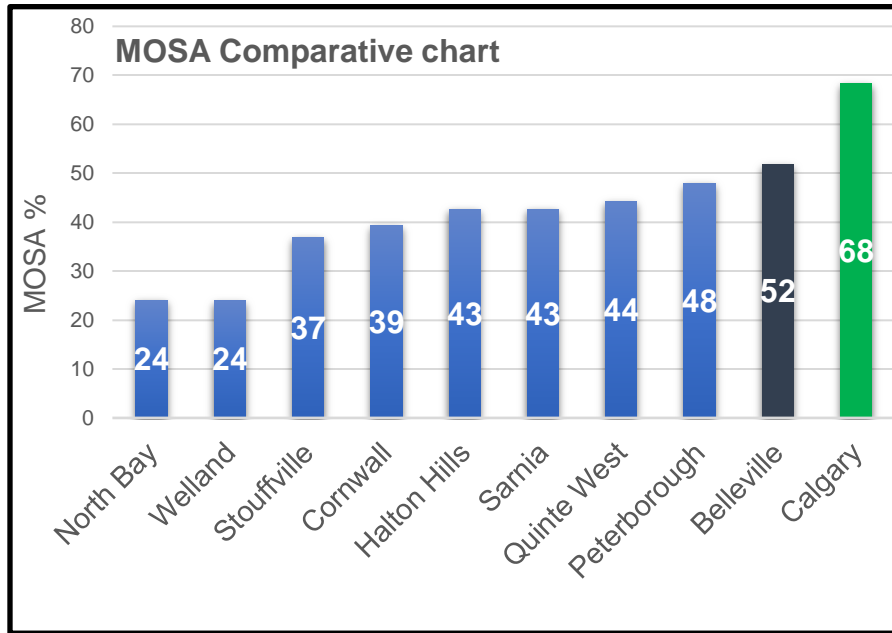
Through the interviews, staff also identified some areas for improvement and future opportunities:

- Need to establish more of a formalized IT governance process including intake and prioritization, corporate engagement and decision support.
- Greatest concern identified was connectivity and connection issues impeding productivity and creating service disruptions
- Identified the need to revisit core infrastructure technologies, or at least look for opportunities to increase functionality and automation – including HR, Document Management, Asset Management, and Finance.
- Organizational desire for more training on technology solutions and to work with IT on better understanding the digital potential.
- Truly good (and sincere) IT service is overshadowed by lack of resources. There is recognition that technology needs to be better resourced to meet organizational need.
- There is a lack of clarity about system support roles and expectations between IT and the Departments, both on projects and operationally.
- Opportunity for workflow automation and system integrations to enhance processes, reduce manual activities, and disconnected systems.

Across the organization, there was support and optimism for IT Service review and the potential work that could come out of it.

### 3.1.3 Assessments

#### Municipal Online Service Assessment (MOSA)



Our user experience assessment, the Municipal Online Services Assessment or MOSA, looks at 50 municipal services and 14 digital technologies to compare the digital government experience between municipalities. The MOSA rates online services as Online (the user can complete the service activities fully online), Partial (the user can complete some of the service activities online), Offline (the user cannot complete any service activities online) and N/A (this service is not offered in this municipality).

Overall, Belleville’s performance in our Municipal Online Service Assessment is above average compared to similar-sized municipalities and neighbours in offering online services to their users. While the website is still seen primarily as a communications vehicle for the City, there is growing use of forms and third-party applications

that provide online services in some service areas.

Belleville has introduced an Online Services portal and is using interactive mapping tools to effectively present recreation amenities to users. The recreation programming demonstrates the community’s willingness to interact online when the experience is optimized for the user.

Business directory	Online	Business licences	Offline	Business support	Offline	Employment support	Partial	Film permits	N/A
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FOI requests	Offline	Grant Programs	Partial	Online bid management	Online	Pay an invoice	Online	Request a service	Partial
Council Committees applications	N/A	Council web streaming	Online	Council agendas/minutes	Online	Public participation	N/A	Speak at Council	Online
Tax billing/ account management	Online	Tax certificates	Online	Waste management info	Partial	Waste special services	Online	Water account mgmt	Online
Burial & perpetual care	N/A	City Employment	Online	Marriage licence	Partial	Pet licence	Online	Vital records registration	N/A
Road closures information	Online	Roadwork status	Offline	Report an issue	Online	Roads permits	Partial	Urban forestry services	Online
Building permits	Online	Development applications	Online	Bylaw Enforcement	Online	Septic systems	Online	Fire/ burn permits	Online
Parking tickets	Online	Parking permits	Online	Transit planning	Online	Transit passes & tickets	Online	Specialized transit	Partial
Events calendar	Online	Event permits	N/A	Recreation programs	Online	Tee & court times	N/A	Facility rentals	Partial
Housing Support	N/A	Children's Services	N/A	Income Assistance	N/A	Newcomer support	N/A	Seniors support	N/A

Figure 4: Municipal Online Service Assessment

There is opportunity to optimize the web and online service applications to deliver on par with leading municipalities, and deliver a consistent, positive service experience to users with the focused attention of service delivery department staff and leadership.

### Digital Maturity Model (DMM)

The Digital Maturity Assessment looks at a municipality's digital maturity through indicators across three Areas – People, Process and Technology.

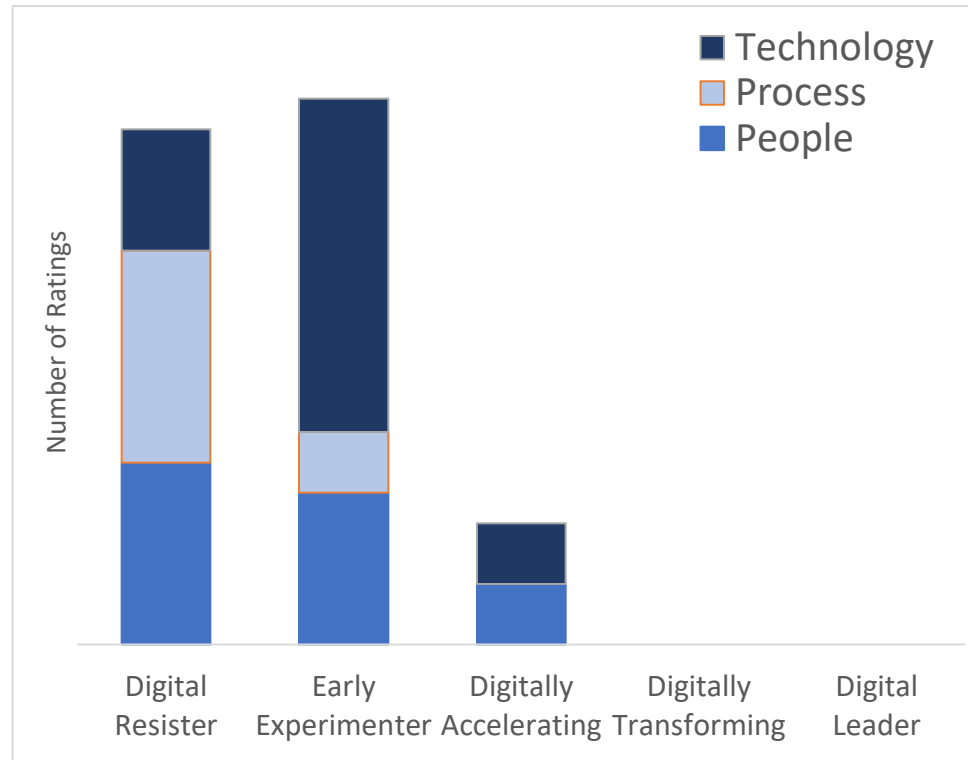


Figure 5: Digital Maturity Model (DMM)

In Belleville, Technology and People maturity indicators are rated as experimenting but moving toward accelerating, while Process maturity is lagging. While there is enthusiasm for technology solutions by both leadership and staff, there is little overall governance and a lack of structure for intentional strategic work across the municipality. Digital talent throughout the organization is siloed and self-directed, while a general lack of awareness of digital capabilities limits the vision for change. Staff lack the support and capacity to engage in new technology initiatives due to their operational load.

When technology is introduced, the solution often lacks integration with other enterprise technology, resulting in digital processes that are rarely end-to-end, and require too much manual intervention by staff. Compounded by a lack of training and change management, staff expressed concerns about how new technology will impact business operations and service

delivery. Although there is interest at multiple levels, the organization lacks a structured approach to both project management and process improvement initiatives, and staff feel pushed to be reactive, rather than proactive in their approach to service delivery.

In interviews, staff and leadership expressed a desire for more strategic vision concerning the use of technology to enable service delivery operations and staff. There is a desire for a connected, digital infrastructure for staff and external users, that enables more efficient service delivery, supported by data analytics tools that enable effective decision-making and transparent service performance management.

**Municipal Technology Model**

The Municipal Technology Model (MTM) is a technology assessment tool developed by the Perry Group working in conjunction with municipalities. It provides a 1-page visualization of technology we would expect a municipality like Belleville to have in place. Behind the MTM diagram is a detailed assessment of the technology capabilities related to core municipal service areas in our online portal.

The MTM expresses the technical capabilities a municipality has based on the following architecture:

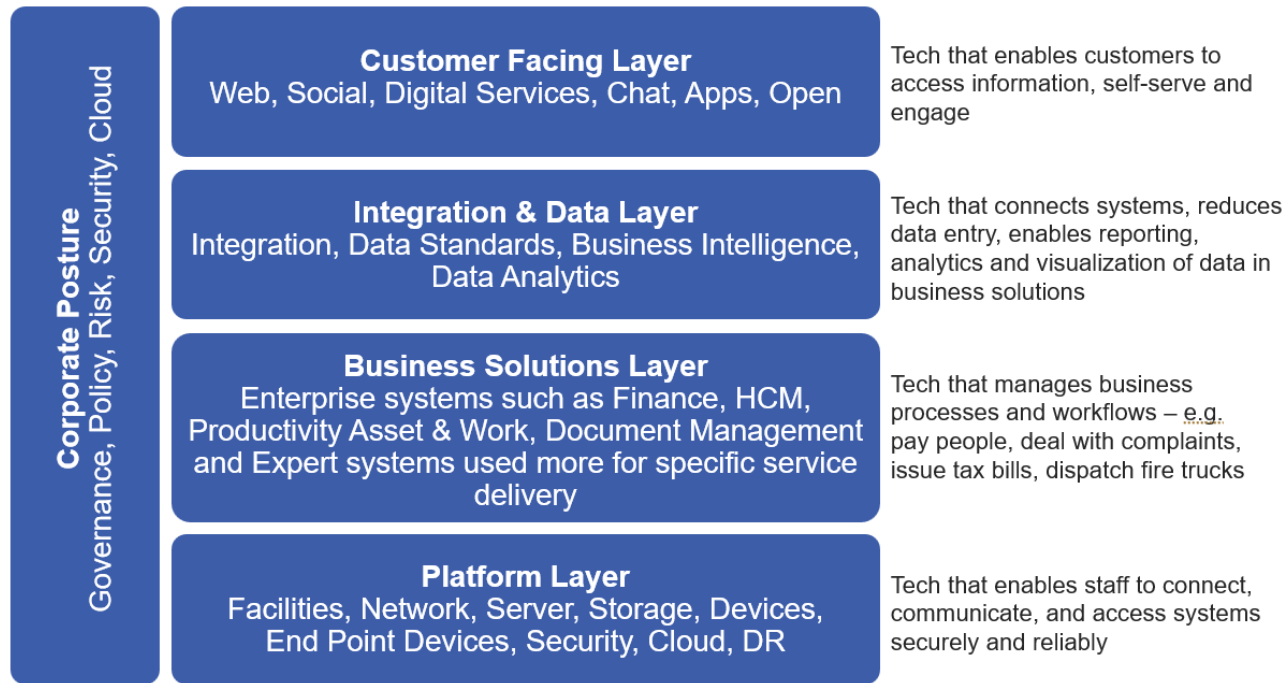


Figure 6 Municipal Technology Model



The following figure is the MTM assessment for Belleville. A text-based summary to support the MTM has been provided as [Appendix 2](#) and full details of the assessment have been provided to staff.

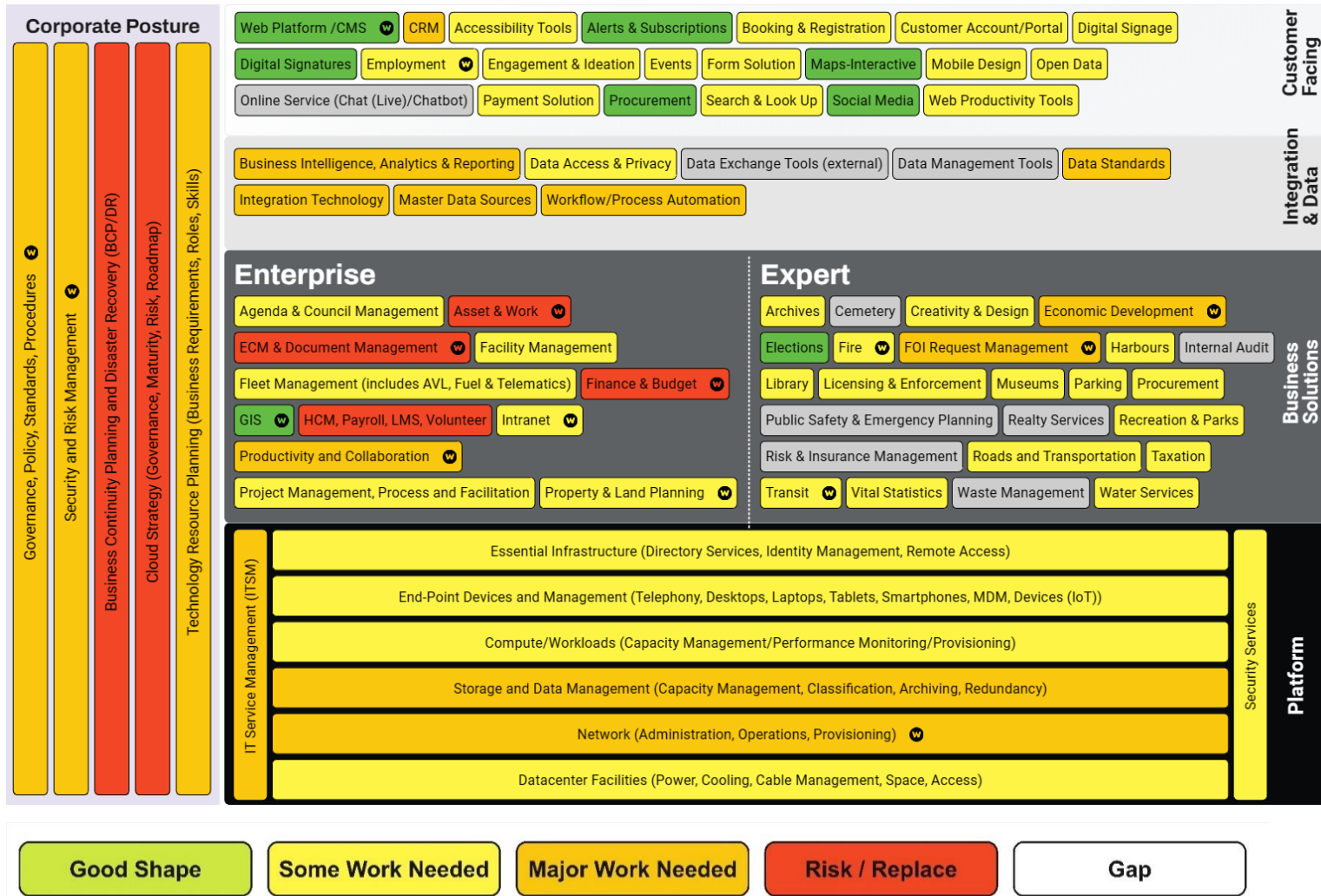


Figure 7 Belleville Municipal Technology Model Assessment

## *IT Service Management*

### 3.1.4 IT Operational Review

As part of the Discovery assessment, a review of how the organization approaches information, technology and systems management was conducted. This was not a detailed skills assessment but a review of how the IT Operating Model can deliver support and services while maintaining the overall infrastructure and cybersecurity management. The team works well together and has gained the respect of their colleagues and peers. They have implemented many good processes and procedures and have been able to meet most challenges presented to them.

The team fulfills various roles covering all functional aspects of an IT Department. There is some reliance on vendor partners for additional support and services. Interviews and survey results showed leadership and staff have expressed a strong desire for IT to become more of a strategic partner, providing greater assistance in the Business solutions layer but also in providing guidance and advice to better leverage technology and to be able to take advantage of emerging technologies and digital solutions.

It was recognized that IT had not been adequately positioned in the organization and recently has been moved up to Department status with the Manager being promoted to a Director level. This move will help IT to be part of critical decisions and strategic planning for the City.

At the time of the assessment, the following organization structure was in place.

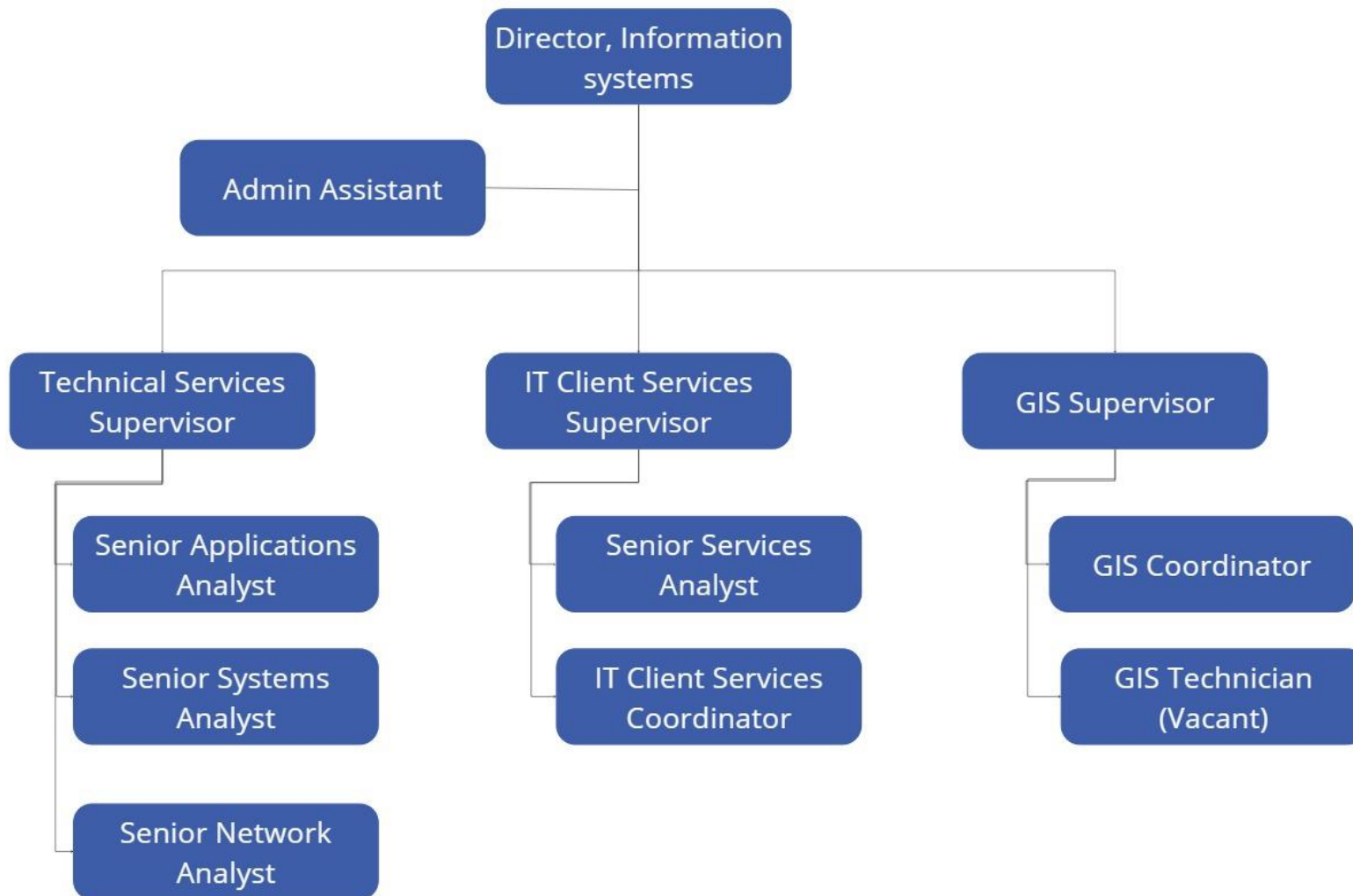


Figure 8 Current IT Organization

In 2023, the City moved the GIS resource into IT to enhance the ability to deliver GIS services corporately. This also provides the opportunity to build out a strong data program once the focus can be shifted from GIS services.

When reviewing this structure, the positions and skillsets make it clear that the focus has been on providing support and management of the overall network operations. Under the guidance of the IT Director, the team has built out good IT Systems Management (ITSM) practices and has built a stable and secure environment. While some work is still needed, the team has built a solid technological foundation to move forward. There is limited capacity for business analysis and project work. Project management is largely the responsibility of the Director, but until recently he was also performing operational tasks, resulting in less capacity for strategy, planning and relationship building.

Due to limited resources, there are some gaps in functions typically delivered by an IT Team. There is limited time for long term planning, including strategic, capacity and network plans. Training has not been able to be a priority, and this was noted in both interviews and the survey results. On the solutions side, there are gaps in project management, change management, database management as well as data analysis, enterprise architecture and integration skills. The team does an excellent job of fulfilling these responsibilities to the best of their abilities, but this ad hoc approach will not be sufficient as reliance on technology continues to grow.

### 3.1.5 Operational and Financial Analysis

A high-level review of expenditures related to technology was conducted. As shown below, Perry Group’s suggested range for IT Operating Expenditures is in the range from 2.5% to 4.5%. Belleville’s IT operating expenditures fall at just 1% which is well below the recommended range.

Gartner, a US-based international technology industry research analyst firm, reports that local and state governments across North America on average spend around 4.3% of their budgets on technology. Perry Group again typically recommends, at minimum, a 3% target for investment, depending on local conditions but we have seen municipalities at different stages of IT investment cycles investing significantly more.

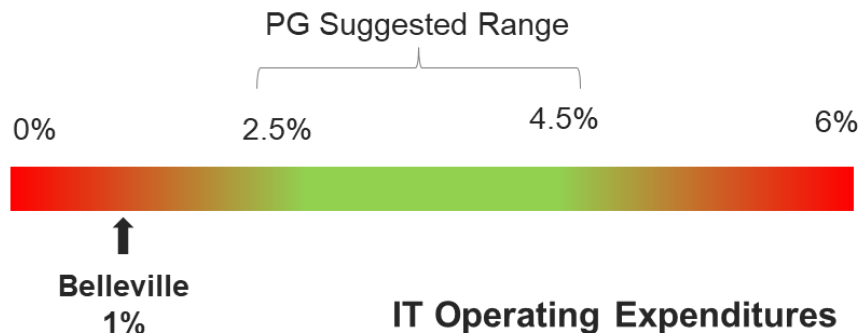


Figure 9 Belleville IT Operating Expenditure

There are several risks in underfunding technology, namely:

- Reputation – by not delivering services that match customer expectations.
- An inability to access valuable data insights that can improve service experiences, target specific business problems, and drive efficiency and effectiveness.
- Difficulty recruiting (and especially retaining) the best and brightest employees.
- Negative ROI – misusing valuable staff time in managing medial tasks and manual, paper-driven processes.

The City currently has 11 full-time positions in its IT Department. This represents approximately 2.9% of the City workforce using a baseline of 410 FTE. It is also worth noting that this baseline may not include any additional part-time and/or volunteer staff that regularly need IT accounts and IT support.

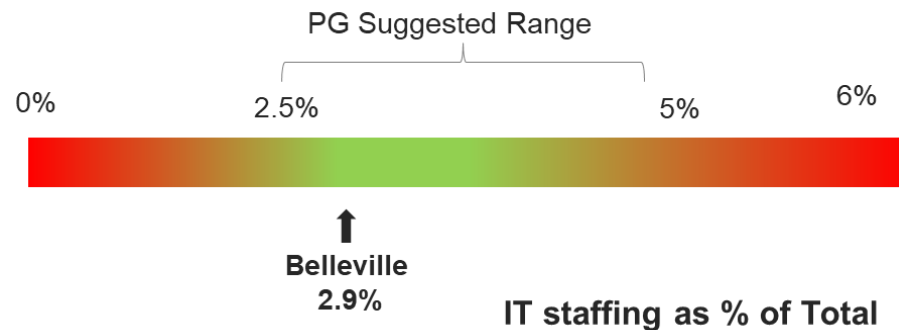


Figure 10 Belleville IT Staffing Levels

As seen in the above illustration, Perry Group’s suggested range is 3 – 5%. The City is close to approaching the absolute minimum target, but opportunities exist for augmenting resources.

## 4.0 Strategy - Setting the Future Vision

The discussions through the Discovery stage indicated a strong interest in opportunities to significantly improve the use of technology both for staff and customers. Many of the existing technologies are enterprise grade municipal systems; however there remain disconnects between the systems and greater opportunities to better leverage the technology.

Input to the Strategy stage included refining an opportunities list, conducting deeper dives on various topics including Data and Information Management and IT Infrastructure, and consulting with EMT on their priorities and direction for IT.

It is important to note that this is not simply a work plan for the Information Technology department; rather it is a corporate strategy requiring engagement across the organization. It looks at how the corporation as a whole can leverage technology to deliver improved services, meet expectations for the customer as well as find efficiencies and productivity improvements.

Building on the current state findings in the Discovery stage, the Strategy stage focused on exploring and weighing available options to address opportunities and gaps revealed, diving deeper into certain areas of focus, on identifying realistic and achievable opportunities to be pursued, and on selecting the priorities that will have the most significant impact for the City of Belleville.

The strategy work of the project sets in motion a Technology Vision for Belleville, supported by a strategic direction, identification of priorities, and an overall opportunity list. Collectively, this becomes the basis of the master plan.

### 4.1 Establishing a Technology Vision for Belleville

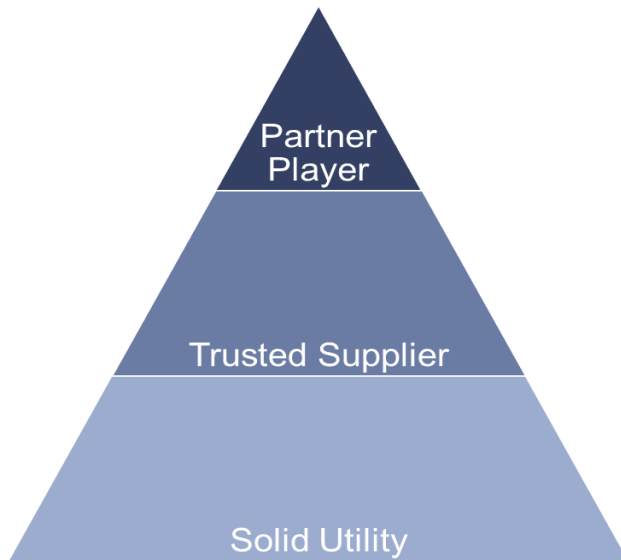
During Discovery, it was clear that the expectations of technology and the IT department varied across the organization, therefore a vision setting discussion during the strategy phase leadership was held to help set the direction for the development of the IT Master Plan.

We believe that technology has become essential to effective and efficient municipal operations. The best run municipalities rely on technology to enable staff productivity, operational effectiveness, customer service excellence and to use data to gain clear insights to support service optimization. It can be argued that an effective information technology delivery model is a core competency of high performing organizations.

In establishing a Technology Vision for IT, several factors were considered including:

- Pressures on Core Services to deliver more with limited resources.
- Changing and increased customer expectations for digital service delivery.
- Focus on reducing costs with recognition of increasing efficiencies through digital adoption.
- Community growth with increased complexity and changing service landscape.
- Increasingly technical savvy staff and the need for technology to attract and retain a modern skilled workforce.

These factors were consistent with what we heard from city staff across the organization. It was clear in Discovery that the service areas wanted more from IT than only delivering reliable IT services and support. They were looking for support in using technology to simplify business operations and improve service delivery, and therefore a deeper understanding of not just the technology but how the technology would be used in the support model. We call this role a “Partner Player” that recognizes that IT is integral to how we do business across the organization, from the staff experience through the user experience of our residents, businesses, tourists and other users of municipal services. In this role, the IT organization is expected to closely partner with business units to help identify, plan and deliver significant business transformation initiatives, plus be a trusted supplier of technology solutions and infrastructure.



***Roles of IT in municipal operations***

**Partner player:** IT is integral to how we do business: The IT organization is expected to closely partner with business units to help identify, plan and deliver significant business transformation initiatives – plus be a trusted supplier.

**Trusted Supplier:** IT delivers critical functionality and services. The IT organization is expected to deliver application projects on time and on budget, based upon the business unit’s requirements and priorities – plus be a solid utility.

**Solid Utility:** Keep the lights on. The IT organization is expected to provide cost-effective, dial-tone reliability with transparent costs.

We reviewed and confirmed this expectation of IT as partner with leadership. This expectation was discussed during the kick-off meeting of the project by the leaders when they were asked to imagine what they wanted people to say about Belleville five years from now. Comments such as IT is “a facilitator of change” and can be “a partner with the business departments”, that there is an intentional use of technology, and that we have modern software solutions that are fully integrated. They want technology to be “used as an engagement tool to enhance service delivery” and to have more digital and self-serve processes. They want better access to data and analytics to inform decision-making and efficient management of resources and assets.

In collaboration with EMT the following Technology Vision statement emerged:

*Empowering innovation through technology, data, and people to serve our community.*

## 4.2 Strategic Direction

Management and staff across the city voiced the need to digitize current manual, paper-based processes as well as modernize the tools they use daily. Belleville’s workforce should be fully empowered by technology, providing them with the ability to work remotely, use data to make better decisions and spend less time on administrative tasks that could be digitally automated.

The project identified four key themes for consideration while developing this IT Master Plan. They are:

1. Establish IT as a business partner through governance and strategic direction setting.
2. Ensure IT service performance and resiliency by building a strong, secure foundational infrastructure and supporting IT Operational Model.
3. Enable the modern workforce by focusing on fundamentals (core enterprise solutions), supporting business and extending business applications, and treating data and information as an asset.
4. Enhance the Customer Experience and expand digital service delivery.

Given the ever-increasing importance of technology in delivering municipal services, this IT Master Plan is a critical strategy. The Plan helps to determine priorities and identifies the key initiatives and activities to support these four key goals.



## 4.3 Setting Priorities

The challenge that exists in any municipal organization is that there are a finite number of resources, both human and financial, which limit the work to be accomplished in a particular time period. Compound the array of services a municipality provides, and the need to evaluate and prioritize opportunities is apparent. This challenge presents itself corporately in the annual budget process, but also downstream in identifying the IT opportunities that will support the organization's service needs.

Since the IT workplan will be based on capacity to perform work and in consideration of available resources, a priority setting exercise was conducted with EMT. Project prioritization helps provide an objective approach and the opportunity to engage business units to better understand the IT demands from a corporate perspective.

The exercise focused on getting a sense of priorities from both a corporate perspective and in alignment with individual department needs. The exercise also considered that not all IT opportunities need to be prioritized- some IT initiatives are non-discretionary to maintain systems and to ensure the security of the organization. Of the discretionary projects, 10 key opportunities were flagged for review. These are:

- Asset and Work Management
- Digital customer service strategy
- Document Management
- Financial/ ERP System Review
- HRIS Solution
- IT Governance Framework
- O365 Rollout
- Staff Intranet
- System Integrations
- Workflow and process automation



EMT was then asked, 'From a Corporate Perspective, what do you think Belleville's technology priorities should be?' A two-factor prioritization model was used, ranking each initiative based on Importance and Urgency. The result is depicted in the following Figure.

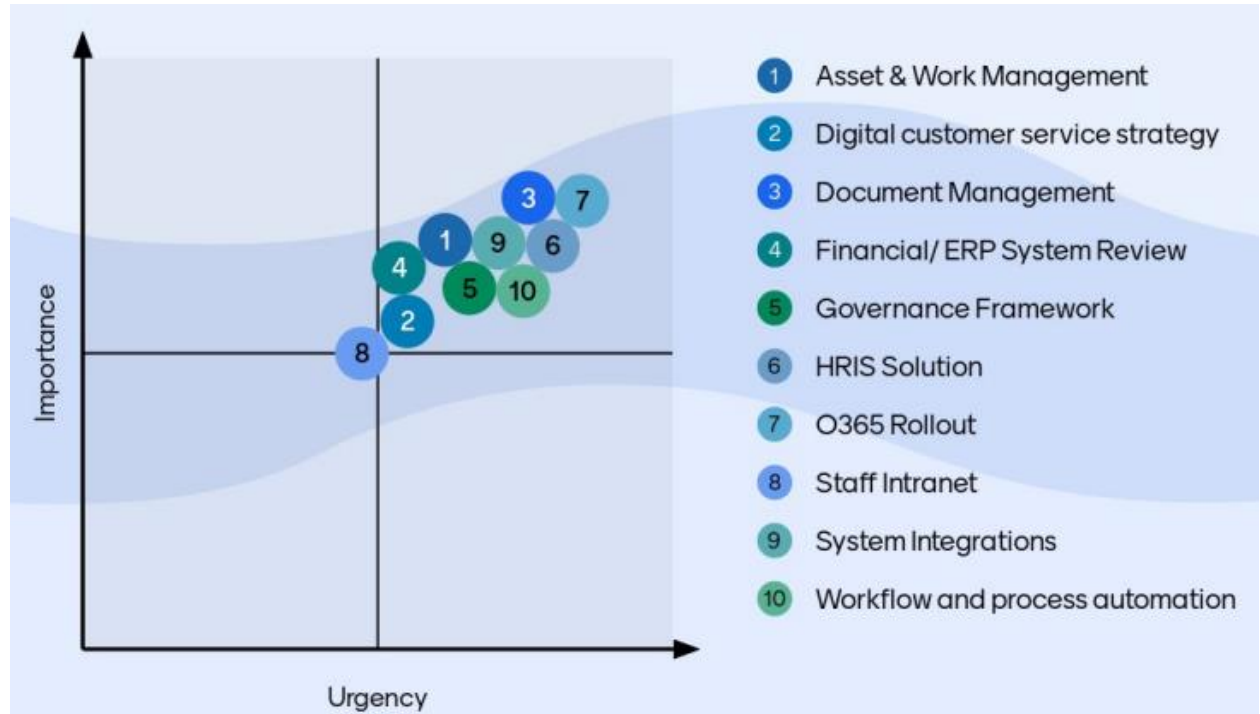


Figure 11- ELT Prioritization Exercise

Through the exercise it was acknowledged that these are all important to the organization, as was evident in most of the initiatives appearing in the upper right quadrant for Importance and Urgency.

Prioritized in order of overall Importance and Urgency, the opportunities sequence as follows:

Priority	Opportunity
1	O365 Rollout
2	Document Management
3	HRIS Solution
4	Workflow and process automation
5	System Integrations
6	Governance Framework
7	Asset & Work Management
8	Financial/ ERP System Review
9	Digital customer service strategy
10	Staff Intranet

The result reiterated what was identified throughout this project. Completing the O365 implementation and beginning the Document Management project are current priorities. Looking at a solution for HR, improving workflow and process automation, and enhancing system integrations will benefit all and lead to significant technology improvements for the City. The trailing priorities are still very important but tend to be more fragmented in the perceived overall sequencing.

Prioritization can be a very involved process and needs to be revisited periodically to ensure work is aligned with corporate and strategic needs. A more detailed project prioritization process is recommended as part of the IT governance framework.

Following the prioritization exercise, work was done to further evaluate the opportunities, balance and set the work plan.

## 4.4 IT Organization

The City's successful execution of the IT Master Plan is important; otherwise, the promising concepts outlined here will remain unrealized. As indicated by the benchmarking data earlier in this report, the City's investment in IT and IT staffing falls short compared to its counterparts. Consequently, it's not surprising that changes are needed, and potentially additional resources are required to support the implementation of the new IT Master Plan.

EMT has said they would like to see IT elevated to more of a partner in service delivery rather than the trusted, utility model. This repositioning as well as the elevation of IT to a Department in the organizations provides a clear mandate for moving forward. EMT is looking for more strategic and active leadership from IT as well as wanting them to become even more responsive and more agile in their ability to deliver. This is a shift from how the City has approached and managed technology. This shift will require support and collaboration to ensure IT is able to step up to this new mandate.

As highlighted in the preceding section on the current state, there has been a lack of clarity regarding roles and responsibilities between the IT Department and the business departments. This has led to confusion, redundant efforts, and conflicting strategic objectives. These challenges significantly impede the City's capacity to innovate, which directly affects service delivery and the optimal utilization of technology.

This IT Master Plan aims to address these issues by establishing clarity concerning roles and responsibilities, thus defining the key individuals involved in the Plan's implementation.

### 4.4.1 Strong IT Leadership

The role of the IT Leader has been at the Manager level for some time. During the course of this project, the position was elevated to a Director level and to become part of the Executive Leadership Team. This is an excellent and proactive move that will benefit the City as it moves forward with not only this strategy but also with identifying further opportunities for digitization and digital service delivery.

Key to making this succeed, is the need to review the Director's responsibilities. As previously noted, until recently, the leader was still involved in operational requirements and support. They will need to continue to focus on strategic work such as planning, projects and relationship building. The following is a sample of tasks for the Director of Information Systems:

- Develop and implement the IT Master Plan: The Director of IT is responsible for developing and implementing the technology strategy that aligns with the City's goals and objectives.

- **Manage IT and digital operations:** The Director, IT oversees the day-to-day management of the technology, data, and digital teams, ensuring that systems and technologies are secure, reliable, and efficient.
- **Oversee the implementation of technology and data projects:** The Director is responsible for the pipeline and delivery of technology-enabled transformation work.
- **Manage relationships with vendors and partners:** The Director is responsible for managing relationships, in partnership with business units, with technology vendors and partners, negotiating contracts, and ensuring that service level agreements are met.
- **Lead digital initiatives:** The Director drives digital efforts across the organization, working with business leaders to identify opportunities for technology to improve business processes and create new opportunities for service improvement.
- **Ensure compliance and security:** The Director is responsible for ensuring that the City complies with relevant regulations and standards, and that information systems and data are secure and protected.
- **Manage IT budgets:** The Director manages the technology budget, ensuring that resources are allocated effectively and efficiently to support business goals.
- **Coordinate technology procurement:** The Director coordinates and manages all technology-related procurements, no matter how big or small they may be.

The Director's responsibilities are central to the effective operation of the City, particularly in today's digital age, where technology is integral to every aspect of business operations. Being part of EMT, the Director should help them to achieve the vision outlined in this IT Master Plan and partner with each business unit to leverage modern technology.

In addition to repositioning the department, a new focus on relationship building will be a key element of this new leadership role for the IT Department. Too often, IT is the last to know about technology initiatives that have been planned and budgeted by departments without appropriate input, and often important considerations have been missed.

Modelled after the Financial Planning Advisor and Human Resources Advisor models often adopted by municipal Finance and HR Departments, business relationship management helps to position IT in a more proactive role as they will have an understanding of the day-to-day challenges and goals of the departments. The Director, and other Senior staff in IT, would work with department heads and their teams to improve support in their technology exploration, planning and execution.

Working closely with departments and specific business units in order to help translate their technology and digital ideas and concepts into viable and sustainable technology plans, strategies and tactics, projects, and solutions helps to achieve corporate focus on key strategic initiatives. This focus is designed to build strong bridges between IT and business unit partners and ensure that IT and departments are actively working together.

As noted in the interviews and the survey responses, the City is looking to the Director, to provide services and advice in areas such as project and portfolio management, technology and digital governance and architecture, data analytics and business intelligence as well as GIS and web, the City is looking to the IT Department to step up, take stronger ownership, and drive these corporate-wide programs.

#### 4.4.2 IT Organization Model

To further support the Director, IT and to realize the expectations set by EMT, some changes are needed to the IT Department model. This is the opportunity to review the current structure to allow for efficient resource allocation but also for growth and succession planning.

Our approach to organizational design has 4 areas of review:

- Set organization design goals – what are we trying to achieve with organization design changes? What outcomes are we trying to achieve?
- Establish functional needs, jobs to be done and logical groupings – what functional responsibilities need to be assigned, how would we logically group them with clearly defined accountabilities?
- Establish ideal target organization model, structure and roles – how would we manifest the functional organization structure into a real organization structure, what new positions are needed?
- Determine how to transition from today’s model to the target – what changes are needed, what are the priorities?

##### *Set Organization Design Goals*

As noted in the [vision section](#) of this report, EMT determined the goal is for IT to be a “Partner Player” in service delivery. This means that IT will need to move towards providing more services, to build relationships with the departments and vendors, and start playing a more active role in supporting business solutions. IT is also expected to provide organizational leadership towards emerging technologies and helping departments move towards more digital service delivery.

*Establish Functional Needs*

Following industry best practices (Information Technology Infrastructure Library (ITIL), COBIT), and addressing key gaps and organizational concerns, the functional organization structure identified in the Functional Model table shown below is recommended to better organize and align roles and responsibilities and better position the City to support the delivery of the Vision and IT Master Plan.

IT Leadership					Departments
Responsible for technology governance, strategy and planning across the organization, as well as the operational management of the IT department and service delivery.					Responsible for service delivery and operational use of technology in their department: business process ownership, service delivery management, data stewardship, adoption and change management, project accountability and participation.
Client Services	Infrastructure Services	Business Systems	IT Planning & Delivery	Data/GIS, Visualization & Analytics	
Responsible for the Service Desk: 1 <sup>st</sup> level support, device and software provisioning, account management, training and communications.	Responsible for infrastructure management: architecture, network and access management, file and print infrastructure, and security.	Responsible for applications management: solutions architecture, enterprise and expert applications, web and digital solutions, cloud solutions and systems integration.	Responsible for project and portfolio management; project intake and reporting, IT resource management and planning, IT business analysis	Responsible for business intelligence services: data architecture and framework, enablement of business analytics and reporting. Responsible for GIS services.	

*Figure 12 Standard IT Functional Model*

During Discovery and Strategize, a review of the current structure against this best practice model identified the following gaps and areas of opportunity:

- Need to clarify the responsibilities of the IT Team – the team has grown over the years to fulfill different needs with duties added based on capacity and broad knowledge rather than specifically defining job requirements.
- There is uncertainty about what technology and solutions IT supports vs what is the business departments responsibility



- There is very little capacity for business analysis or understanding what the problem is before finding a solution
- The leader (Director, previously Manager) has had to be focused on operational issues while trying to do strategic planning, workload planning and relationship building
- There is limited capacity for IT Project planning and delivery, including portfolio management
- GIS has recently been moved to the IT Department and will need time to mature in this new capacity

*Establish ideal target organization model, structure and roles*

With increased demands on IT support, resource challenges, and the recent reorganization and positioning of IT, there needs to be standards in place to manage organizational expectations. Many methodologies exist for IT operations, selecting key functional areas to focus on will enhance IT service delivery.

One key area of focus, at least initially, is establishing the project delivery engine in IT so that initiatives and projects that are selected can be executed effectively and can achieve the outcomes anticipated. EMT recognizes that business solutions will be a pivotal focus area. Currently, the Director predominantly manages project implementation for business solutions and applications. There's a pressing need for comprehensive upfront requirement analysis, aligning technology with business needs, and providing ongoing support. To address this, the IT team requires additional resources proficient in business analysis, relationship cultivation, and project management.

Moreover, there's a need for heightened attention to integration opportunities to ensure optimal system functionality. The IT department must transition into an entity actively engaged with business units to identify and execute strategies for enhancing services, processes, and operations to drive efficiency and customer service enhancements.

The following functional model is recommended for the IT Department to help them better meet the organizational and technology needs of the City and its goals for improving service delivery and the workplace environment for staff.

IT Leadership			Departments
Responsible for technology governance, strategy and planning across the organization, as well as the operational management of the IT department and service delivery. Responsible for project and portfolio management; project intake and reporting, IT resource management and planning.			Responsible for service delivery and operational use of technology in their department: business process ownership, service delivery management, data stewardship, adoption and change management, project accountability and participation.
Infrastructure Services	Business Solutions & Client Services	GIS	
<ul style="list-style-type: none"> <li>Responsible for infrastructure management: architecture, network and access management, file and print infrastructure, cloud management and security.</li> </ul>	<ul style="list-style-type: none"> <li>Responsible for applications management: IT business analysis solutions architecture, enterprise and expert applications, web and digital solutions, cloud solutions and systems integration.</li> <li>Responsible for the Service Desk: 1<sup>st</sup> level support, device and software provisioning, account management, training and communications.</li> <li>Responsible for business intelligence services: data architecture and framework, enablement of business analytics and reporting.</li> </ul>	<ul style="list-style-type: none"> <li>Responsible for GIS services including GIS architecture, technology design and management. GIS operations, Enterprise Dashboards.</li> <li>Responsible for the enablement of divisional / departmental GIS analytics and reporting and the integration of GIS and non-GIS information.</li> </ul>	

Figure 13 Proposed Functional Model

### *Transition from Current State to Proposed Model*

To support the adoption of the IT Master Plan and the implementation of the recommended IT organization structure, a series of changes to existing roles are anticipated with new job descriptions and new reporting relationships within the IT Department.

2024 marks the first time in 10 years that the full complement of resources has been filled in IT. Over the years, lines of responsibility have become blurred as people take on necessary tasks and attempt to provide back-fill for staff who are away or not available. It is time to conduct a review of the existing IT roles and responsibilities to align with proposed initiatives and work plan.

This review is essential to ensure alignment with strategic objectives and to facilitate effective execution. Job descriptions must be thoroughly examined and updated to accurately reflect the evolving needs and to encourage enhanced collaboration to better serve the needs of the organization. Identifying resource capability gaps and demand is crucial to optimize operational efficiency and address potential deficiencies. The establishment of clear responsibilities, centralized under a single point of accountability underpins the City's broader organization design efforts and this core principle has guided the re-design and proposed re-organization of the City's IT resources.

It is recognized that changes and additions must happen incrementally. Working with the Director of IT , the following changes have been prioritized to best support the current environment as well as positioning for a successful execution of this IT Master Plan. The proposed functional model was used to identify short-term changes to meet the more immediate requirements of the City and then a longer-term model that better positions the City to move forward at a faster pace to meet organizational needs.

The following model depicts the necessary changes and additions necessary in the short term.

IT Operational Model – Short Term

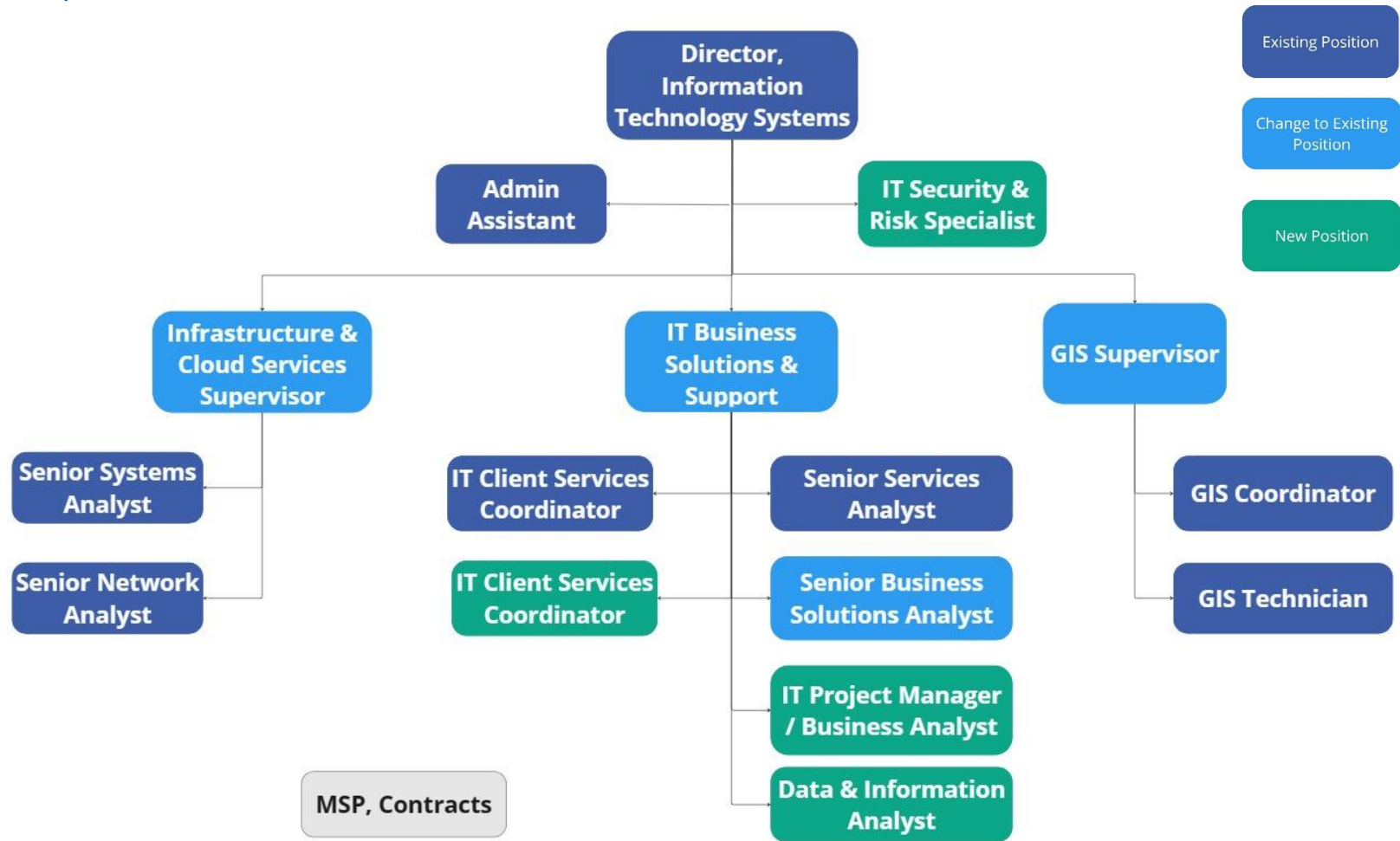


Figure 14 Proposed Short Term IT Organization Model

## Short term Changes

Some important changes are required to start the transition to the partner model of IT Service Delivery.

1. Retitle and update several job descriptions to better reflect actual functions and to establish the three discrete teams in IT:
  - Infrastructure & Cloud Services Supervisor
  - IT Business Solutions & Support Supervisor – enabling more attention on City Business Solutions by helping and leading different City Departments to improve business projects and collections of projects.
  - GIS Supervisor

It is recommended that all job descriptions within the IT Department be reviewed and updated to reflect the change to Department status and the new Director responsibilities but also to reflect more modern titles and skills required.

2. Move the Senior Business Solutions Analyst into the Solutions & Support team for better alignment of responsibilities
3. Add new resources to fill gaps:
  - Project Manager(s) / Business Analyst(s) – Business departments have identified that they need additional help to translate business problems into technology solutions. This role will act as a translator, helping business units understand what is possible and help them execute those ideas. The City could use external contacted project management for major projects, but many of the projects that the City will undertake are small and medium sized projects, the PM/BA role will handle these types of initiatives. Others may be added on contract as needed to assist in the delivery of projects.
  - Data & Information Analyst - To support the increased work around data management, data analytics and business intelligence, this role specializes in data analysis, reporting across a variety of data sources, dashboards and metrics.
  - IT Security & Risk Specialist - to be dedicated to, and actively manage the corporate security and risk management program, including ensuring security audits and assessments are performed by a third-party, and that an information security awareness education and training program is implemented on an ongoing basis.
  - Network Technician - It is anticipated that as corporate wide technology dependence grows, along with increased use of cloud, continued growth of cybersecurity threats, increased pressure / resource demands will be seen in this team. Adding a junior position will free up the Senior roles to enable greater focus on high-end tasks. This additional position also starts to enable better opportunities for cross-training and succession planning.

## Long Term Model

The longer-term model visions further realignment of roles to address the evolving requirements. This target model identifies a focus on Solutions and Business Transformation by expanding the section to include digital, online services, data and analytics. In order to allow this focus, it is suggested the IT Client Services function can be moved to the Infrastructure team which allows for end-to-end support of user requirements. The following changes are recommended:

- Manager, Solutions & Transformation
- Manager, Infrastructure, Cloud & Support Services
- IT Client Services Coordinator – additional position
- Integration Specialist – this new role will have specialized skills to ensure appropriate and secure integration with applications, both cloud and on-premise solutions. Skills should include a level of expertise in cloud/hosted solutions, especially in ensuring ability to integrate and access data.
- Digital & Online Solutions Specialist - This new position leads the push for digital and web service enhancements. Responsible for coordinating the delivery of new digital services, managing service providers, establishing web and online service delivery standards.
- Business Solutions Supervisor – an additional lead position to enable the Manager to focus on strategic business enablement process improvement and project management.

The following diagram depicts the long-term target for the IT Organization model.

*IT Operational Target Model – Long Term*

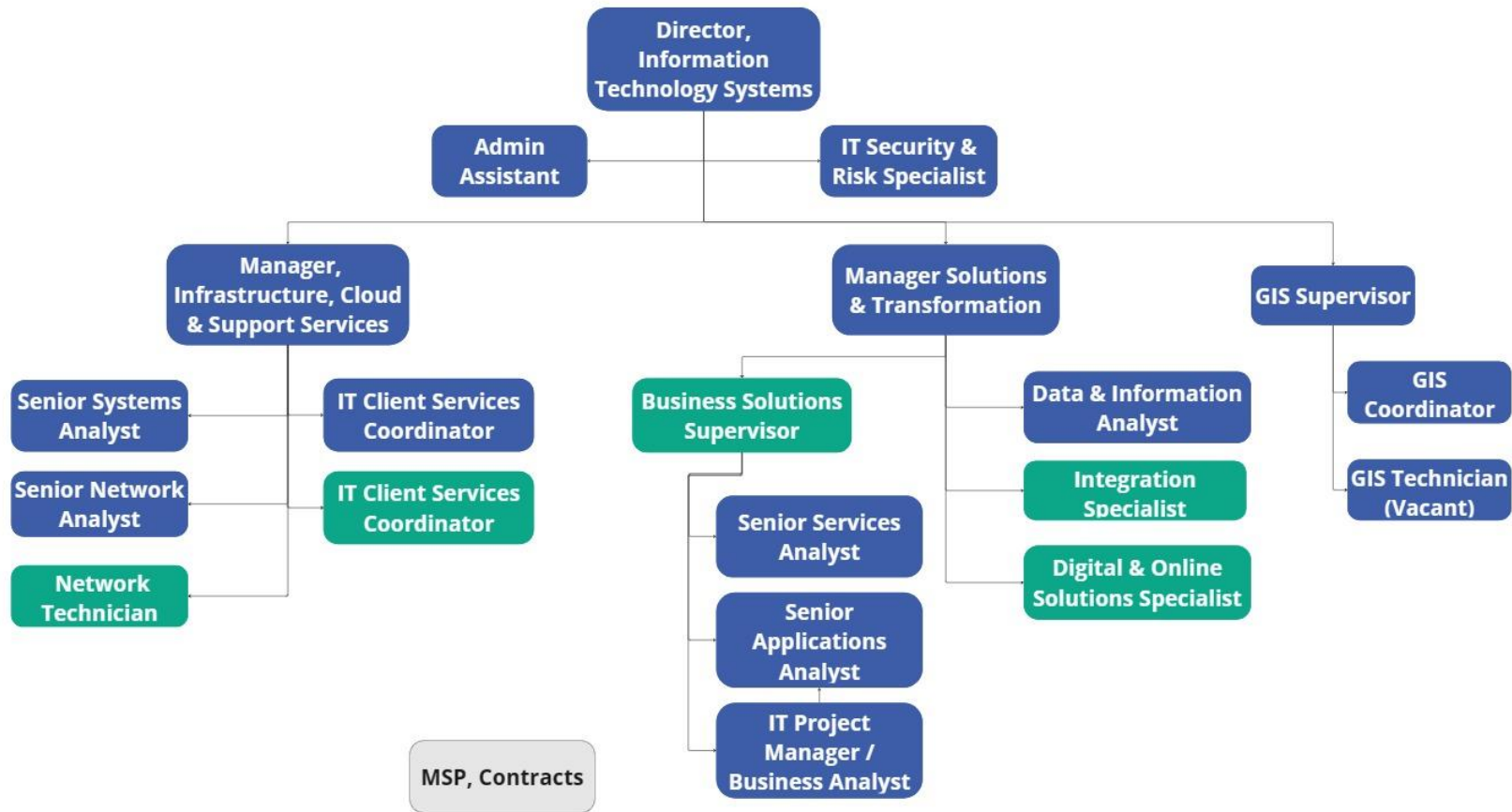


Figure 15 Target IT Organization Model

### *Partnership between IT and the Business Departments*

A significant portion of the organization has traditionally viewed the IT Department as a reactive, support-oriented back-office entity—a utility tasked solely with maintaining operational stability or a supplier tasked with delivering predefined projects. This utility or supplier dynamic cannot address opportunities for mutual learning, transformative endeavours, and strategic advancements. A more contemporary perspective on the role of IT emphasizes fostering robust partnerships between IT and business units. In this approach, IT collaborates closely with business units to co-create and implement modernized business processes and services. The IT Department and its technological solutions serve as catalysts for change and innovation.

Establishing an effective partnership requires both IT and business units to engage collaboratively, with clear delineation of roles and responsibilities. IT needs to assume the role of a strategic advisor, guiding business units on technology strategy and helping actualize ideas and opportunities. Conversely, business units should engage with IT by seeking input and advice, thus fostering a positive relationship.

Both IT and business departments should actively cultivate their relationship to ensure mutual understanding. This involves IT gaining deeper insights into the business landscape and departments better understanding their role and responsibilities with technology implementations. Trust forms the cornerstone of these partnerships, necessitating IT's consistent delivery of high-quality core services and active consultation by business units with IT.

### *Business Department Responsibilities*

In this section, the emphasis has been on establishing a new IT operating model, yet the involvement of directors, managers, and staff in business departments is equally pivotal for success.

This doesn't imply that leadership needs to grasp the detailed intricacies of technologies. It also does not mean just being proficient with computers. Rather, it underscores the importance of leadership possessing a solid conceptual grasp of what it means to be a digital organization and how to effectively implement and leverage technology-driven changes and capabilities.

While the Director of IT is responsible for assisting business departments in adopting technology-driven changes; integrating technology and encouraging a digital mindset should form the core of business strategies for every department or service leader. Technology must not be an afterthought or an add-on; it should be integral to achieving business objectives and enhancing service delivery.



Moreover, transitioning from paper-based to digitized processes involves continuous organizational and technological evolution for each department as well as the IT department. This transition represents a genuine transformation - work practices and processes evolve, customer interactions change, job roles and expectations shift due to the implementation.

Active leadership from leaders and managers is critical for success. Leading from the front and setting an example are crucial. Leaders shouldn't expect staff to utilize systems if they themselves are reluctant to do so.

Departments need to be aware that:

- User account management, architecture, coding and development work, systems integration, server-side configuration, hardware procurement and network design and/or management should not, as a rule, occur in departments, excluding formally agreed – through IT Governance – exceptions (e.g., SCADA). Note, this applies to all solutions and services that manage City data, regardless of hosting (Cloud, partner, on-premise).
- Technology solutions procurement should also not occur in departments without partnership and involvement of IT in the process.
- All technology and services used by the City are subject to the same, consistent, corporately defined security requirements and testing programs.

These changes will require strong leadership commitment to ensure operational staff time for continuous improvement and technology projects, rather than assigning this work to the side of people's desks. The IT Governance team can manage and monitor these responsibilities.

#### 4.4.3 Project Resource Requirements

One of the challenges identified throughout the review was limited resource capacity to conduct projects, projects are often conducted 'off the side of the desk' or without dedicated resources; this limits the ability to complete projects in a timely manner, and also impacts operational commitments.

A capacity planning exercise was conducted with IT staff to review existing resource capacity, which helps determine capability to complete any of the projects and work identified throughout this Report.

Based on current resources, there is limited capacity to perform project work. New resources will assist in this regard, but it also reinforces the need for IT and project governance. By establishing project priorities and looking at various strategies to resource projects, project resources can be focused on achieving the organization's priorities.

The following table presents a summary from the resource planning exercise.

	2024	2025	2026
A- Total Resource Capacity (455 hrs/qrtr/fte)	5460.00	5460.00	5460.00
B- Total Operational Commitment (Operational commitment + Out of Office)	4627.35	4627.35	4627.35
C- Available Project Capacity (A-B)	832.65	832.65	832.65
D - Project Resource Requirement (Sum of Project Time)	1533.17	1632.38	1680.88
E - Resource Demand/Surplus Hours (A-B-D) Negative indicates Demand exceeds supply	-700.52	-799.73	-848.23
F - Resource Demand/Surplus as FTE (E/455)	-1.54 FTE	-1.76 FTE	-1.86 FTE

The calculations represent average hours per quarter over the year. Based on 12 FTEs.

The resource capacity plan was calculated as follows:

- Determine available IT resources.
- Identify a percentage of operational overhead (effort to perform day-to-day routine tasks) and time out of office (vacation, stat holidays, sick).
- Deducting the operational overhead and time out of office from the available FTE gives a value for Available Project Capacity.
- Determine Project Resource Requirement by estimating the effort required (by IT staff) to complete the projects identified on the work plan (both existing and future).
- Calculate Resource Demand (either deficiency or surplus) based on Project Capacity and Project Resource Requirement.

Using this capacity analysis, it is clear the existing IT resources have limited capacity to take on many of the new projects that have been identified. That doesn't mean that additional projects can't be accomplished, but it should become a topic of conversation when considering what projects and work to do.

Moving forward, the resource capacity model will continue to be leveraged by IT to optimize resource availability for current initiatives and identify when resourcing will be an issue. Resource capacity will need to become part of the IT Governance discussions when considering new initiatives that involve technology for the City.

#### 4.4.4 Resource Augmentation and External Expertise

While recommending notable internal staff additions and realignments, ramping up internal capacity is only one part of the story.

The reality of modern IT – particularly in municipalities – is that it is simply impractical to maintain in-house all the skills and capacity needed to plan, implement, and manage the City's increasingly complex technical environment and burgeoning project demands.

Smart municipal IT organizations approach this challenge by relying on a team of in-house IT staff with strong internal connections and understanding of the organization's business needs who, in turn, work with a network of trusted partners, vendors and solution and service providers to deliver the required services.

Just as the City approaches road building and road maintenance – contracting engineering and construction firms with road design and building expertise – in some situations, IT can adopt the same approach with the emphasis on “getting projects done”, or “project throughput” rather than on IT staff necessarily implementing the technology themselves.

This is a hybrid model of IT service delivery, that combines internal IT and business skills with market-based expertise and services. It means that the Director IT acts as a coordinator or orchestrator of IT service delivery, executed by a combination of internal and external providers.

The City's goal should be to increase speed, agility, and project throughput by using the right mix of resources and skills for the job at hand.

Several approaches are common in municipalities for augmenting internal IT resources, and it is recommended that the City adopt these common practices.

### *Capital Funding Contract Staff Positions*

All evidence and studies indicate that projects are more successful when staff can be dedicated to the project.

To achieve this level of dedicated attention to projects, municipalities commonly use contracting for short-term staff (6 month, 1, 2 or 3-year contracts).

Costs for staffing contracts are “bundled” into the total capital cost of the project and capitalized so, when projects are approved, the appropriate staffing is also approved.

Contracted staff needs may include technology resources such as a Project Manager, Business Analyst(s), Application Analyst(s), as well as business unit staffing to provide subject matter expertise from departments to drive and support project delivery.

Contracted staff may be used directly on the project but are more often used to backfill Subject Matter Experts in business units or IT, thus freeing up expert and experienced internal staff to work on projects.

For example, a contract Financial Analyst may be brought into the City on a one-year contract to free one of the City’s current Finance staff to work on a major Financial Systems project.

This allows the City to retain the accrued project learning and expertise when the project is complete and to offer development opportunities to internal staff.

### *Vendor of Record (VOR) – IT Resources OnDemand*

Because of the regular need to bring in additional resources to support project activity, numerous municipalities (e.g., Richmond Hill, Guelph, Mississauga, Hamilton, Peel) have embraced a Vendor of Record or Roster model for technology resources.

In this approach, the City would have an arrangement with one or more firms that can supply experienced Project Managers, Business Analysts, network or security specialists, GIS experts, and other technical resources to the City, on demand at preset rates.

At Richmond Hill, their arrangement with one of the big four consulting firms allowed them to access Finance, Procurement, HR, and other business specialists to support their business unit resourcing of projects. As noted in this example, this approach may not be confined to technology resources. At Guelph, their Roster model has seen them sign prequalified master agreements with 4 vendors that can supply AMANDA configuration services. Now, when a need arises, within a week the City can issue a Statement of Work (SOW) and select a partner to work on the project with City staff.

Funding for VOR resources is also included as part of a project capital request and having a VOR in place can enable the City to quickly ramp up resources to lead major projects such as the HRIS, Work Management and CRM.

### *Service Providers: Out-Task Some IT Services*

As the City's technology needs grow, as the city becomes more mobile, as security threats grow exponentially, with the work needed in and around technology architecture and with the growth in emerging technologies, pressure on the IS Department will grow significantly.

The City has strength in this team today, but the team is already challenged with volume and will become overwhelmed with work if the City isn't smart about how it handles the allocation of work.

Of course, some of the City's IT systems are tailored to a specific municipal line of business, however, many technologies run by the City (such as networks, servers, file storage and email) are more generic.

As hospitals, construction firms, banks and other organizations have come to use the same systems, these areas of IT have become more commoditized. In areas of commoditized service provision, because of their scale, expert service providers in the marketplace can be more cost-effective than internally managing the service. In some situations, using a managed service provider can be attractive to organizations that need to free up internal staff to use their strong knowledge of the City to work on projects.

So, the City can use out-tasking as a strategic approach that trades off low value activities for higher value work, which has more strategic value to the organization, such as architecture, strategy, integration, mobility, project implementation activities.

A few examples:

- Some municipalities have out-tasked device provisioning and hardware maintenance. These external services are used to augment the existing IT resource base.
- The use of hosted or Cloud-based services can out-task many of the infrastructure management activities that would be required for an on-premise solution thus freeing staff to focus on integration, security testing and contract management.
- Engage a third-party to augment cloud and network skills missing within IT – this vendor can assist with cloud migration activities (e.g. Intune implementation and future M365 services).

- The City may lack the dedicated expertise or resources to manage a service as effectively as needed by the City. One good example of this is around specialized security services. These services can also be purchased on an “as needed” basis or – as is becoming more prevalent – as a managed service from outside firms. The City is still receiving the same (or perhaps a higher) level of service, but City IT staff are available to work on other activities. Of course, there is a cost implication here – external services have a cost, but the cost is often less than fully resourcing a function.
- Consider a virtual Chief Information Security Officer (vCISO) that will provide a low-risk cost-effective alternative to an FTE. This role will move the security program forward with the development of security policies and other key activities within the purview of a senior security resource. *Note a new system Administrator was recently hired*

Success in the domain of out-tasking, depends on continuous development of City staff skills to enable them to move to value-added activities and effective selection and management of providers, ensuring that contracts are well structured to protect the interests of the City.

Contract and SLA management, for example, would become an area in which the City must develop new skills.

### *Use External Expertise to Plan, Design and Set Strategies*

Setting strategies before tackling projects is critical to successful outcomes – fully exploring possibilities before diving in is essential.

In this area, there is clear value in engaging experts in the right measure, at the right time. Consultants with deep domain experience and with experience in developing strategy and implementing solutions, can help to guide the City in developing plans that properly leverage systems’ capabilities to address business challenges.

Such plans will maximize value for the City over the long-term.

### *Leverage Strategic Partnerships*

Although the IT Department can design and build great solutions, it doesn’t always mean it should, or that it’s the right or best approach.

Looking forward, more strategic decisions will be needed to determine if the City is equipped to build and deliver a good solution or whether another partner (in the public or private sector) is better suited to address a need.

Public Wi-Fi is a good example of this, with different municipalities taking different approaches and using partnership models. Some municipalities have built and supported these public networks.

In contrast, Mississauga has partnered with Sheridan College, due to their expertise in providing Wi-Fi to 21,000 students. Sheridan provides and supports the public wireless Mississauga service. Burlington has partnered with the local telco – Cogeco – which now provides public Wi-Fi in City facilities and in parks and other civic spaces.

In both Mississauga and Burlington, partnerships with organizations with strong, deep expertise have resulted in a superior service for citizens, while City IT resources are able to focus on other areas better suited to their core competencies.

Given the pressures on IT resources, looking forward, the City should think strategically around other opportunities for partnership as it considers technology opportunities. Examples include local post-secondary institutions, neighbouring municipalities, or counties, etc.

Working with potential partners in the region to enable piggybacking on purchases, to explore opportunities for joint or shared project implementations, to share resources or run joint training opportunities, to work jointly on digital education programs are all good examples of how the City can gain significant value through strategic partnership.

## 4.5 Opportunities for the IT Master Plan

Building on the vision, direction, and priorities, the following is the list of opportunities identified for Belleville's IT Master Plan. It must be acknowledged that many of the opportunities identified are not new ideas and, in some cases, work is already in progress. This master plan expands upon the existing work efforts. Existing initiatives are identified as *In Progress* and *Planned*.

Based on reviewing the initiatives, 4 key themes have emerged for the work ahead in Belleville:

- IT as the Business Partner
- IT Service and Performance Resiliency
- Enabling the Modern Workforce
- Enhancing the Customer experience

These themes and the associated opportunities are described in the following sections.

### 4.5.1 IT as the Business Partner

Strong business leadership and partnership between IT and the business units is the true key to success, so building an environment in which business units and IT actively cooperate and collaborate will be central to the City's ability to change its story. The partner model was identified in the visioning session with EMT.

In this envisioned future, the IT team operates as a true strategic partner and advisor to business units where strong business relationships between IT and business units have been established and nurtured.

These relationships are built upon a foundation of trust and confidence between business units and the IT team. To build that foundation, a high performing, flexible and secure infrastructure that meets the organization's needs is in place. The technology and City's policy environment and working practices support the modern, mobile and friction free collaboration environment envisioned, while maintaining the balance of security and risk mitigation.

In this model, business leaders have a solid understanding of the importance of technology and how to leverage digital technologies to improve their business operations. Business leaders are responsible for leading technology, assisting or driving business change and transformation within their business units, with responsibility and clear ownership of their own business processes – but they do so in active partnership with the IT team.

Further, there is a clear understanding about roles and responsibilities and service expectations – who does what, and how it is done; but there is also a flexibility and willingness to work together – a confident way of operating that is less concerned about lines between teams and more focused on achieving the best outcomes.

Conducting the IT Service Review and development of this Master Plan is an initial step to supporting the partnership relationship. Creating the partnership will be based upon the following opportunities:

- Initiate an IT Governance Framework
- Apply Standard Project Management and Business Analysis Methods
- Align work effort with Capacity
- Standards and Policy Development



### ***BP-1 Initiate an IT Governance Framework***

IT governance is often cited as an opportunity for improvement within many IT strategies, and with good reason. In more traditional organizations, IT was often treated separately than business but in more recent times with advancements in technology and the emphasis on digital service delivery, the role of IT is becoming more of an enabling partner in business service delivery. Further, with increases in cyber threats, managing organizational risk needs to be discussed and understood. As a result, there needs to be a forum for IT discussion and decision making at the leadership table, and a framework to support it.

Additional detail on the IT Governance Framework is provided as [Appendix 2](#)

IT Governance was previously identified through the 2018 CTSP, and GIS Governance was identified in the GIS Roadmap. With recent organizational changes, now is a great opportunity to initiate IT governance and it doesn't need to be difficult, it just needs to start.

In addition to EMT providing overarching governance and decision support, another element for consideration is the role of staff in contributing to the development of products and areas of focus. Designed to promote collaboration and knowledge sharing, is the community of practice concept. Working groups, or communities of practice are another great way to engage staff in maturing the use of technology.

A working group or community of practice brings together people who are working in a common area (e.g., GIS, data and analytics, project management, business process design, service improvement, mobile workers) to share learning and good practices, showcase good work, identify shared challenges and needs, share valuable information and insights and to contribute to identifying the need for standards and accelerate knowledge mobilization. GIS and the current support model would be a great place to start.

#### **Action Items:**

- Establish an agenda item in EMT meetings for review of technology discussion and decisions
- Identify guiding principles for IT
- Work on identifying the 'scope of authority' – what decisions are technology based vs. business decisions
- Report on current and planned IT initiatives
- Develop an intake mechanism for IT initiatives with a method to submit, evaluate, prioritize, and schedule projects.

- Incorporate GIS working group into the framework

### ***BP-2 Apply Standard Project Management and Business Analysis Methods***

In association with the establishment of a governance framework, it will be important to start standardizing project management and business analysis methods and techniques. Project management applies the structure to consistently achieving project and business analysis is about ensuring business requirements are achieved through projects and IT initiatives.

Establish basic project and business analysis standards to be applied to projects. Key project artifacts and processes to support.

In order to achieve this training becomes critical for both the IT staff and the organizational project teams involved in initiatives. Many standards are in place, such as through PMI (Project Management Institute) and IIBA (International Institute of Business Analysis), but it doesn't need to be all done at once or overly complicated– start small and grow by selecting key items to try on projects and continually evolve the process to develop a tool kit overtime of best practices and repeatable techniques. Many municipalities have been on similar journeys and are often the best source of knowledge and advice to get things started.

#### Action Items:

- Identify Project Management and Business Analysis training requirements for staff
- Identify starting templates for project management – e.g. charter/scope statement, project plan, status reporting
- Identify and start using initial business analysis templates for requirements and process design.

### ***BP-3 Capacity Planning – Aligning Work Effort with Capacity***

Belleville needs to understand available resources so that a realistic number of projects can be selected and successfully accomplished. Historically, there has been an informal approach to understanding of capacity relative to work demand, coupled with gaps in IT resource complement this has created a challenging situation for all – an increased pressure on the IT team to accomplish projects, and a gap in expectation for when work will be completed from the business. Now, in alignment with the introduction of the governance framework, there is a good opportunity to refine the planning efforts to better understand capacity and demand.

Introduce a mechanism to determine work demand and capacity. This planning will be repeated on an annual basis to identify the IT annual workplan.

The focus on resources is necessary because they are often overlooked yet have a great impact on successful project delivery. Resource management is about understanding the required resources and having the necessary commitments for those resources throughout the project lifecycle.

*It's not just about having the resources; it's about having the right resources at the right time.*

Capacity planning starts with the annual IT workplan so that the resource needs can be planned for rather than hoped for. Through proper planning, resources can be committed, and options can be identified for managing resource deficits (capability or availability).

As part of the plan, a basic approach to resource capacity planning is recommended:

1. Gather Information
  - Identify projects and types of resources required
  - Named resources with potential level of availability and operational commitments
2. Estimate Capacity
  - Plot the projects, timing, and resource information
  - Estimate as % or unit of time
  - Consider phases of work
3. Assess
  - Review data to identify capacity issues
  - Determine action to resolve issues – i.e. adjust timing, obtain resources, priorities

As part of the annual technology capital budgeting process, capacity needs to be considered to align project expectations with delivery capability.

Action Items:

- Develop a resource capacity plan for IT

Note: as part of the review, an initial resource planning exercise was conducted.

## ***BP 4- Standards and Policy Development***

Policies and standards should establish the parameters within which the City uses technology and create clear expectations for those who use and manage technology. Conceptually, policies should balance empowerment with control. They should clearly define roles, responsibilities, and accountabilities.

The City does have various IT policies in place, including an Acceptable Use policy and a Security policy. IT policies need to be kept up to date and scheduled for review on an annual basis.

An IT Policy Framework can be broken down into the following categories:

- IT Governance, Risk and Compliance policies.
- Project and Change Management policies.
- IT Procurement policies.
- Service Availability policies, like disaster recovery (DR), business continuity (BC).
- Acceptable Use policies, like an email usage policy or computer usage policy.
- Information Security policies - focus on managing and protecting and preserving information (including personal information) belonging to the organization, which is generated by those employees in the course and scope of their employment.
- Information Management policies - focus on managing data such as its retention and destruction.

We recommend a draft or review of IT policies through a “legal lens” focusing on legal compliance and legal risk issues in accordance with a well-defined Policy Framework.

### **Issue and audience**

There are three key questions relating to any policy:

1. What is the issue to be addressed?
2. Who is the intended audience?
3. Who must comply with the policy?

### **Typical policies address the following:**

- Acceptable Use of Information Technology Policy.
- Password Policy.

- Remote Access Policy.
- Mobile Communications Device Policy.
- IT Security Policy – Defines how the City (as a whole) operates a secure and reliable technology environment, with adequate controls to protect the City’s information assets.
- Backup, Recovery which are part of the Business Continuity and Disaster Recovery Policy – Defines the backup and recovery plans for computer systems that store City data. This policy is also designed to prevent the loss of data and systems in the event of an equipment failure or destruction or security incident.
- IT Procurement Processes Policy – Defines roles and responsibilities and processes for procuring technology solutions.
- Asset Lifecycle Management Policy – Ensures effective procurement, maintenance and operation and replacement of IT assets to ensure delivery of consistent, efficient, reliable, timely and cost-effective services for employees and the community.
- Hosted and Cloud Solutions Policy – Defines the City’s position with regard to Cloud computing and the due diligence required before procurement of Cloud solutions.
- Data Management (Lifecycle, Privacy) Policy – Ensures that the corporation can effectively manage its data assets while complying with required legislation. This includes Data Classification, Data-Sharing, Data Retention and Data Storage.
- Use of Artificial Intelligence.

The IT Director, with the input of staff and stakeholders across the organization – should review, revise, and augment the corporate IT Policy Framework in the context of this IT Master Plan to ensure that it accurately reflects how the City wishes to use and manage technology.

Policies will be developed with business unit and approval will follow the standard corporate policy development process.

#### Action Items:

- Create an IT standards and procedure library (online)
- Set review dates for existing policies and refresh
- Identify policy and procedure gaps and identify workplan for backlog (when appropriate, associate to projects – such as document management)

## 4.5.2 IT Service Performance & Resiliency

### *SPR-1 Infrastructure – building a strong, secure foundation*

Municipalities are facing increased challenges relating to reporting, accountability, transparency, and disclosure, leading to an accelerated rise in the importance of corporate IT governance.

Infrastructure projects are the foundational layer to providing IT services in the organization. They include the networks, devices, security and backups to keep the IT systems running and accessible.

This section highlights specific recommendations within the following layers/elements of the MTM:

1. Corporate Posture
  - a. Governance, Security & Risk Management, Business Continuity & Disaster Recovery, Cloud Strategy, Technology Resource Planning
2. Platform
  - a. IT Service Management, Network, Storage and Data Management

### *SPR-1.1 Corporate Posture Layer*

#### SPR-1.1.1 Security and Risk Management

Currently, there is no formalized Security and Risk Management Program. Most activities recommended by industry leading frameworks such as National Institute of Standards & Technology (NIST) or ISO 27001 are either ad hoc or non-existent.

#### **Action Items:**

The organization should initiate a security and risk management program by conducting the following 3 activities:

- An IT risk assessment that includes the development of a formal risk register managed as part of the overarching program.
- Develop an Incident Response Plan (IRP).
- Develop a security awareness training strategy.

*A Cyber Incident Response Plan is **planned** for 2026 as a requirement for Insurance.*

*Security Audit / 2 Factor Authentication / DMZ update **planned** for 2024.*

*Endpoint Security update **planned** for 2024*

SPR-1.1.2 Business Continuity Planning & Disaster Recovery

While there is currently a basic Business Continuity plan in place that references use of manual processes, there is not a modern plan identifying alternate technologies or automated systems for Business Continuity (BC) or Disaster Recovery (DR). This presents a significant risk to the organization. In order to kick-start this program, the City must define core business services, the impact if they're disrupted, opportunities for alternate technical solutions, and the recovery time objectives (RTOs).

**Action Items:**

The recommended approach to initiating the BCDR program is as follows:

- Conduct a business impact analysis (BIA) to identify core business services and their recovery time objectives (RTO) and tolerance for data loss (recovery point objectives "RPO").
- Leverage the output from the IT risk assessment to identify risks pertaining to the delivery of core business services (see "Security and Risk Management").

*Server Hardware / Corporate Wide Business Continuity update **planned** for 2024*

**In Progress:**

- Disaster Recovery Solution

SPR-1.1.3 Cloud Strategy (Governance, Maturity, Risk, Roadmap)

There are no formal processes around the management of cloud services. The lack of a formal approach to cloud governance, lifecycle, and brokerage presents a risk around technology decision-making.

**Action Items:**

- Develop a formal cloud strategy that includes a governance model outlining the City's policy around the use of cloud services.
- Develop a cloud roadmap defining cloud objectives over the next 1-3 years.
- Ensure all departments are involved in the program. This will mitigate the risk of shadow IT and unsanctioned cloud services.

Conduct annual cloud maturity assessments to help track progress around cloud adoption and the management of cloud services.

## SPR 1.2 Platform Layer

### SPR 1.2.1 -Network (Administration, Operations, Provisioning)

The organization has limited visibility into the network and lacks real-time network traffic monitoring and an overall network strategy. Additionally, bandwidth issues were identified in various locations, including:

- Fleet Management – several systems are in place; however, issues were reported with connectivity (e.g. Fuel system). As a result, there is a strong reliance on paper-based processes.
- Transit – issues with reliability which have caused significant issues with service disruptions.
- Recreation – within and around the recreation centre, challenges exist with cellular connectivity, creating issues for both staff and the public.
- General connectivity issues impacting the mobile workforce

Connectivity issues must be resolved for the systems to better meet future potential and business requirements.

#### Action Items:

- It is recommended that **wide-scale network review/maturity assessment** is conducted that includes a bandwidth utilization analysis, security review, hardware/software assessment (~70 network switches are >10 years old), and the development of a network strategy with current/future state diagrams.
- Network monitoring software has been purchased and deployment is underway.

Note, several other Network based projects are already identified or completed on the IT workplan including:

- VDI Upgrade including hardware **completed 2024**
- Firewall Upgrades **completed 2024**

#### In Progress:

- Security – 2 Factor / DMZ / EDR XDR
- High Availability Backup
- Core Server Infrastructure upgrade
- Corporate Wide Wi-Fi upgrade
- Network Standardization



- Meeting Room Upgrades
- SQL Server Compliance Upgrades
- Network Monitoring Software upgrade
  - MDM (mobile device management) Solution

#### SPR-1.2.2 Storage and Data Management

There are no processes in place to manage the proliferation of unstructured data on production storage. This increases costs associated with managing, protecting, replicating, and recovering production data. Sound data management practices will also mitigate the risks associated with sensitive data breaches and data loss.

#### Action Items:

- Conduct a scan on all file servers to identified stale/inactive data. Use the output from this exercise to develop a plan to archive stale/inactive data. Consider the cloud for low cost "cold" storage (\$1 - \$2/mth per TB).

#### *SPR -2 IT Service Management (ITSM)*

IT service management (ITSM) defines how IT teams manage the end-to-end delivery of IT services to customers. This includes all the processes and activities to design, create, deliver, and support IT services.

The core concept of ITSM is the belief that IT should be delivered as a service. A typical ITSM scenario could involve the request for new hardware like a laptop or requesting assistance to fix an issue accessing the network. You would submit your request through a portal, filling out a ticket with all relevant information, and kicking off a repeatable workflow. Then, the ticket would land in the IT team's queue, where incoming requests are sorted and addressed according to importance.

The ITSM function has entered a new era. Long regarded as the set of practices and solutions for ensuring that technology is best meeting user needs, it now serves as the vehicle that will deliver value in today's emerging digital enterprise.

ITSM frameworks such as ITIL<sup>1</sup> are adopted as a guide of best practices for delivering IT services. As the industry leader in ITSM governance, ITIL was used as the basis of this review.

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<sup>1</sup> ITIL: a leading framework designed to standardize the selection, planning, delivery, maintenance, and overall lifecycle of IT services within a business. The goal is to improve efficiency and achieve predictable service delivery.

**Note:** Although all four primary domains (*excluding Continual Service Improvement*) have been identified with recommended activities, the City can take a phased approach to implementation. It is unrealistic for any organization to attempt a single phased strategy when implementing ITSM best practices.

Recommendations within the core ITIL domains are as follows (see *Table 1 – ITIL Recommendations*):

*Table 1 - ITIL Recommendations*

ITIL Domain	Recommendations
<p><b>Service Strategy</b> - The purpose of Service Strategy is to provide a strategy for the service lifecycle. The strategy should be in sync with business objectives.</p>	<p>Develop a formal portfolio management strategy that includes the development of a catalogue of IT services. The first step in developing a portfolio management strategy is understanding the current performance of the IT department - what's working, what isn't, etc. The objective aims to create an environment where different types of services can be managed effectively by using various models such as out-tasking (e.g. service providers) or internalization for specific areas like IT Infrastructure Management.</p>
<p><b>Service Operations</b> – The Service Operations process includes fulfilling user requests, resolving service failures, fixing problems, and carrying out routine operational tasks.</p>	<p>Key recommended disciplines within the Service Operations domain include:</p> <ul style="list-style-type: none"> <li>• <b>Incident Management</b> – No major recommendations (working well).</li> <li>• <b>Problem Management</b> – Implement formal Problem Management processes that logically follow incident management, especially if that incident has occurred several times and should likely be diagnosed as a problem or known error.</li> </ul>

ITIL Domain	Recommendations
<p><b>Service Design</b> – The Service Design lifecycle phase is about the design of services and all supporting elements and guidelines for introduction into the live environment.</p>	<p>Processes to implement core to the Service Design domain include:</p> <ul style="list-style-type: none"> <li>• <b>Service Level Management</b> – Identify business requirements and then define, negotiate, and agree upon the IT services target. Control and monitor the Service Level Agreement (SLA) with precise measures to provide better quality service or product i.e. metrics, trends, surveys, etc.</li> <li>• <b>Continuity Management</b> – IT Service Continuity Management is responsible for the alignment of IT services to Business Continuity Management. Generally, it is the process responsible for managing the risk that may directly impact IT services.</li> <li>• <b>Availability Management</b> – Availability management ensures that the infrastructure, roles, and tools are appropriate to meet the target or exceed the need of the City.</li> <li>• <b>Capacity Management</b> - The objective of Capacity Management is to focus on business requirements, the City's operation, and IT infrastructure. It ensures that IT is able to deliver the services in a timely manner without compromising quality and budget.</li> <li>• <b>Information Security Management</b> – This process will align business security with information security and ensure that it protects data, databases and all IT-related information effectively. It also maintains and enforces a security policy.</li> </ul>
<p><b>Service Transition</b> – The objective of the Service Transition process is to build and deploy IT services, making sure that changes to services and Service Management processes are carried out in a coordinated way.</p>	<p>Key recommended disciplines within the Service Transition domain include:</p> <ul style="list-style-type: none"> <li>• <b>Change Management</b> – Current ad hoc processes need to be formally developed into disciplined processes that include a Change Advisory Board (CAB)</li> <li>• <b>Knowledge Management</b> – Current ad hoc processes need to be formally developed into a proper knowledge base using the existing Service application</li> <li>• <b>Asset/Configuration Management</b> – Continue to mature this process.</li> </ul>

#### Action Items:

Developing an ITSM strategy around ITIL will require a phased approach The following action items recommendations listed in Table 1 – ITIL Recommendations

- Assess and understand current IT service management capabilities and processes.

- Define the desired “core” ITIL processes, including incident management, problem management, change management, and service level management.
- Outline the ITIL processes to implement/enhance based on the outcomes of the current state assessment (#1).
- Initiate discussions with business stakeholders to gain a deeper understanding of the organization's mission, vision, and goals.
- Develop a high-level plan that aligns the desired ITIL processes (#2) with the capabilities available in the ServiceDesk Plus solution currently used as the ITSM solution.
- Consider formal ITSM training on ServiceDesk Plus for IS staff.

### 4.5.3 Enabling the Modern Workforce

Enabling the modern workforce is about ensuring that staff have the right tools to perform their jobs. With no shortage of work, the mantra of working smarter can be enabled with technology. Have staff do what they do best and let the technology work for them wherever possible. Creating a digital workforce and workspace not only improves efficiency, its attractive to retrain and recruit staff.

A modern, digital workplace is a necessary foundation to provide great user experiences. Customers and staff need tools that are accessible, intuitive and easy to use.

If the City is to be a more modern, digital organization, then it must also make available simple and easy collaboration capabilities for staff – enabling staff to do their best work by using the tools best suited to the job. This will include:

- Improved internal online services such as attendance, time management, internal forms, etc.
- Improved document collaboration, versioning, co-editing and simplified processes to comply with accessibility requirements.
- Team messaging, chat and a more robust intranet – helping co-workers connect and interact in real-time.
- Increased use of mobile friendly devices – laptops, tablets – providing individuals and teams with choices of devices that best meet their needs.
- Increased capacity for remote and flexible working – enabling staff to work from the office, field work from the side of the road, in parks and the community, or work from home.

Importantly, the City’s culture must embrace these technologies, and the workforce must be trained and comfortable using the technologies, making it commonplace to take advantage of them.

Belleville currently has several initiatives underway which support the modern workforce including the O365 rollout and the new corporate document management project. The following section identifies many opportunities in support of creating a modern workforce. The opportunities have been further grouped into:

1. Focusing on the fundamentals to ensure that core systems are being optimized and used to their full potential.
2. Attention on business specific applications to enhance business' capability to deliver services.
3. Recognizing the value of data and information as a corporate asset.
4. Enabling the workforce through additional support.

### ***MW 1 -Focus on fundamentals (core enterprise solutions)***

Central to any municipal government are a series of core systems often referred to as enterprise solutions. The enterprise solutions contain the essential data used in the organization and are systems that are widely available to staff across the City including financial, assets, property, document management, and human resource records. Ideally there is consistency in their use, and a level of integration amongst these systems. In Belleville's situation, while many enterprise grade municipal solutions are in place, there is limited integration for the cohesive use of systems. The challenge is recognized, and several key initiatives are focused on core systems.

#### ***MW 1.1- O365 Rollout***

Microsoft 365 or its namesakes M365 or O365 (depending on the suite of products licensed) is Microsoft's modern, Cloud-based collaboration environment, Microsoft 365, has been broadly and rapidly adopted in municipalities and the broader government domain.

The platform includes a broad set of tools designed for a modern, collaborative, hybrid work environment, including:

- Email, Calendar (Outlook)
- Productivity Suite (Word, Excel, PowerPoint)
- OneNote for personal and collaborative notetaking
- To Do and Planner (work and task management)
- Teams as video, audio, text, social, and project collaboration space – inside, across and outside the organization

- SharePoint as a web platform, collaborative file, document, and records management environment
- OneDrive as a Cloud based file storage environment

And most recently, the introduction of CoPilot, Microsoft's chat-based AI tool.

The O365 Rollout is a work in progress for Belleville and considered a high priority by IT.

Belleville is well into the migration efforts for the O365 rollout through the migration of the Office suite completed to many users, Outlook, and Teams. Throughout 2024, work will continue with particular attention to bring all users online with the productivity suite, Outlook, and expanded use of Teams for chat and virtual meetings. Use of the SharePoint web platform and OneDrive will be incorporated into the Document Management project.

Where older versions of Office and Outlook exist, these will need to be decommissioned and migrated over to O365. Also instances where non-O365 productivity tools are in use (such as Google's productivity suite), they will need to be migrated or specific cases made for non-compliance with the corporate standards.

Additional emphasis is planned for supporting O365 with attention required on contextual based training (applying the use of O365 to the organization), and development of the appropriate policies and standards to support the product's use. Much of which can be aligned with the document management project such as document location, shared use, versioning control, and retention.

Some departments identified using the Google productivity suite (Google Docs, Google Sheets) for specific purposes.

Additional functionality can also be leveraged for remote and mobile work with O365 cross-platform functionality for Teams, email, and the productivity suite.

Action Items:

- Complete the O365 rollout of the Productivity Suite, Outlook, and Teams to all licensed staff
- Decommission older versions of Office
- Provide training to all staff on the O365 product suite
- Reduce/eliminate the use of non-O365 word processing and spreadsheets where appropriate
- Incorporate the use of SharePoint and OneDrive into the Document Management project
- Develop appropriate standards and procedures

## *MW 1.2- Documents and Records Management*

Documents and records management are foundational to any organization, but in particular with municipalities and governments where records management and retention is legislated.

The City has initiated an Electronic Document and Records Management System project which has been identified as a high priority. The timing of this initiative is in good alignment with the O365 implementation (mentioned above), as it will help to inform the use of SharePoint and OneDrive. The project has the potential and opportunity to address many of the challenges for document and records management facing the city, including:

- Implementation of a centralized document management solution
- A refresh of the corporate records management standards and implementation of those standards with attention to supporting digital document and records lifecycle. Including utilization of the existing TOMRIMS standards.
- Gaining a better understanding of where all content and information (both structured and unstructured) resides in the organization and how it is stored, accessed, and retained.
- The initiative should also inform decisions on capturing documents digitally and automating document driven processes.
- Insights into metadata which can be useful both for the EDRMS, but also as part of the overarching data management plan.

The scope of work for the document management project also includes identification of a FOI (Freedom of Information) solution. This will enable the city to utilize 'e-discovery' features to assist in the automation of FOI requests.

Implementing a Document and Records Management initiative is a large and complicated initiative for many organizations, it will require ongoing commitment and oversight in order to realize its full potential and benefits. This project will also provide an opportunity to start applying project management rigor, in particular establishment of a rollout plan and formalized status reporting.

Action Items:

- Continue the Document and Records Management Project
- Refresh and develop appropriate standards and procedures with attention to digital documentation

### *MW 1.3- Human Capital Management (HRIS)*

Human capital management (HCM) is a broad term referring to managing an organization's most valuable assets: its people. It involves the technology and processes aimed at supporting human resources in the organization.

HCM encompasses various functions including:

- Recruitment and Selection
- Training and Development
- Performance Management
- Compensation and Benefits
- Employee Engagement
- Succession Planning
- Workforce Analytics

Overall, effective human capital management is essential for organizations to optimize their human resources, and technology can play a significant role in HCM delivery. Through the full employee lifecycle there are opportunities to collect and manage the data, automate processes and workflows, schedule reports and reminders, allow for self-service, analytics, and decision support. The results benefit both the organization and the employees. The key is the information and data need to be digital and integrated.

In Belleville HCM requires attention, with several existing HR systems in place but limited integration, automation, or self-service functionality it creates many challenges for the organization and staff alike, whether an employee is trying to update personal information, or HR is trying to generate a report – more work is required than necessary to achieve results and often the data and effort required is duplicated. Additionally, due to the sensitive nature of HR records, there is increased risk to the organization by not having these records contained in a single or integrated system.

Belleville needs to look at a solution with focus on digitizing and integrating employee management establishing the digital employee record, enhancing time entry, reporting, and providing self service capability. In technology, HCM is often delivered through what are often identified as Human Resource Information Systems (HRIS) or as broader Enterprise Resource Planning (ERP) solutions. Currently the recommendation is to focus on a more focused HRIS solution to resolve current challenges.

Action Items:

- Conduct business process analysis to determine requirements



- Conduct fit/gap analysis against existing systems
- Determine solution path for HRIS as a stand-alone system or within an ERP.
- Investigate and implement an HRIS solution

#### *MW 1.4- Asset & Work Management Enhancements*

Asset and Work Management Systems are often comprehensive software solutions designed to help organizations efficiently manage their assets and work processes. They integrate various functionalities to streamline the management of physical assets, such as equipment, machinery, facilities, and infrastructure, along with associated work activities. Often the systems include functionality to

- Asset tracking and inventory management
- Preventive and Predictive Maintenance
- Work order management
- Resource and work scheduling
- Asset performance and reporting (such as PSAB)

Belleville currently has work order software, however there has been limited uptake in use as a work and job tracking system – many departments are using a variety of solutions including Excel. The work order software is also being used to capture time and attendance.

For Asset Management, a working group has been established and a review is in progress looking to gather requirements from across the organization. The organization also has a requirement to track and report on assets for PSAB compliance.

Work needs to continue in the area of asset and work management – with several core systems that could be utilized in this function. Structured data is contained in some of the systems, but then requires to be supplemented with manual additions into Excel spreadsheets to support PSAB reporting requirements. There is value in determining the requirements and how to better leverage the systems to digitize and integrate asset and work data both to operationalize asset management and deliver on legislated PSAB requirements. Review of systems architecture, data and process flows, to support effective Asset and Work Management, setting of systems work program and evaluation of current solutions.

Action items:

- Continue to gather asset management requirements
- Identify opportunities to better leverage existing technology to digitize asset and work functionality, assess gaps and determine if changes to technology are required
- Develop an asset and work roadmap
- Automate PSAB reporting

### *MW 1.5- Financial System Review and Workplan*

Throughout the IT Service Review, a level of dissatisfaction was expressed with the City’s core financial solution, usually citing limited integrations, need for manual workarounds, older functionality, and challenging vendor support. Despite the importance of a financial solution and the current state, in reviewing priorities replacing the financial system was not identified as high a priority relative to other more immediate needs.

Replacement of a financial system is a major undertaking – probably the most significant technology project a municipality can undertake, and while it may not need to occur today, it needs to be placed on the radar for the future. As other systems advance, more pressure will be placed upon the financial system to better integrate and provide enhanced functionality, reporting and analytic capabilities.

Currently work is underway to enable AP automation.

In the short term, there needs to be renewed efforts to determine the city’s core financial systems fit to business requirements and functionality gaps documented. Significant attention is required to whether it can better integrate with other core systems, including GIS, Work Order software, Community Services software, Building and Engineering software and others, plus once the document management and HRIS solutions are identified, these will require connectivity as well.

Investigate opportunities for third-party support to assist in the assist in supporting the system and developing out functionality.

The current financial software vendor does have an upgrade path that should be reviewed to determine if value exists in the continued commitment to the product.

Longer term, look at other options for a more robust, modern financial system with greater capability to better integrate any disparate functionality (payroll, HRIS, assets, etc.). And consider expanded functionality, such as the opportunity for a budgeting module.

Organizations of equivalent size to Belleville often have a decision to make whether to have a comprehensive ERP solution or whether HR and Finance solutions can be separate (but integrated). Based on the importance of this system, it is recommended to review business processes first and develop clear business requirements, prior to selection of a new solution path.

Action Items:

- Short term- review business requirements and gaps, develop into workplan.
- Determine potential third-party support to enhance the financial software.
- Revisit integration potential to better connect other core systems.
- Determine viability of migration path to vendors upgraded financial system vs product replacement.
- Longer term- replacement of Financial solution and potential business decision on ERP.

*In Progress:*

- AP Automation

### *MW 1.6- GIS Roadmap*

The Geographic Information System (GIS) platform is one of the key systems that the City operates and is a critical component for successful integration between a variety of systems. Belleville currently uses the ESRI GIS platform to deliver GIS products and services.

GIS is more than a map; it is a geospatial database and a valuable source utilized by all departments. In 2022, Belleville engaged ESRI to develop a GIS Strategy. The strategy helps define a framework for GIS governance and the path forward. The GIS workplan activities should be aligned with the IT Service Review to identify dependencies and the GIS governance framework incorporated into the overarching IT governance framework proposed in this Technology review.

#### MW 1.6.1- NG911

Another area that will need to be monitored is NG911, it is directly related to GIS in that the data required will be property and location based.

NG (Next Generation)911 is an initiative of the CRTC. NG911 modernizes the existing 911 system to take advantage of digital technologies and the various communication channels people use today. While implementation of NG911 will not be the direct responsibility of the municipality, requirements associated with NG911 will require that related data updates be provided to the system within 48 hours. The process for data exchange, once this data has been defined, will need to be established. Both Fire and IT will need to monitor the status of this initiative.

Action Items:

- Continue the rollout of GIS functionality and capability in alignment with the GIS strategy
- Cross-reference GIS and IT workplans to identify dependencies
- Incorporate the GIS governance framework into the overarching IT governance framework
- Continue to monitor progress and data implications of NG911

### *MW 1.7- Staff Intranet*

Intranets can be effective tools for organizations to communicate information, collaborate and provide staff self service. An Employee Intranet shell was created in 2023 using GHD and currently requires content.

Now with the introduction of O365 another option exists for Intranet which is SharePoint.

Organizationally, there needs to be additional discussion on the Intranet at ELT (through the IT governance), first to confirm demand and commitment to the Intranet adoption, and secondly to validate the solution which will be adopted corporately. Only a single Intranet solution should be in use, and secondary intranet sites should not be supported organizationally.

Uptake will only happen if it is easy and has value to staff, so making the site convenient will help to drive adoption.

Action Items:

- Gain EMT direction on staff Intranet
- Populate content and drive intranet adoption

### *MW 2- Supporting Business Applications*

Beyond enterprise solutions, the departments need technology to support their specific service delivery needs. Municipalities are unique organizations in the breadth of services and products provided, and whether a larger or smaller municipality, the need for similar services still exists.

Ideally, IT supports business requirements with technology capabilities. What differs organization to organization is what level of support is provided. At the core, IT is the technology steward and departments are the business experts.

In conducting the IT service review, all the business units identified the need for technology to support their service delivery. In many cases, IT was already aware of the technology requests from the business. A key aspect of determining what can and will be done will involve consultation between the business and IT to initiatives and develop an understanding of the requirements and the work effort. This consultation needs to be formalized as part of IT's governance, work intake, and prioritization process.

As a partner relationship, the level of commitment and expectations for what can be expected from both parties should be clearly articulated.

### *MW 2.1 Establishing routine business check-ins*

An important aspect of this plan is the need for consultation and collaboration between IT and the departments it is recommended that routine, scheduled meetings occur between IT and the individual business departments to review business needs and the status of work underway. In the IT Organization Model section, the idea of formalizing the relationship between IT and the business department was introduced.

- IT has a clear understanding of business technology needs
- There is a mutual understanding of where work fits into workplans.
- Departments articulate their business plans to IT – in particular where technology could plan a role
- Shared development of the scope of work required
- Understanding of potential solution options (reuse, build, buy)
- Clear understanding of project commitment of resources (funds and people)
- Established support expectations once the initiative is operationalized

Note that many meetings occur today between IT and the departments to discuss projects and operational challenges. This opportunity is about formalizing those conversations and ensuring that a consistent meeting structure is in place with all departments.

Action:

- Establish quarterly check in meetings between IT and departments.

### *MW 2.2. Utilize Business Process Optimization (BPO)*

Enhancing the support of business applications often comes down to how the application is utilized. An opportunity that was identified throughout the review was to enhance the use of applications. Understanding the business processes assists in focusing efforts on technology changes to improve service delivery.

A common practice seen in many municipalities is implementing technical solutions without improving the process first. Using technology on a bad process only serves to create a bad technical process. To help avoid this, reviewing processes at the start of projects to identify the future state helps to ensure that the technical solutions will improve the situation. Establishing a practice for reviewing processes through business service optimization (while not directly a responsibility of IT), should become part of all new initiatives.

This becomes an even more important requirement as the organization becomes more digital and with increased use of technology.

Key process improvement opportunities could include:

- Eliminating unnecessary duplicate data entry activities.
- Eliminating the manual activities that could be easily automated, e.g., internal form approvals.
- Reviewing end-to-end business processes (it is important to define how various activities are related to form a complete process; optimizing parts of a process may not bring the expected overall efficiencies for the service).
- Looking at the business processes from the customer's point of view.
- Embracing paperless processes (when paper-based requirements are incorporated into a process, it means additional duplication of activities).
- Implementing standard process review practices and collecting the process maps to a corporate repository.
- Conducting business service optimization work with all services (over time) and identifying priorities for service enhancement.

Action:

- Incorporate process reviews into new technology initiatives and application changes.

### *MW 2.3- Identify Emerging Business Opportunities*

With business consultation in mind, the following are some opportunities that were identified through the review for further conversation between IT and the departments.

#### MW 2.3.1- Corporate Services - Special Meetings

Belleville uses online agenda management software for Council meetings and agendas, however when conducting Special meetings, staff revert to paper for special meetings.

Action:

- Work with Clerks and Vendor to identify solution to resolve manual process for Special meetings in the Agenda Management solution.

#### MW 2.3.2- Corporate Services - Online Licensing

Engineering / Building software is currently limited to Building Permits and being expanded for use in Planning. Opportunity also exists to utilize it for other services, such as Licensing.

Action:

- Investigate potential in Engineering / Building software to include online license creation and renewal.

#### MW 2.3.3 Economic Development -CRM Solution

Work with Economic Development to investigate opportunities for a Client Relationship Management program. While similar in nature to CRM solutions that are identified corporately for municipalities, there is a nuance with Economic Development CRMs – they are closer aligned to sales organizations, usually establishing longer term relationships for purposes of marketing, lead generation, economic growth, and supporting the business relationship between the municipality and the client business. Municipal contact centre CRMs tend to focus on C=Customer, with a stronger focus on service request management. While both can be the same system, there are often sufficient differences to warrant separate data sets or systems.

Note: Work was already initiated with Economic Development but is currently paused.

Action:

- Investigate potential Client Relation Management solutions, or other mechanisms to assist Economic Development in managing clients from a single data source.

#### MW 2.3.4- Finance – Purchasing- Extend Solution Functionality

Belleville uses a Bids and Tenders software. There is additional potential within the system with some features not yet in use such as contract and vendor management. Investigate additional potential use of this software for more fulsome procurement management such use of Contract Management features. Purchasing will also be able to take advantage of many of the features which should become available through the document management solution.

Action:

- Develop a technology workplan for Purchasing to align the available technology with the Purchasing lifecycle.

#### MW 2.3.5- Finance -Tax – Online Services

Property Tax is currently delivered through the City’s financial software. Opportunity exists to utilize a more fulsome property tax solution and expand services available for residents to manage tax information and billing online.

Action:

- Investigate potential for an Online Property Tax solution.

#### MW 2.3.6- Harbours - Future Harbour Management System

Currently, Harbours utilizes on-line software for customer interactions, and while this is sufficient today, it does not reflect a full featured harbours management system. Whether Belleville requires more functionality has not yet been determined. Future plans are to develop a Harbours Master Plan, it is suggested that in association with the Harbours Master Plan, determine requirements and whether a business case exists to implement a full featured Harbours Management System.

Action:

- In association with the Harbours Master Plan, investigate the potential for a Harbours Management System.

#### MW 2.3.7 -Museum solution refresh

Currently the Museum is using dated software for management of the collection. The museum is starting to look at new solutions and should engage IT in review requirements and potential opportunities to refresh the application.

Action:



- Develop a business case and determine the requirements for the Museum's solution refresh.

### *MW 2.4 -Developing Operationally Specific Strategies*

An emerging trend in municipal operations is to develop operations-specific technology strategies for unique groups, such as Fire, Library, and Transit, where there can be an entire technology ecosystem distinct from other municipal operations.

As an example, Transit has been transformed by and is highly dependent upon technology. From vehicle sensors and fleet management to new farebox solutions and payment options, many emergent technology solutions exist for transit. Transit has already started to embrace many of these technologies. Working in association with IT, identify the transit technology roadmap and the appropriate supporting infrastructure which enhance service delivery and the rider experience.

Through the development of the IT business partnerships, and in ongoing routine conversations, we recommend working with specialized service areas, such as Transit and Fire for example, to develop focused technology or digital strategies for these service operations that integrate with the organizational technology strategy while recognizing the unique needs and solutions available in their solutions landscapes.

Action:

- In consultation with business leads, identify where specific technology strategies are required.

### *MW 3- Data and Information as an Asset*

Data and the supporting integrations determine how the information in the organization is exchanged and maintained. Data is a critical asset of the organization and must be treated accordingly – value and protect it.

With ever increasing reliance on third party and cloud-based solutions, emergence of AI; effectively, efficiently, and accurately using your data is becoming of paramount importance. If data is not actively managed, the overall utility of systems and information becomes less effective.

The growing reliance on technology solutions and the prospect of re-thinking how technology is used to fundamentally improve business performance has highlighted data management as a key capability for all organizations in the 21<sup>st</sup> century.

Next to people, data is now considered the most important asset an organization has. It needs to be fully leveraged in order to support empirical decision-making and utilized to monitor and improve internal processes and support service design.

Open government initiatives, along with greater public expectations around transparency, have clearly demonstrated the need to invest in a data program that provides easier access to information and a means with which to support better citizen engagement and participation.

Equally important, proper data management with system integrations can ensure that information is entered and maintained in single systems, and shared with other systems to ensure timeliness, efficiency, and accuracy. Often thought of as “master data” or identified as “sources of truth”, systems or pieces of data are defined as the reference within a source system and that data is then shared with other systems through integrations. GIS is often considered a master data source for address information, an HRIS/ERP for staff data, and CRM for customer data.

Part of data management will also be defining data classification to manage datasets throughout the organization. With the upcoming project on Document Management, an excellent opportunity exists to start developing the data and information standards and in particular the necessary metadata that will be required to support records management and FOI requests.

Further, Cloud technology has expanded and allows almost any IT related resource to be offered as a service. Taking advantage of these benefits requires that appropriate controls and risks are managed related to the City assets, data, and property.

### *The Importance of Integrations*

Integration is the act of bringing together smaller components (capabilities, features, data) into a single system that functions as one.

In the IT and digital context, integration refers to the stitching together of different, often disparate, sub-systems so that the data contained in each becomes part of a larger, more comprehensive system.

Integrations provide the capability for end-to-end service automation and are critical to digital transformation success, allowing the exchange of relevant information between systems.

There are many methods and types of integrations available ranging from pre-built adapters or connectors and point-to-point data integrations to more sophisticated Enterprise Integration Application (EIA) platforms.

More common in newer systems is the use of open and common standards for integrations.

During the IT Services Review, it was identified that limited integrations were in place and where integrations did exist, limited functionality was provided. An integration mapping exercise was conducted with the Information Services team. The team mapped out current integrations of core systems identifying those where integrations existed and those where manual effort was required to exchange information between systems (either uploaded or re-entered).

The exercise confirmed that, while there are many opportunities to integrate systems, very few direct integrations are in place. Based upon the work, greater attention is required to develop out an integration workplan and ensure that integrations are in place for core systems and gaps identified where additional integrations are required.

One of the greatest challenges appears to be the ability to integrate with the City's financial software and the Community services software. Significant efficiencies would be achieved with this integration.

### *MW 3.1- Develop a Data and Integration Management Plan*

Overall, data management and integrations both require attention by both business (as data owners) and IT (to provide the infrastructure) to define the data catalogue, implementation of data standards, and recognition of data sources. (e.g. what is the source of truth for property data, or where is the employee data up to date?)

Having integrated core systems is becoming essential in most organizations.

Wherever practical, Belleville needs to work on integrating systems and sharing the relevant data across the systems.

Action:

- Develop an Integration and Data Management Plan that includes:
  - Defined integration standards and methodology.
  - Illustration of integration and data flow.
  - Defined data standards and classification.
  - Master data sources for property, staff, and customers.
- Use the Document Management and GIS initiatives to start building out data and information practices.
- Investigate potential of integrating Finance software with Community services software.

The Integration and Data Management Plan should form part of the IT standards used in procurement and review of new solutions.

### *MW 3.2 Rationalize Open Data*

Belleville has an existing Open Data solution in place through the GIS Hub. Currently there are 48 data sets on the hub. A key to open data initiatives is keeping them relevant and up to date. As more attention is given to data in Belleville, it should be anticipated that other opportunities will emerge to provide data sets on the open data platform. With limited resources, the upkeep and demand for new data sets needs to be kept in check.

Open Data is available on GIS Hub. 29 of 48 data sets were updated in 2023, 16 datasets are pdfs (some historical maps, but also some data like road indexes).

In some cases, municipalities have grown their internal data programs (ensuring quality, access, protection, etc.) from an Open Data program. Prioritizing which datasets should be in focus each year can be done in partnership with the community. Engaging the public about what they would like to see creates buy-in and fosters a sense of partnership with the community. This partnership can help generate better quality data that is more accessible to the City and citizens.

Action:

- Review current open data offerings and ensure operational model is established for ongoing updates and maintenance.
- Conduct annual reviews to rationalize offering and determine demand/fit.

### *MW 3.3 Reporting and Analytics*

As progress is made in formalized data and information management, having the data available and understanding the data leads into representing the data.

There are many opportunities available to represent and utilize the data that City requires both operationally – such as GIS data, and for reporting and analytics. Data is a big topic, and once the data is available and it is understood, then it will become easier to report on the data.

Belleville currently has some tools available including GHD dashboarding and ESRI GIS, however considerable attention is required for both financial and HR reporting – often requiring manual processes to pull together information on a routine basis.

Reporting and dashboarding is often demand driven to fulfill specific needs. Establishing a more robust reporting and dashboarding tool was not identified as an immediate priority; however, opportunities to automate reporting should be investigated to avoid manual processes. These often come into alignment with data management maturity.

Action:

- Identify opportunities to schedule and automate reporting
- Monitor demand for reporting and dashboards.

### *MW 3.4- Emergence of Artificial Intelligence*

As we have all witnessed, over the last couple of years, artificial intelligence (AI) has emerged as one of the great technology trends and a topic for discussion across all levels of governments.

Artificial Intelligence (AI) can provide significant benefits to public service organizations. It can optimize operations and drive efficiencies, improve resident experience, enhance public engagement, and reduce cost of service delivery. It can be a catalyst for innovation, attracting talent and making public organizations desirable places to work.

But there are limitations and risks related to the application of AI. The recent progress in generative AI (machines that generate new content 'GenAI', such as ChatGPT, Microsoft Co-pilot, and Google Gemini) has been met with both excitement and concern (even fear) about the pace of advancements in AI technology.

AI-based systems can perpetuate biases, generate inappropriate or inaccurate content, breach privacy and infringe upon the intellectual property of others. They may cause harm and expose organizations to legal and reputational risks.

For Belleville like many municipalities, AI adoption will be a journey and should be viewed from the perspectives of strategy and experimentation. From a strategic perspective, management of the potential risks and opportunities both in the short term and alignment with future goals. And from an experimentation perspective, identifying opportunities from a practical perspective to try out AI and gain a better understanding of its application.

AI is here to stay, so warrants discussion within the City to create an understanding of what it is and how the City could best leverage it. A key consideration needs to be around the privacy and use of the data provided to AI. Municipalities are starting to develop policies surrounding AI in order to ensure a controlled approach.

Action:

- Initiate conversations on the potential use for AI from both the Strategic and Experimental perspectives.
- Identify opportunities to leverage AI
- Develop a corporate policy on the use of AI at the City of Belleville

#### *MW 4- Enabling Supports*

Often tactics and support are required to help key initiatives succeed. The following section identifies opportunities to incorporate into projects and ongoing operations which will help to drive technical adoption and the initiatives identified within this plan.

##### *MW 4.1- Modernize and Automate Business Solutions*

The City provides a diverse set of services which are utilized by both staff and its customers. It is reasonable that a similarly diverse set of business solutions is required to manage these services.

Belleville has many enterprise grade business solutions in place and should review existing solutions capabilities before implementing or developing new systems. Such an approach will help reduce system sprawl and save time and cost of maintaining multiple business solutions.

Often digital processes are not fully digital – such as when a form is online, but someone needs to print it, or a spreadsheet needs to be copied to a system in order to submit information. Focus on delivery of true digital by better leveraging workflows and automation to have processes complete without manual detours.

To maximize the use of the existing business solutions, the City should consider the following initiatives:

- Digitize manual processes internally, where possible, for greater staff efficiency.
- Digitize manual processes externally, where possible, to improve customer service and streamline accessibility.
- Leverage existing systems – first determine if the existing system still meets the requirements (fit/gap analysis).

##### *MW 4.2- Technical Training and Proficiency*

Common feedback throughout the discovery stage was the need for additional business system training for staff to better utilize the technology they have been provided. Belleville's IT department already recognized this as a service need and have started providing expanded training opportunities.

Typically, IT provides basic training when it introduces a new technology or updates technology significantly. However, after the initial training, opportunities can often become less formalized, relying on peer-to-peer learning. Belleville has been looking at opportunities for an ongoing training delivery platform.

Another consideration for technology training is to ensure that the training is contextual – not generic but specific to how an individual should use the technology. Aligning training with process reviews and delivery of standards helps to support the understanding of the technology.

A practice that works well for many municipalities includes basic IT training be developed in partnership with HR as part of a Corporate Learning Program. This helps to ensure core competencies are developed for all staff and are easily accessed. IT should provide the framework to ensure security procedures are included.

The current IT workplan identifies Staff Onboarding and Orientation from Itas a project for 2025.

Action:

- Provide ongoing training opportunities (both new and as refreshers) for staff
- Include IT training as part of the Corporate Learning Program.

#### *MW 4.3- Mobile and Remote Access*

Just as a FedEx® or UPS® driver uses a mobile device to track delivery of your parcel and get your signature, City staff that work out of the office should have access to similar technologies to collect data, track work orders, complete inspections, access asset history, and generally conduct business.

Mobile will be central to the realization of the full benefits of M365, Work order software, GIS, and Building / Engineering products (to name a few) using mobile technologies (including connectivity and security, devices, and business solutions) to access City information while on the go. Ideally, remote users should have easy access to their files while out on the road or remotely accessing their systems. Belleville has already started down this path, and with the continued rollout of M365 and remote technologies, establishing remote functionality aids to enable the future workforce.

Actions:

- Promote mobile and remote access to City systems.

#### 4.5.4 Enhancing the Customer Experience

The city is in the business of delivering municipal services to the residents and businesses of Belleville. As a service agency, providing easy-to-use, simple services should be at its core. Customer expectations are for digital accessible services.

In today's world, residents do their banking online as well as buy products and services online. They also expect to be able to access government services from their smartphone or their tablet, any time and from anywhere.

In the future, customers should be able to visit the City's website via their smart device to easily and quickly:

- Report a problem and track its resolution (receiving updates along the way).
- Make a booking (e.g., recreation programs, facilities and rooms, inspections, events).
- Make a purchase (e.g., burn permits, property information requests).
- Make payments and manage accounts (e.g., pay an invoice, set up a direct deposit, review a tax account, request a tax certificate).
- Submit applications and drawings and track the application progress (e.g., Development Applications, Permits, Licenses, etc.).
- Submit forms (e.g., FOI requests, etc.).

Some of these services are available today, such as online recreation program registration, online bid management and streaming of Council meetings. The City is committed to enhancing and expanding these service offerings.

It is reasonable to expect that increasingly, the community will use digital services as the best and preferred way to interact with the City. This doesn't take away from the important role of the face-to-face and telephone-based services currently offered. The City will continue to offer choices to customers to interact using their channel of choice. The expansion in digital services reflects the fact that expectations and uses are changing with a growing population who simply prefer to interact using the smartphone or the web at a time that is convenient to them.

#### ***CE 1- Develop a Digital Customer Service Strategy***

The focus of the ITSR has been IT structure and foundations to succeed moving forward.



Developing a Digital Customer Service Strategy will assist the organization in identifying digital transformation opportunities with a “customer first” focus. Belleville already has in place the website, and many of the applications have online components either in use today or with potential availability. The Digital customer service strategy is intended to make a cohesive plan as to how to best service customers in a digital and online environment.

The Strategy will serve to inform many of the online initiatives moving forward and how to deliver true end-to-end digital services for the customer to enhance future forms, Open Data, permitting, accessibility and customer service request management.

A key area for consideration will be understanding service request management and whether the need substantiates implementation of a CRM solution.

Action:

- Develop a Digital Customer Service Strategy

### ***CE 2- Business Case for a CRM***

A CRM solution provides a centralized location to manage customer relations (as the name implies). Significant features can be incorporated into the CRM but, at its core, it is about maintaining a customer record and managing service requests, case management, and client interactions.

A CRM solution will:

- Be utilized as a 311 platform, collecting all service requests and queries in one solution.
- Make case management and history available to both customers and appropriate staff.
- Provide connectivity to the back-end system for near real time response and update.

Currently there is no centralized CRM or customer record for Belleville. Service requests are entered in workorder software and GHD forms and phone requests are handled by individual call centres within the City. While consolidation of the call centres is not required, leveraging a common platform for call and service request intake can enhance the overall customer experience and provide greater corporate visibility for areas requiring attention.

Despite CRMs becoming more mainstream for municipalities, they also require a sizeable investment to not only purchase but to operate and sustain as well. That said, the marketplace continues to evolve with various lightweight options that could be explored, now and in the future.

In Belleville's situation, there was no demand for an immediate CRM solution. The recommendation is to develop the Digital Customer Service Strategy first, and through that work better assess the requirements and demand to implement a corporate CRM solution.

Action:

- Develop a business case for a CRM solution.

### ***CE3- Website Improvements***

Many opportunities exist to enhance websites and online service delivery. With responsibility of the website transitioning to Communications, the focus in an IT strategy turns to supporting the capabilities.

From an IT perspective, IT will have a responsibility to ensure the security of the web environment and support the development of the website in alignment with the digital customer services strategy.

As the website transitions from a communication channel to a service channel, IT will need to work with business teams to identify the service patterns required to deliver digital end-to-end service, such as learn, apply, and pay, for example. IT should work across the organization to identify the preferred technology solution for each pattern, to optimize the return on investment that has been and will be made in customer-facing technology solutions.

### ***CE4 -Engagement Solution***

Digital provides a great opportunity for public discussion and open dialogue.

Currently, Belleville have survey tools such as SurveyMonkey and Survey123, but limited use of engagement platforms. Opportunities exist to provide public forums where they can curate ideas and interact on suggestions, unsolicited polling, or discussion boards to try out ideas for new services and municipal initiatives.

Action:

- Investigate online engagement solutions

### ***CE5- Event Management Solution***

Many public facing events occur within the City of Belleville every year – some organized by the City and others by the public at large. While calendars are available through the website solution, Economic Development was looking for a more robust event management solution.

Action:

- Develop business case and investigate Event Management solutions.

### ***CE6- Public Notification System***

Through the Discovery process, it was identified that Belleville does not have a public notification system for emergency response. With the proliferation of online, social media, and mobile technologies, there is a good opportunity to review solutions that can have a modern approach to emergency notification.

Action:

- Investigate public notification systems – Fire has begun this implementation.

# 5.0 The Workplan

## 5.1 Roadmap

The following section summarizes the opportunities described in Section 4.5 Opportunities for the IT Master Plan both by year and theme.

### 5.1.1 Roadmap by Year

Start Year	Project ID	Initiative Name	2024	2025	2026	2027	2028
2024	BP-1	Initiate an IT Governance Framework	x				
2024	SPR-1.1.1 In Progress	Security Audit / 2 Factor Authentication / DMZ Review	x				
2024	SPR-1.1.2	Business Continuity Planning & Disaster Recovery	x				
2024	SPR-1.1.2. In Progress	Disaster Recovery Solution (2024 operating)	x				
2024	SPR- 1.2.1	Network (Administration, Operations, Provisioning)	x	x	x	x	x
2024	SPR- 1.2.1. In Progress	Firewalls	x				
2024	SPR- 1.2.1. In Progress	Desk Server Upgrades	x				
2024	SPR 1.2.2	Storage and Data Management	x	x	x	x	x

Start Year	Project ID	Initiative Name	2024	2025	2026	2027	2028
2024	SPR-2	IT Service Management (ITSM) Program	x	x			
2024	MW1.1	O365 Rollout (in progress)	x	x			
2024	MW1.2	Document Management Solution (in progress)	x	x			
2024	MW1.5. In Progress	AP Automation	x				
2024	MW2.3.1	Special Meetings	x	x			
2024	MW1.7	Staff Intranet	x	x			
2025	BP-2	Apply Standard Project Management and Business Analysis Methods		x			
2025	SPR- 1.2.1. Planned	SIP Lines for Teams		x			
2025	SPR- 1.2.1. In Progress	Server Hardware		x			
2025	SPR- 1.2.1. In Progress	Security / 2 Factor / DMZ		x			
2025	SPR- 1.2.1. In Progress	Meeting room Upgrades		x			
2025	SPR- 1.2.1. In Progress	Corporate Wifi		x			
2025	SPR- 1.2.1. In Progress	Switches		x			

Start Year	Project ID	Initiative Name	2024	2025	2026	2027	2028
2025	MW1.3	Human Capital Management (HRIS solution)		x			
2025	MW1.4	Asset & Work Management Enhancements		x	x		
2025	MW 4.2. Planned	All Staff Onboarding/Orientation from IT		x			
2025	CE 1	Digital customer service strategy		x			
2025	CE4	Engagement Solution		x			
2026	BP-4	Standards and Policy Development			x		
2026	SPR-1.1.1	Security and Risk Management Program			x		
2026	SPR-1.1.1. In Progress	Cyber Incident Response Plan			x		
2026	SPR- 1.2.1. In Progress	Network Monitoring			x		
2026	MW2.3.2	Online Licensing			x		
2026	MW2.3.4	Purchasing - Extend Solution Functionality			x		
2026	MW2.3.5	Tax - enhanced online service			x		

Start Year	Project ID	Initiative Name	2024	2025	2026	2027	2028
2026	CE6	Public Notification System			x		
2027	BP-3	Capacity Planning				x	
2027	SPR-1.1.3	Cloud Strategy (Governance, Maturity, Risk, Roadmap)			x	x	
2027	MW1.5	Financial System Review and Workplan				x	
2027	MW2.3.3	CRM (Client Record Management) Solution				x	
2027	MW2.3.6	Future Harbours Management System				x	
2027	MW3.1	Develop a Data and Integration Management Plan				x	
2027	MW2.3.7	Museum solution refresh				x	
2027	CE2	Business Case for CRM Solution				x	
2027	CE5	Event Management Solution				x	

*Operational/Other Activities*

The following, either will occur annually, or scheduled timing needs to be determined.

Start Year	Project ID	Initiative Name	2024	2025	2026	2027	2028
Ongoing	SPR- 1.2.1. In Progress	SQL Server Upgrades	0	0	0	0	0
Ongoing	SPR- 1.2.1. In Progress	New MDM Solution	0	0	0	0	0
Ongoing	MW1.6	GIS Roadmap	0	0	0	0	0
Ongoing	MW2.1	Establish routine business check-ins	0	0	0	0	0
Ongoing	MW2.2	Business Processes Optimization	0	0	0	0	0
Ongoing	MW3.2	Rationalize Open Data	0	0	0	0	0
Ongoing	MW3.3	Reporting and Analytics	0	0	0	0	0
Ongoing	MW3.4	Emergence of Artificial Intelligence	0	0	0	0	0
Ongoing	MW 4.1	Modernize and Automate Business Solutions	0	0	0	0	0
Ongoing	MW 4.2	Technical Training and Proficiency	0	0	0	0	0
Ongoing	MW 4.3	Mobile and Remote Access	0	0	0	0	0



Start Year	Project ID	Initiative Name	2024	2025	2026	2027	2028
Ongoing	CE3	Ongoing Website Improvements	0	0	0	0	0
TBD	MW 1.6.1	NG911 Readiness					
TBD	MW 2.4	Developing Operationally Specific Strategies (plan by service area)					

### 5.1.2 Roadmap by Theme

#### *IT As a Business Partner*

Project ID	Initiative Name	Project/Tactic/Operate	Start Year	2024	2025	2026	2027	2028
BP-1	Initiate an IT Governance Framework	Project	2024	x				
BP-2	Apply Standard Project Management and Business Analysis Methods	Tactic	2025		x			
BP-3	Capacity Planning	Operate	2027				x	
BP-4	Standards and Policy Development	Operate	2026			x		

IT Service & Performance Resiliency

Project ID	Initiative Name	Project/Tactic/Operate	Start Year	2024	2025	2026	2027	2028
SPR-1.1.1	Security and Risk Management Program	Project	2026			x		
SPR-1.1.1. In Progress	Security Audit / 2 Factor Authentication / DMZ Review	Project	2024	x				
SPR-1.1.1. In Progress	Cyber Incident Response Plan	Project	2026			x		
SPR-1.1.2	Business Continuity Planning & Disaster Recovery	Project	2024	x	o	o	o	o
SPR-1.1.2. In Progress	Disaster Recovery Solution (2024 operating)	Project	2024	x				
SPR-1.1.3	Cloud Strategy (Governance, Maturity, Risk, Roadmap)	Project	2027			x	x	
SPR- 1.2.1	Network (Administration, Operations, Provisioning)	Project	2024	x	x	x	x	x
SPR- 1.2.1. Planned	SIP Lines for Teams	Project	2025		x			
SPR- 1.2.1. In Progress	Firewalls	Project	2024	x				
SPR- 1.2.1. In Progress	Desk Server Upgrades	Project	2024	x				
SPR- 1.2.1. In Progress	Server Hardware	Project	2025		x			
SPR- 1.2.1. In Progress	Security / 2 Factor / DMZ	Project	2025		x			

Project ID	Initiative Name	Project/Tactic/Operate	Start Year	2024	2025	2026	2027	2028
SPR- 1.2.1. In Progress	Meeting room Upgrades	Project	2025		x			
SPR- 1.2.1. In Progress	Corporate Wifi	Project	2025		x			
SPR- 1.2.1. In Progress	Switches	Project	2025		x			
SPR- 1.2.1. In Progress	Network Monitoring 2023	Project	2026			x		
SPR- 1.2.1. In Progress	SQL Server Upgrades	Project	Ongoing	o	o	o	o	o
SPR- 1.2.1. In Progress	New MDM Solution	Project	Ongoing	o	o	o	o	o
SPR 1.2.2	Storage and Data Management	Project	2024	x	x	x	x	x
SPR-2	IT Service Management (ITSM) Program	Project	2024	x	x			

*Enabling the Modern Workforce*

Project ID	Initiative Name	Project/Tactic/Operate	Start Year	2024	2025	2026	2027	2028
MW1.1	O365 Rollout (in progress)	Project	2024	x	x			

Project ID	Initiative Name	Project/Tactic/Operate	Start Year	2024	2025	2026	2027	2028
MW1.2	Document Management Solution (in progress)	Project	2024	x	x			
MW1.3	Human Capital Management (HRIS solution)	Project	2025		x			
MW1.4	Asset & Work Management Enhancements	Project	2025		x	x		
MW1.5	Financial System Review and Workplan	Project	2027				x	
MW1.5. In Progress	AP Automation	Project	2024	x				
MW1.6	GIS Roadmap	Operate	Ongoing	o	o	o	o	o
MW 1.6.1	NG911 Readiness	Operate	TBD					
MW1.7	Staff Intranet	Operate	2024-2025	x	x			
MW2.1	Establish routine business check-ins	Operate	Ongoing	o	o	o	o	o
MW2.2	Business Processes Optimization	Tactic	Ongoing	o	o	o	o	o
MW2.3.1	Special Meetings	Project	2024	x	x			
MW2.3.2	Online Licensing	Project	2026			x		

Project ID	Initiative Name	Project/Tactic/Operate	Start Year	2024	2025	2026	2027	2028
MW2.3.3	CRM (Client Record Management) Solution	Project	2027				x	
MW2.3.4	Purchasing - Extend Solution Functionality	Operate	2026			x		
MW2.3.5	Tax - enhanced online service	Project	2026			x		
MW2.3.6	Future Harbours Management System	Project	2027				x	
MW2.3.7	Museum solution refresh	Project	2027?				x	
MW 2.4	Developing Operationally Specific Strategies	Tactic	Ongoing - plan by yr/service	o	o	o	o	o
MW3.1	Develop a Data and Integration Management Plan	Operate	2027				x	
MW3.2	Rationalize Open Data	Tactic	Ongoing	o	o	o	o	o
MW3.3	Reporting and Analytics	Tactic	Ongoing	o	o	o	o	o
MW3.4	Emergence of Artificial Intelligence	Tactic	Ongoing	o	o	o	o	o
MW 4.1	Modernize and Automate Business Solutions	Tactic	Ongoing	o	o	o	o	o
MW 4.2	Technical Training and Proficiency	Operate	Ongoing	o	o	o	o	o

Project ID	Initiative Name	Project/Tactic/Operate	Start Year	2024	2025	2026	2027	2028
MW 4.2. Planned	All Staff Onboarding/Orientation from IT	Project	2025		x			
MW 4.3	Mobile and Remote Access	Tactic	Ongoing	o	o	o	o	o

*Enhancing the Customer Experience*

Project ID	Initiative Name	Project/Tactic/Operate	Start Year	2024	2025	2026	2027	2028
CE 1	Digital customer service strategy	Project	2025		x			
CE2	Business Case for CRM Solution	Project	2027				x	
CE3	Ongoing Website Improvements	Operate	Ongoing	o	o	o	o	o
CE4	Engagement Solution	Project	2025		x			
CE5	Event Management Solution	Project	2027				x	
CE6	Public Notification System	Project	2026			x		

## 5.2 Budget Impacts – Completed by IT Staff

Start Year	Project ID	Initiative Name	Currently Budgeted	Estimated Capital Cost	Estimated Operating Cost Impact
2025	BP-1	Initiate an IT Governance Framework		\$60,000	\$0
2025	SPR-1.1.2	Business Continuity Planning & Disaster Recovery		\$40,000	\$0
2025	MW1.3	Human Capital Management (HRIS solution)		\$350,000	\$60,000
2025	SPR- 1.2.1	Network (Administration, Operations, Provisioning)		\$240,000	\$48,000
2025	SPR- 1.2.1	SIP Lines for Teams		\$50,000	\$10,000
2025	STAFFING	Business Analyst / Constand Improvement			\$150,000
2025	STAFFING	Security and Risk Specialist			\$150,000
2025	SERVICES	Hardware deployment		\$150,000	\$0
2025	ASSET MAINTENANCE	End User device updates (Windows 11)		\$150,000	\$0
<b>2025</b>	<b>TOTALS</b>			<b>\$1,040,000</b>	<b>\$418,000</b>

Start Year	Project ID	Initiative Name	Currently Budgeted	Estimated Capital Cost	Estimated Operating Cost Impact
2026	SPR-1.1.1	Security and Risk Management Program		\$50,000	\$0
2026	SPR-1.1.1.	Cyber Incident Response Plan Update		\$50,000	\$0
2026	MW1.4	Asset & Work Management Enhancements – KPI and data analysis		\$500,000	\$40,000
2026	CE 1	Digital customer service strategy		\$50,000	\$0
2026	CE6	Public Notification System		\$100,000	\$20,000
2026	ASSET MAINTENENCE	Network and Server updates		\$220,000	\$33,000
2026	ASSET MAINTENENCE	End User Hardware updates		\$75,000	\$0
2026	STAFFING	Information and Data Analyst			\$150,000
<b>2026</b>	<b>TOTALS</b>			<b>\$1,045,000</b>	<b>\$255,000</b>
2027	SPR-1.1.3	Cloud Strategy (Governance, Maturity, Risk, Roadmap)		\$50,000	\$0

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Start Year	Project ID	Initiative Name	Currently Budgeted	Estimated Capital Cost	Estimated Operating Cost Impact
2027	BP-3	Capacity Planning		\$50,000	\$0
2027	MW1.5	Financial System Review and Workplan		\$1,000,000	\$100,000
2027	ASSET MAINTENENCE	Network and Server updates		\$220,000	\$33,000
2027	ASSET MAINTENENCE	End User Hardware updates		\$75,000	\$0
2027	MW2.3.6	Future Harbours Management System		\$100,000	\$20,000
2027	MW2.3.7	Museum solution refresh		\$100,000	\$20,000
2027	STAFFING	Information and Data Analyst			\$100,000
2027	<b>TOTALS</b>			<b>\$1,595,000</b>	<b>\$273,000</b>
2028	MW2.3.3	CRM (Client Record Management) Solution		\$100,000	\$10,000
2028	MW1.6	GIS Roadmap Update		\$50,000	\$0
2028	CE 1	Digital customer service strategy and services		\$150,000	\$40,000

Start Year	Project ID	Initiative Name	Currently Budgeted	Estimated Capital Cost	Estimated Operating Cost Impact
2028	ASSET MAINTENENCE	Network and Server updates		\$220,000	\$33,000
2028	ASSET MAINTENENCE	End User Hardware updates		\$75,000	\$0
2028	MW General	Bluebeam Expansion - Engineering		\$100,000	\$0
<b>2028</b>	<b>TOTALS</b>			<b>\$720,000</b>	<b>\$83,000</b>
2029	MW2.3.4	Purchasing - Extend Solution Functionality		\$50,000	\$10,000
2029	MW3.4	Emergence of Artificial Intelligence		\$300,000	\$60,000
2029	MW 4.2	Technical Training and Proficiency		\$60,000	\$0
2029	ASSET MAINTENENCE	Network and Server updates		\$220,000	\$33,000

Start Year	Project ID	Initiative Name	Currently Budgeted	Estimated Capital Cost	Estimated Operating Cost Impact
2029	ASSET MAINTENENCE	End User Hardware updates		\$75,000	\$0
<b>2029</b>	<b>TOTALS</b>			<b>\$705,000</b>	<b>\$103,000</b>
	<b>ITSR</b>	<b>5 Year Project Grand Totals</b>		<b>\$5,105,000</b>	<b>\$1,130,000</b>

## 6.0 Conclusion

As stated in the onset, technology is central to the City's ability to deliver services and the City needs to be well-equipped and well-positioned to implement, manage and leverage technology to deliver better and more efficient services. Currently, manual processes inhibit City departments' ability to move at the speed they need, while balancing corporate controls. Core functions – used by all departments – must be efficient, effective and operate in real-time if the City is to be successful.

IT has done an admirable job of managing the technology needs of the organization to date, but with ever increasing demand, greater attention needs to be provided to delivery of IT services.

Several opportunities were identified through the report which will help to enable the necessary changes and position IT for the future including:

- Enhancing the [IT Organization](#) through strong IT leadership, review the current IT structure, understanding project resource capacity, and looking at opportunities for resource augmentation.
- Creating the partnership between IT and the business through implementation of an IT Governance framework, applying standard project management and business analysis methods, as well as IT policy and standards.
- Ensure IT service performance and resiliency through foundational IT elements including security and risk management, business continuity and disaster recovery, creation of a cloud strategy, and formalizing IT Service Management.
- Enabling the modern workforce such as:
  - Focusing on the fundamentals to ensure that core systems are optimized and used to their full potential.
  - Attention on business specific applications to enhance business' capability to deliver services.
  - Recognizing the value of data and information as a corporate asset.
  - Enabling the workforce through additional support.
- And improving the customer experience starting with the development of a digital customer service strategy and assessing the need for a CRM solution.

Through commitment and attention, the Technology Vision developed by EMT is achievable.

*Empowering innovation through technology, data, and people to serve our community.*

# Appendix 1 – MTM Assessment Detail

Supplemental to Figure 8 [Municipal Technology Model](#)

## MTM -Platform

Element	Rating	Comment
<b>Datacenter Facilities</b>	Some Work Needed	<ul style="list-style-type: none"> <li>• Cable management practices are as hoc and lack consistency throughout the various sites</li> <li>• Hardware specifications and performance statistics are not formally tracked</li> <li>• Systems are not sized based on business needs as part of a formal management process</li> <li>• Resource time spent on upgrades is not tracked</li> <li>• Production datacenters lack a formal process to manage authorized access</li> </ul>
<b>Network</b>	Major Work Needed	<ul style="list-style-type: none"> <li>• Processes, including troubleshooting, are not repeatable through documentation and are ad hoc.</li> <li>• Architected networks including configuration templates have not been developed.</li> <li>• There are no policies/processes for firmware bug and vulnerability patching.</li> </ul>
<b>Storage and Data Management</b>	Major Work Needed	<ul style="list-style-type: none"> <li>• Individual business units are left to their own decisions around naming conventions.</li> <li>• No formal data storage strategy for network, desktops, and cloud</li> <li>• No formal data security processes</li> <li>• No data archiving</li> </ul>
<b>Compute/Workloads</b>	Some Work Needed	<ul style="list-style-type: none"> <li>•Endpoint management software keeps track of all applications installed on a desktop or server.</li> <li>•A manual capacity report is used for the virtualization platform with major performance indicators.</li> </ul>

Element	Rating	Comment
End-Point Devices and Management	Some Work Needed	<ul style="list-style-type: none"> <li>•Telephony - Bell Total Connect (BTC) - a fully managed service</li> <li>•Users have their own 10-digit number (will work well with a potential move to Teams)</li> <li>•Unified Communications: No formal strategy around messaging, telephony, or collaboration</li> </ul>
Essential Infrastructure	Some Work Needed	<ul style="list-style-type: none"> <li>•VPN is used for remote access along with a VDI client (seems to be working well)</li> <li>•VDI is used for home users, field workers, recreation (VMware) - ~100 concurrent users</li> <li>•Note: VPN client is out-of-date</li> </ul>
Security Services	Some Work Needed	<ul style="list-style-type: none"> <li>•Syslogging exists for systems (where supported)</li> <li>•2FA working well</li> <li>•All staff have to participate in Beauceron cyber security training from CIRA</li> </ul>

## MTM -Corporate Posture

Element	Rating	Comment
Governance, Policy, Standards, Procedures	Major Work Needed	Some policies/processes exist but require review No formal project intake process
Security and Risk Management	Major Work Needed	No formal security or risk management (e.g. Incident Response)
Business Continuity Planning and Disaster Recovery	Risk / Replace	No Business Continuity and Disaster Recovery plan (BCDR)

Element	Rating	Comment
Cloud Governance/Strategy	Risk / Replace	No formalized cloud governance/strategy
Technology Resource Planning	Major Work Needed	Limited security expertise and skills around network and cloud management

### MTM – Business Solutions – Enterprise

Element	Rating	Comment
Agenda & Council Management	Some Work Needed	Use not conducive for special meetings, based on how it is set up, staff revert to paper for special meetings. Council meetings -livestream (YouTube), video recorded and posted with agenda/minutes.
Asset & Work	Risk/Replace	Asset Management - working group established and review in progress. Looking to gather requirements across departments. Current solutions not identified as meeting business needs.
ECM & Document Management	Risk/Replace	Document and records management identified as a major gap during most of the Department interviews. Limited attention given to standards and retention.
Facility Management	Some Work Needed	Building systems and controls in place. Utilize Rec software for facility rentals, lighting for outside light controls - operated through app, Johnston & Simpson Controls. Card access system - concerns not fully operational.
Fleet Management	Some Work Needed	Several systems are in place for Fleet management; however, issues reported with connectivity (e.g. Fuel system). Several paper-based processes in existence as well.

Element	Rating	Comment
Finance & Budget	Risk/Replace	Core financials. General dissatisfaction with its abilities to meet current needs. Limited integration and find vendor support a struggle. GL, Journal voucher, Property Tax, AR, AP, Fixed Asset, Inventory, POs, Payroll, Utility billing.
GIS	Good Shape	ESRI GIS governance model developed in conjunction with ESRI.
HCM, Payroll, LMS	Risk/Replace	From both HR and user department perspectives, there is concern with the current state for both time & attendance and employee management.
Intranet	Some Work Needed	An Employee Intranet shell was implemented in 2023 using GHD. Currently awaiting content. Work is in progress.
Productivity & Collaboration	Major Work Needed	Rolling out O365 (Office apps) and Teams in organization.
Project Management, Process & Facilitation	Some Work Needed	IT maintains its project portfolio within Excel (which is sufficient for now).
Property & Land Planning	Some Work Needed	City software is in use and has been successful for Building, however not for full development lifecycle (including Planning). Work is underway to incorporate Planning. Public views available through GIS.

## MTM – Business Solutions – Expert

Element	Rating	Comment
Archives	Some Work Needed	Using Access to Memory as web-based online catalogue. Meeting current business needs. Challenge emerging with the size of files and mixed media - looking to IT for support with storage solutions.
Cemetery	Gap	Not identified
Creativity & Design	Some Work Needed	Various systems used as required.



Element	Rating	Comment
Economic Development	Major Work Needed	Looking into a CRM (Client/Contact Management System) as currently client data is in disparate locations (files/emails, etc).
Elections	Good Shape	Dominion Voterview, Simply Voting used for online and mail in election. Current version is provided by vendor ahead of elections.
Fire	Some Work Needed	Partner with Peterborough for both CAD and RMS solutions.
FOI Request Mgmt	Major Work Needed	Looking into FOI solutions.
Harbours	Gap	Not identified
Internal Audit	Gap	Not identified
Library	Some Work Needed	Currently using library software which is common application across most library systems. Future opportunities to expand digital services and self-check services.
Licensing & Enforcement	Some Work Needed	Use City software for Licensing. Future potential to have licensing available online for self-service.
Museums	Some Work Needed	Using dated software for collection. 1/3 collection digitized. Industry is starting to shift the systems it uses, so anticipating changes.
Parking	Some Work Needed	Hotspot is used for Parking meters and parking permits. Window hangers are tracked in excel.

Element	Rating	Comment
Procurement	Some Work Needed	Using Bids and Tender software. Some features not yet in use such as contract and vendor management.
Public Safety & Emergency Planning	Gap	Identified as a gap - no public notification system for emergency response.
Realty Services	Gap	Not identified
Recreation & Parks	Some Work Needed	Using online program for registration and facility bookings/ rentals. Not integrated with financial software and looking for improvements to the cash handling and invoicing processes.
Risk & Insurance Mgmt	Gap	Not identified
Roads & Transportation	Some Work Needed	Utilize AVL in all vehicles with advanced diagnostics, vehicle data, and positioning.
Taxation	Some Work Needed	Property Tax delivered through finance software. As identified in Finance, vendor support is challenging. Looking to enable customers to access tax bills online.
Transit	Some Work Needed	Transit has significant technology used with the buses and for scheduling. Challenge with connectivity.
Vital Statistics	Some Work Needed	Marriage Certificates go into form and can populate provincial template.

Element	Rating	Comment
		Deaths tracked in excel. For online payments (such as Marriage Certificates), do not receive confirmation - payment record goes to finance.
Waste Management	Gap	Not identified
Water Services	Some Work Needed	Scada for water systems. However, many aspects of the operation require paper-based processes.

## MTM -Integration and Data

Element	Rating	Comment
Events	Some Work Needed	Individual business units expressed needs for additional Event Management solution capability.
Form Solution	Some Work Needed	Survey 123 in use. Forms created as required on website. Challenge with set up is that the forms go into a central repository - limited backend workflow and automation.
Business Intelligence, Analytics & Reporting	Major Work Needed	Dashboarding available but requires updating. Limited and system specific. Financial and HRM reporting requires significant attention. Manual processes in place to pull together data and information on a routine basis
Data Access & Privacy	Some Work Needed	Data is maintained in secure locations, but standards to define unstructured data locations limited.

Element	Rating	Comment
Data Exchange Tools (external)	Gap	Not identified
Data Management Tools	Gap	Not identified
Data Standards	Major Work Needed	While various systems are in place, data governance and ownership are unclear. Standards and retention are perceived as ad-hoc with no clear schedule identified. IT has in place backup process.
Integration Technology	Major Work Needed	No middleware or standalone integration technology identified. While an overall solution is not required, greater attention is needed to ensure core system connectivity. Gap in the ability to integrate.
Master Data Sources	Major Work Needed	Some data sources identified, but not as definitive master data records. GIS in place for property data.
Workflow/Process Automation	Major Work Needed	Application specific workflow/process automation technology. Many different available solutions

## MTM -Customer Facing

Element	Rating	Comment
Web Platform /CMS	Good Shape	Using suite of web products, responsive site.

Element	Rating	Comment
CRM	Major Work Needed	No centralized CRM or customer record for organization.
Accessibility Tools	Some Work Needed	Potential to better utilize existing products. Concerns raised in discovery sessions on accessibility within PDFs.
Alerts & Subscriptions	Good Shape	Several tools in place to manage subscriptions
Booking & Registration	Some Work Needed	Registration online, booking limited to inquiry (based on complexity of process and resources)
Customer Account/Portal	Some Work Needed	No single sign in, but individual ids for softwares and other app related services Customer portal exists for Water Billing – information, payments
Digital Signage	Some Work Needed	Business is looking at getting updates to marquee boards.
Digital Signatures	Good Shape	Have digital signing software for use as required.
Employment	Some Work Needed	Currently have Recruiting software. Limited business requirements identified.
Engagement & Ideation	Some Work Needed	Currently limited. Have SurveyMonkey and Survey 123 however departments identified need for an engagement solution such as the 'Bang the Table' product.

Element	Rating	Comment
Events	Some Work Needed	Individual business units expressed needs for additional Event Management solution capability.
Form Solution	Some Work Needed	Forms created as required on website. Challenge with set up is that the forms go into a central repository - limited backend workflow and automation.
Maps- Interactive	Good Shape	ESRI mapping applications in the GIS Hub. Some integration into website content. Potential for future use of mapping tools.
Mobile Design	Some Work Needed	Responsive web page, and service specific applications available.
Open Data	Some Work Needed	Open Data is available. 29 of 48 data sets were updated in 2023, 16 datasets are pdfs (some historical maps, but also some data like road indexes).
Online Service (Chat)	Gap	Not present
Payment Solution	Some Work Needed	Service specific payment solutions available online based on service. Note there is a lack of integration with financial system resulting in manual workarounds for Finance dept.
Procurement	Good Shape	Using Bids and Tenders

Element	Rating	Comment
Search & Lookup	Some Work Needed	Search returns allow filter on calendar or documents, but not webpages. Search engine optimization potential exists
Social Media	Good Shape	Twitter, Facebook, YouTube/Instagram, Hootsuite
Web Productivity Tools	Some Work Needed	Using Google Analytics. Potential for additional features and expanded use of product.

## Appendix 2 – IT Governance Framework – More Detail

IT governance is often cited as an opportunity for improvement within many IT strategies, and with good reason. In more traditional organizations, IT was often treated separately than business but in more recent times with advancements in technology and the emphasis on digital service delivery, the role of IT is becoming more of an enabling partner in business service delivery. Further, with increases in cyber threats, managing organizational risk needs to be discussed and understood. As a result, there needs to be a forum for IT discussion and decision making at the leadership table, and a framework to support it.

Research shows that those organizations that are most successful with technology have clearly assigned decision rights, roles and responsibilities. Also, these organizations – where the leadership team acts as the driving force around technology – are more effective at being successful in driving change and innovation throughout their organizations.

To avoid an IT strategy from sitting on a shelf, engaging the business in active IT decision making becomes an ongoing activity. And it can start with the strategy. Contained in the IT Master Plan are a number of identified opportunities which will improve technology at the City. Recognizing that the opportunity list should always be dynamic based on current circumstances and align with corporate priorities.

The governance framework is intended to aid the organization in aligning IT and digital activities with business and corporate strategy. It is about creating value by actively engaging the business to participate in IT decisions that impact the organization. The governance model should reinforce principles of collaboration, openness, and transparency and collective decision making by establishing- a structure that oversees IT investment, business application needs, IT architecture and infrastructure technology decisions.

Organizations often view decisions about technology as complicated, technical and “best left to the experts in IT”. However, decisions about technology often have ramifications well beyond the technology itself.

Some questions to ask would be:

- How do we want to use technology in our business?
- How will the technology be supported?
- How much should we spend on technology?
- Which of our business processes should we direct our IT dollars toward?

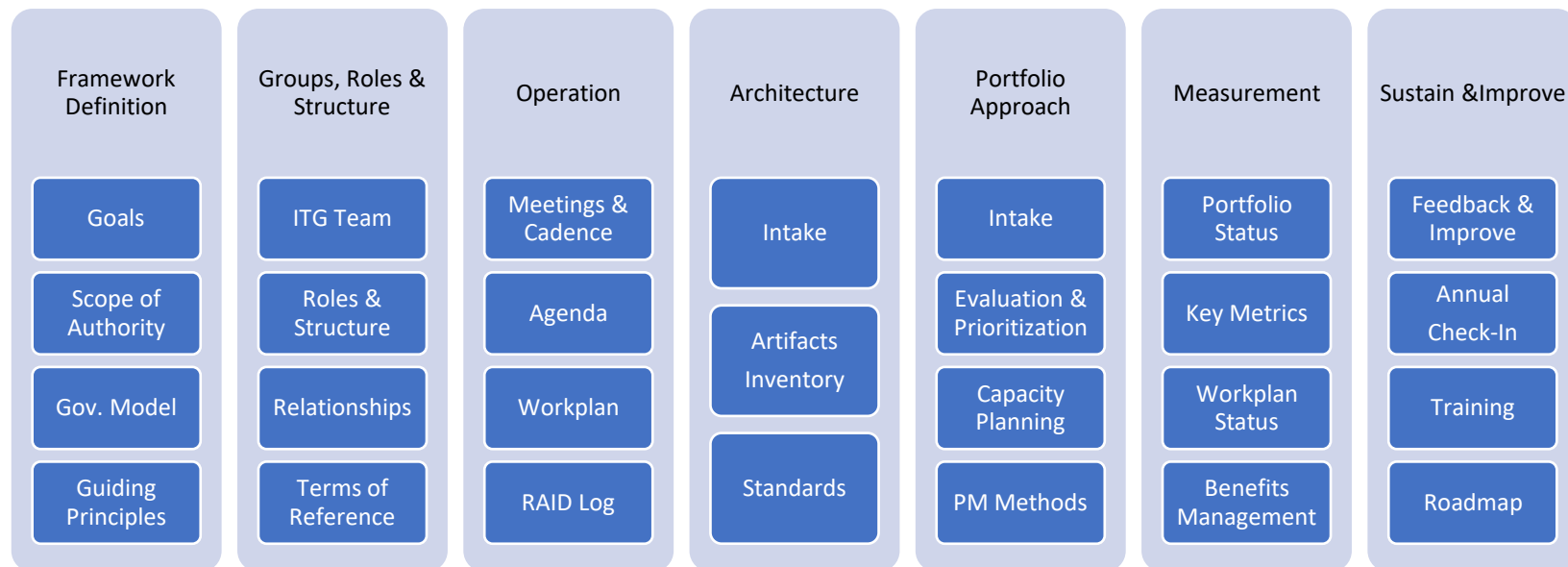


- What do we need to tackle first? Should we do this now or later?
- How secure do we want / need to be?
- What should be available first in the event of a data centre outage or a disaster event?

These are not decisions for the technologists in the Information Technology Department alone – they are important business decisions that the leaders of the organization must address.

There will always be purely technical decisions to be made – where the right technical staff with appropriate expertise will need to be involved – but in most cases, technology experts should be advising business leaders. Implementing an IT Governance Framework will ensure major IT decisions will be informed by value and risk to the organization. Establishing an IT Governance Framework does not need to be complex to be effective and, over time, the process can be evolved to fit organizational needs. The important thing is to start somewhere.

The following is the PGC governance framework, it identifies the components and key attributes of IT governance. Emphasis is placed on implementing governance in smaller, more manageable pieces.



Start governance with the basics. Further to the PGC governance framework, the following table identifies activities for consideration in introducing governance.

Governance Component	Activities- Initiating Governance
<p><b><u>Framework Definition</u></b>            Establish the scope of the ITG framework, the mandate, goals, authority, and guiding principles</p>	<ul style="list-style-type: none"> <li>• Document the mandate, goals, authority (scope), and guiding principles of the framework.</li> <li>• Framework is scalable, definition complexity increases with size</li> </ul>
<p><b><u>Groups, Roles &amp; Structure</u></b>            Define the groups, understand the roles and responsibilities, terms of reference for teams, relationships, and supporting structures</p>	<ul style="list-style-type: none"> <li>• Small governance team with IT and business representation</li> <li>• Relationships to Executive and business leadership team</li> <li>• Ad-hoc advisory/steering groups</li> <li>• Technical standards role assigned to individual</li> <li>• Limited project management governance (no PMO)</li> </ul>
<p><b><u>Operations</u></b>            Put in place the structure to conduct and support the operation of the ITG framework</p>	<ul style="list-style-type: none"> <li>• Routine meeting structure, agendas, schedule</li> <li>• Operations is scalable, meeting cadence increases with demand</li> </ul>
<p><b><u>Architecture</u></b>            Identify what is 'just enough' architecture including intake process, artifacts, and technical inventory</p>	<ul style="list-style-type: none"> <li>• Technical standards documented</li> <li>• Basic architecture artifacts (existing state)</li> <li>• Inventory of technical assets (spreadsheet)</li> <li>• Simplified intake process</li> <li>• Ad-hoc architecture review</li> </ul>
<p><b><u>Portfolio Approach</u></b>            Define the project portfolio approach that is applicable to the ITG including intake, prioritization, and capacity planning.</p>	<ul style="list-style-type: none"> <li>• PM methods defined</li> <li>• Project roles assigned ad-hoc</li> <li>• Simplified intake process</li> <li>• Prioritization part of corporate process</li> <li>• Higher levels of priority delegation</li> <li>• Informal capacity planning</li> </ul>

Governance Component	Activities- Initiating Governance
<p><b><u>Measurement</u></b></p> <p>Define the measures which will be most important to ITG to assist in making informed decisions and demonstrate value.</p>	<ul style="list-style-type: none"> <li>• Defined metrics and measures</li> <li>• Limited reporting</li> </ul>
<p><b><u>Sustain &amp; Improve</u></b></p> <p>Have a plan for how momentum will continue for the ITG including understanding sentiment and continuous improvement.</p>	<ul style="list-style-type: none"> <li>• Feedback - activity based and routine check-ins</li> <li>• Annual review</li> </ul>

### *Intake and Prioritization*

The intake process is intended to evaluate ideas, opportunities, and business needs from a variety of sources, determine if the requests are projects, and apply sufficient due diligence and assessment to decide whether to recommend the work be undertaken. Thus, a project moves through multiple stages 'the intake', before it becomes an approved project that is ready to be scheduled and executed.

While Project Intake is about evaluation (should we be doing this?), project selection and prioritization is about making choices of which projects to do based on capacity (we'd like to do this, but we have limited capacity). It is rare that more capacity exists than demand for projects.

Not all projects and work require prioritization. Based on type of work, authority of the IT director, and also nature of the work (non-discretionary vs discretionary), understanding what should be prioritized (and in turn scheduled) becomes an important aspect of IT governance.

The IT governance team should become responsible for recommending and submitting the IT project proposals for consideration into the corporate budgeting process. To assist in this process a project ranking process needs to be instituted. This will allow projects to be compared using a consistent and repeatable framework. Project prioritization becomes the best approach to objectively assist in the selection of projects, or at least to recognize which projects could provide the greatest value to the organization.

Many municipalities have adopted some form of project prioritization of various complexity. It does not need to be complex to be effective and over time, the process can be evolved to fit organizational needs. The important thing is to start somewhere. In the case of Belleville, and the initial exercise done with EMT, a two-factor prioritization model was used. Urgency and Importance being the two factors.

Expanding upon the two-factor model – the following describe a sample criteria scale that could be utilized for prioritization.

Urgency Scale Selection Scoring		
5	Most Urgent	<ul style="list-style-type: none"> <li>Matter of public safety – mitigates issue that could cause a death</li> <li>Avoids a catastrophic event</li> <li>Avoids major business disruption / shut down</li> <li>System failure has occurred or is imminent</li> <li>Legislated deadline is quickly approaching</li> <li>Technology past end of support lifecycle (no longer supported)</li> <li>Other</li> </ul>
4	Very Urgent	<ul style="list-style-type: none"> <li>Mitigates significant loss of employee knowledge</li> <li>Council imposed deadline is quickly approaching</li> <li>Avoids a minor to moderate business disruption</li> <li>Quick action required to avoid significant revenue impacts</li> <li>Avoids significant liabilities to the municipality</li> <li>Technology approaching end of life</li> <li>Other</li> </ul>
3	Urgent	<ul style="list-style-type: none"> <li>Attention required to satisfy a mandate from a division</li> </ul>

Urgency Scale Selection Scoring		
		<p>Project is tied to an important and immediate business benefit (e.g. tied to a new web based service launch)</p> <p>Other</p>
2	Slightly Urgent	<p>Sponsor would like attention to project</p> <p>Alleviates growing and inconvenient issues (e.g. automating workflows, new technology that facilitates a minor internal efficiency)</p> <p>Other</p>
1	Not Urgent	<p>Project is opportunistic but not necessary</p> <p>Project is not time bound</p> <p>Other</p>

Importance Scale Selection Scoring		
5	Most Important	<p>Project is legislated</p> <p>Project addresses a customer service issue currently deficient</p> <p>Generates or sustains significant economic development</p> <p>Project needed to meet a legal obligation</p> <p>Supports equitable access, social justice and essential quality of life for the public</p> <p>Mitigates long term environmental damage with lasting consequences</p> <p>Mitigates unrecoverable loss of mission critical data / information</p> <p>Mitigates potential loss of license essential to operate</p>

Importance Scale Selection Scoring		
		Mitigates potential imprisonment of staff
4	Very Important	<p>Project that has a high probability of driving moderate to modest economic growth</p> <p>Meets an important customer need</p> <p>Can greatly reduce cost(s)</p> <p>Mitigates external exposure of critical / confidential information</p> <p>Mitigates public / media outcry for change in administration or council</p> <p>Mitigates potential for integrity breach, resulting in decreased trust in the municipality</p> <p>Mitigates potential for recurring negative media coverage on national and or international stage</p> <p>Avoids sanctions imposed by regulatory bodies</p> <p>Avoid under-achievement of business unit goals (&lt;50% achieved)</p>
3	Important	<p>Project that is likely to reduce cost(s)</p> <p>Project that is likely to avoid future cost(s)</p> <p>Project that is likely to avoid additional future headcount</p> <p>Enables a major enterprise wide efficiency</p> <p>Not doing project results in being unable to perform services deemed important to business or customers, but otherwise a non-essential service</p> <p>Mitigates disclosure of non-confidential, but embarrassing information</p> <p>Mitigates increase in number of union grievances (&gt;10%)</p> <p>Mitigates complains elevated to CAO / Council level</p>

Importance Scale Selection Scoring		
		<p>Failure to do project results in significantly decreased usefulness of IT infrastructure</p> <p>Enterprise system project that addresses inefficient processes in more than one division</p>
2	Slightly Important	<p>Enables efficiencies (redeployment of staff) of a department, division or function</p> <p>Project avoids significant increase in number of errors (&gt;10%)</p> <p>Project reduces complaints elevated to Director / GM level</p> <p>Project mitigates moderate media coverage or editorial comment</p> <p>Failure to do project results in some decreased usefulness of IT infrastructure</p> <p>Failure to do project results in some business unit goals not met (75 – 90% achieved)</p>
1	Not Important	<p>Project does not contribute to any stated or obvious goal or objective (e.g. business plan)</p> <p>Project addresses short term additional effort required by existing staff to fix a minor situation</p>

## Appendix 3 – Glossary of Terms

While this Report is written in as plain language as possible, a handful of technical terms and acronyms are used. This glossary is provided to help the reader understand the terms used.

Term	Explanation
AI	Artificial Intelligence – A systems capability to learn and react to data inputs based on algorithms and machine learning
AODA	Accessibility for Ontarians with Disabilities Act – A law that sets out a process for developing and enforcing accessibility standards
BCM	Business Continuity Management – a fulsome strategy that includes a BIA to help define RTOs for critical services, an RA to identify risks and vulnerabilities that may impact delivery of core services, a Crisis Management Team (a group of senior leaders who oversee the BCP), Tabletop Exercises to test, revise and improve plans, Disaster Management Processes for disaster recovery even recording and business resumption and a Cloud Governance Framework that provides direction regarding Cloud adoption within an organization
BIA	Business Impact Assessment – An assessment that considers the potential impact of a disaster situation or loss of service on business operations, and dependencies that must be in place for the business operations to function
BRM	Business Relationship Manager – Serve as translators for IT work and gather valuable intelligence that can improve how decisions are made regarding investments, resource allocation and strategic alignment
CIRP	Cybersecurity Incident Response Plan
Cloud	A term used for IT infrastructure and services located outside of the corporate network and accessed over the internet
COBIT	Control Objectives for information and Related Technologies
Data	Information in an electronic form that can be stored and used by a compute, typically collected to be examined and considered and used to inform and help decision making



Term	Explanation
Data Management	The practice of collecting, organizing, protecting, and storing an organization's data so it can be analyzed for business decisions; data management solutions become essential for making sense of the vast quantities of data
DCMS	Document and Content Management System – Used to classify, retain, and protect electronic information and supports versioning, collaboration, and workflows
EDRM / EDRMS	Electronic Document and Records Management System
ERP	Enterprise Resource Planning – A system that is designed to address business requirements across the whole organization; to provide an integrated solution across many municipal departments and functions
Esri or ESRI	International supplier of geographic information system software, web GIS and geodatabase management applications
FOI	Freedom of Information – Freedom of a person or people to publish and consume information. Access to information is the ability for an individual to seek, receive and impart information effectively
FTE	Full-Time Equivalent
GHD	A global network of multi-disciplinary professionals providing clients with integrated solutions through engineering, environmental, design and construction expertise
GIS	Geographical Information Systems – Systems designed to capture and report on all types of geographical data, including spatial data
HCM	Human Capital Management – A corporate-wide system for managing the workforce and workforce management processes such as employee records, payroll, etc.
HRIS	Human Resource Information System – Corporate wide system for managing the human resource management processes such as employee records, training certifications, etc.

Term	Explanation
HRIS	Human Resource Information System – Corporate wide system for managing the human resource management processes such as employee records, training certifications, etc.
IT	Information Technology
IT Service Catalogue	A comprehensive list of IT services that an organization offers to its employees and/or customers
ITIL	Information Technology Infrastructure Library – A set of detailed practices for delivering IT services
ITSM	Information Technology Service Management – The standards and processes used to define how IT delivers services
LMS	Learning Management System – A digital learning environment that manages all aspects of a company's various training efforts
M365/O365	Microsoft Cloud-based office productivity suite which includes email and calendar, messaging, collaboration, and office suite
MOSA	Municipal Online Services Assessment – Perry Group's generalized assessment to articulate a target state for the digital experiences that municipalities could, and arguably should, deliver to citizens based on industry best practices
MTM	Municipal Technology Model – Perry Group's generalized architecture used for assessing municipal technology environments
NG911	Next Generation 911; enhancements to 911 services to a) move to digital and b) handle text messaging, multimedia and other
NIST	National Institute of Standards and Technology – an agency whose mission is to promote innovation and industrial competitiveness
OneDrive	A file hosting service operated by Microsoft that enables registered users to share and synchronize their files and works as the storage backend of the web version of Microsoft Office

Term	Explanation
Open Data	Structured data that is machine-readable, freely shared, accessible, exploitable, editable, used, shared, and built on without restrictions, for any purpose
PMI	Project Management Institute – the leading professional association for project management, and the authority for a growing global community of millions of project professionals and individuals who use project management skills
PSAB	Public Sector Accounting Board
ROI	Return on Investment – A performance measure used to evaluate the efficiency or profitability of an investment
RPO – Recovery Point Objective	Refers to the amount of data at risk (that could be lost) after a failure or disaster occurs; the maximum amount of lost data – measured in time – from a failure occurrence to the last valid backup
RTO – Recovery Time Objective	The maximum tolerable length of time that a computer, system, network, or application can be down after a failure or disaster occurs (i.e., how long it takes to restore to normal operations)
SCADA	Supervisory Control and Data Acquisition – a computer-based system for gathering and analyzing real-time data to monitor and control equipment that deals with critical and time-sensitive materials or events.
SCOR	Perry Group’s version of SWOT – Strengths, Challenges, Opportunities, Risks
Service Catalogue	An organized and curated collection of business and information technology services within an enterprise; a knowledge management tool that designates subject matter experts who answer questions and requests related to the listed service
SQL	Structured Query Language – A database query language
Teams	Communication platform developed by Microsoft, as part of the Microsoft 365 family of products, offering workspace chat and videoconferencing, file storage, and application integration

Term	Explanation
VDI	Virtual desktop infrastructure – the hosting of desktop environments on a central server; a form of desktop virtualization, as the specific desktop images run within virtual machines (VMs) and are delivered to end clients over a network

## Appendix 4 – Supporting Deliverables

The following is a list of the supporting deliverables created throughout the review.

Deliverable	Description
Belleville - Information Technology Review - Discovery report.pptx	Discovery stage findings report.
Belleville - IT Master Plan - All-Staff Survey - Consultant Report.pptx	Detailed survey results from all staff survey.
Belleville-ITSR-Next Steps ELT-Feb2024.pdf	Presentation to ELT on Vision setting, emerging themes and prioritization.
Belleville IT Review- Roadmap Summary.xlsx	Summary of roadmap and resourcing.
Belleville IT Review- Master Detailed Resource Capacity_Full.xlsx	Detailed resource planning.

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Start Year	Project ID	Initiative Name	Estimated One-time Costs	Estimated Operating Cost Impact	2025	2026	2027	2028	2029
2025	BP-1	Initiate an IT Governance Framework	60,000.00	-	60,000	-	-	-	-
2025	SPR-1.1.2	Business Continuity Planning & Disaster Recovery	40,000.00	-	40,000	-	-	-	-
2025	MW1.3	Human Capital Management (HRIS solution)	350,000.00	60,000.00	410,000	60,000	60,000	60,000	60,000
2025	SPR- 1.2.1	Network (Administration, Operations, Provisioning)	240,000.00	48,000.00	288,000	48,000	48,000	48,000	48,000
2025	SPR- 1.2.1	SIP Lines for Teams	50,000.00	10,000.00	60,000	10,000	10,000	10,000	10,000
2025	STAFFING	Business Analyst / Constand Improvement	-	150,000.00	150,000	150,000	150,000	150,000	150,000
2025	STAFFING	Security and Risk Specialist	-	150,000.00	150,000	150,000	150,000	150,000	150,000
2025	SERVICES	Hardware deployment	150,000.00	-	150,000	-	-	-	-
2025	ASSET MAINTENENCE	End User device updates (Windows 11)	150,000.00	-	150,000	-	-	-	-
2026	SPR-1.1.1	Security and Risk Management Program	50,000.00	-	-	50,000	-	-	-
2026	SPR-1.1.1.	Cyber Incident Response Plan Update	50,000.00	-	-	50,000	-	-	-
2026	MW1.4	Asset & Work Management Enhancements – KPI and data analysis	500,000.00	40,000.00	-	540,000	40,000	40,000	40,000
2026	CE 1	Digital customer service strategy	50,000.00	-	-	50,000	-	-	-
2026	CE6	Public Notification System	100,000.00	20,000.00	-	120,000	20,000	20,000	20,000
2026	ASSET MAINTENENCE	Network and Server updates	220,000.00	33,000.00	-	253,000	33,000	33,000	33,000
2026	ASSET MAINTENENCE	End User Hardware updates	75,000.00	-	-	75,000	-	-	-
2026	STAFFING	Information and Data Analyst	-	150,000.00	-	150,000	150,000	150,000	150,000
2027	SPR-1.1.3	Cloud Strategy (Governance, Maturity, Risk, Roadmap)	50,000.00	-	-	-	50,000	-	-
2027	BP-3	Capacity Planning	50,000.00	-	-	-	50,000	-	-
2027	MW1.5	Financial System Review and Workplan	1,000,000.00	100,000.00	-	-	1,100,000	100,000	100,000
2027	ASSET MAINTENENCE	Network and Server updates	220,000.00	33,000.00	-	-	253,000	33,000	33,000
2027	ASSET MAINTENENCE	End User Hardware updates	75,000.00	-	-	-	75,000	-	-
2027	MW2.3.6	Future Harbours Management System	100,000.00	20,000.00	-	-	120,000	20,000	20,000
2027	MW2.3.7	Museum solution refresh	100,000.00	20,000.00	-	-	120,000	20,000	20,000
2027	STAFFING	Information and Data Analyst	-	100,000.00	-	-	100,000	100,000	100,000
2028	MW2.3.3	CRM (Client Record Management) Solution	100,000.00	10,000.00	-	-	-	110,000	10,000
2028	MW1.6	GIS Roadmap Update	50,000.00	-	-	-	50,000	-	-
2028	CE 1	Digital customer service strategy and services	150,000.00	40,000.00	-	-	-	190,000	40,000
2028	ASSET MAINTENENCE	Network and Server updates	220,000.00	33,000.00	-	-	-	253,000	33,000
2028	ASSET MAINTENENCE	End User Hardware updates	75,000.00	-	-	-	-	75,000	-
2028	MW General	Bluebeam Expansion - Engineering	100,000.00	-	-	-	-	100,000	-
2029	MW2.3.4	Purchasing - Extend Solution Functionality	50,000.00	10,000.00	-	-	-	-	60,000
2029	MW3.4	Emergence of Artificial Intelligence	300,000.00	60,000.00	-	-	-	-	360,000
2029	MW 4.2	Technical Training and Proficiency	60,000.00	-	-	-	-	-	60,000
2029	ASSET MAINTENENCE	Network and Server updates	220,000.00	33,000.00	-	-	-	-	253,000
2029	ASSET MAINTENENCE	End User Hardware updates	75,000.00	-	-	-	-	-	75,000
<b>ITSR</b>		<b>5 Year Project Grand Totals</b>	<b>5,080,000.00</b>	<b>1,120,000.00</b>	<b>1,458,000.00</b>	<b>1,706,000.00</b>	<b>2,529,000.00</b>	<b>1,712,000.00</b>	<b>1,825,000.00</b>
<b>Tax Impact</b>					<b>1.15%</b>	<b>1.33%</b>	<b>1.95%</b>	<b>1.30%</b>	<b>1.36%</b>