

MIDDLESEX CENTRE

IT Master Plan

2022 – 2026



middlesex
centre

in the centre of it all

ABOUT THIS DOCUMENT

Acknowledgements

This document is the culmination of work undertaken by the Municipality of Middlesex Centre between September 2021 and January 2022 to review Information Technology (IT) service delivery and develop a multi-year IT Master Plan. The process was led by Blackline Consulting, who engaged senior managers, staff from all municipal departments and Middlesex County IT (Middlesex Centre's IT service provider) in their review and the development of recommendations.

Funding for this project was provided under the Province of Ontario's Municipal Modernization Program – Intake 2 – Review Stream.

This document should be referenced as:
Middlesex Centre IT Master Plan 2022-2026, January 2022

Accessibility

If you require this document in an alternative format, please contact:

Municipality of Middlesex Centre
10227 Ilderton Rd.
Ilderton, ON, N0M 2A0

Phone: 519-666-0190 or 1-800-220-8968

Email: customerservice@middlesexcentre.on.ca

Website: middlesexcentre.on.ca

CONTENTS

- About this Documentii
- Glossary and Acronymsiv
- Introduction 1
 - Purpose..... 1
 - Approach..... 1
 - Background..... 2
- IT Strategic Priorities 3
- Summary of IT Strategic Initiatives..... 4
- Implementation Roadmap 6
- IT Strategic Initiatives 7
 - 1. Improve the Municipality's IT Resilience 7
 - 2. Enhance IT's Service Delivery 9
 - 3. Revise IT Governance 11
 - 4. Improve IT Policies and Procedures 13
 - 5. Modernize the Municipality's Systems 15
 - 6. Optimize Service Channels..... 17
 - 7. Pilot Innovative Technologies 19
- Appendices 21
 - Appendix 1 – List of IT Policies and Procedures..... 21
 - Appendix 2 – Conceptual Model 22
 - Appendix 3 – Example Trends..... 23
 - Appendix 4 – IT Master Plan: Efficiency Savings..... 24

GLOSSARY AND ACRONYMS

Acronym	Definition
CAC	Change Advisory Committee
CIS	Centre for Internet Security
County IT	Middlesex County IT Department
DC	Data Centre
ERP	Enterprise Resource Planning
ERM	Enterprise Risk Framework
GBPS	Gigabytes per Second
GIS	Geographical Information System
H1	First half of the year
H2	Second half of the year
HR	Human Resources
HRIS	Human Resources Information System
IoT	Internet of Things
ISO 3001	International Organization for Standardization for Risk Management Guidelines
IT	Information Technology
ITMP	IT Master Plan
KPIs	Key Performance Indicators
Mgmt	Management
NIST	National Institute of Standards and Technology
RaaS	Robotics as a Service
RPA	Robotics Process Automation
RFP	Request for Proposal
SMT	Senior Management Team
SWIFT	Southwestern Integrated Fibre Technology
ToR	Terms of Reference

INTRODUCTION

Purpose

This document outlines the five-year IT Master Plan (“ITMP”) of the Corporation of the Municipality of Middlesex Centre (“Municipality” or “we”).

Approach

Development of the ITMP was highly collaborative, engaging senior management and staff from all departments of the Municipality as well as the Municipality’s IT provider – Middlesex County IT (“County IT”).

The overall approach was, by design, driven from a non-technical perspective to ensure alignment with the needs of the residents and staff. The approach was broken into four phases outlined below.

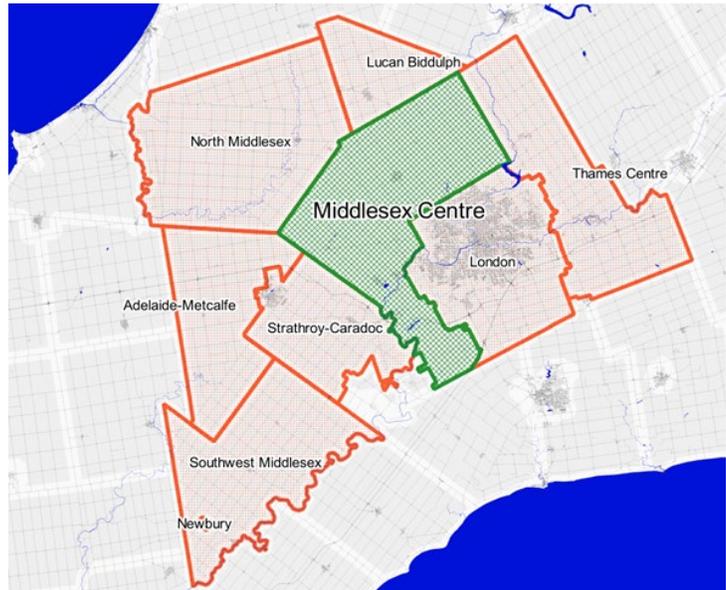


This document represents one of the key outputs from the project.

Background

The Municipality is north and west of London, Ontario. The Municipality has a total population of 18,766 (2021). The population is expected to rise to between 26,600 to 35,500 by 2046.¹

This growth is introducing a younger, higher educated demographic that have different service expectations and are more familiar with the Internet and online services. The impact of COVID-19 is also accelerating the adoption of online services.



The Municipality recognizes the importance of technology. It is reflected in the Municipality's 2021-2026 corporate strategy, mission statement:

TO DELIVER THE HIGHEST STANDARD IN MUNICIPAL SERVICES IN A SUSTAINABLE, PROFESSIONAL AND INNOVATIVE MANNER.

More specifically the corporate strategy includes five priorities:



¹ Middlesex Centre: Growth Management Study Technical Report, Watson & Associates Economists. Ltd., 2021

IT STRATEGIC PRIORITIES

Technology as an enabler for the Municipality to achieve many of the objectives in the corporate strategy, specifically:

Objective 5.1
Enhance customer service

Objective 5.3
Foster a culture of innovation, continuous improvement, and cost-effective service delivery

Objective 5.4
Expand our partnerships

Given the current state and corporate priorities there are seven strategic priorities on which IT must focus. Each priority is a separate initiative.



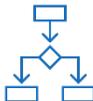
1. Improve the Municipality's IT Resilience



2. Enhance IT's Service Delivery



3. Revise IT Governance



4. Improve IT Policies and Procedures



5. Modernize the Municipality's Systems



6. Optimize Service Channels



7. Pilot Innovative Technologies

SUMMARY OF IT STRATEGIC INITIATIVES

The following pages provide a summary of the seven initiatives and their benefits.

Recommendation	Brief Description	Benefits
 <p>1. Improve the Municipality's IT Resilience</p>	<ul style="list-style-type: none"> • Migrate the Municipality's servers and storage to the County's data centre and increase the fibre connection bandwidth to the Municipality's main office. • Work with County IT to coordinate a reoccurring cybersecurity readiness assessment. 	<ul style="list-style-type: none"> • Improved resilience. • Improved response time for issues that require physical access to servers. • Improved security and cyber readiness.
 <p>2. Enhance IT's Service Delivery</p>	<ul style="list-style-type: none"> • Amend the County IT contract to define service levels and reporting requirements. • Pilot program on-site support from County IT. 	<ul style="list-style-type: none"> • Improved IT service levels. • Improved data for decision-making.
 <p>3. Revise IT Governance</p>	<ul style="list-style-type: none"> • Improve IT governance by including County IT in regular Municipal meetings and create an internal Change Advisory Committee and External IT Committee. • Enhance shared service governance with Middlesex municipalities and County IT. 	<ul style="list-style-type: none"> • Improved planning and strategic outlook. • Decreased IT hardware, software, and services costs.
 <p>4. Improve IT Policies and Procedures</p>	<ul style="list-style-type: none"> • Create a formal process to identify and assess risks and establish a risk framework. • Create new IT policies / procedures and review them annually. • Formalize and define key IT procedures. 	<ul style="list-style-type: none"> • Improved identification and proactive response to risks. • Improved IT effectiveness and better user experiences.

Recommendation	Brief Description	Benefits
 <p>5. Modernize the Municipality's Systems</p>	<ul style="list-style-type: none"> Go to market to replace the accounting system. Integrate GIS with key systems. Create formal training program to ensure staff can fully utilize systems. 	<ul style="list-style-type: none"> Reduce manual effort and improve integration with other systems.
 <p>6. Optimize Service Channels</p>	<ul style="list-style-type: none"> Continue to add / enhance resident services to the Municipality's website and other channels. 	<ul style="list-style-type: none"> Better, more consistent customer service. Increased staff efficiency and data-driven decisions.
 <p>7. Pilot Innovative Technologies</p>	<ul style="list-style-type: none"> Annually, hold an innovation working session to assess new advancements. Create a structure for prioritizing and piloting innovative projects. 	<ul style="list-style-type: none"> Piloting and implementing new innovations can improve staff productivity. Lower cost way to test future opportunities.

IMPLEMENTATION ROADMAP

The implementation of recommendations has been phased over five years. Below is a proposed implementation plan, taking into consideration urgency, dependencies and estimated effort. We recommend that following acceptance of this strategy, the Municipality and County IT further validate the supporting assumptions, develop more detailed implementation plans and create capital projects to implement those recommendations deemed appropriate.



Legend  Project Effort  Ongoing Activities

Note: Approval of the above initiatives and funding will occur as part of the Municipality's annual budgeting process.

This strategy also assumes that the current IT oversight is 5% of the Treasurer's time and estimates indicate that this may increase to an average of 15% over the five-year period.

IT STRATEGIC INITIATIVES



1. Improve the Municipality's IT Resilience

Current Situation

- With the arrival of COVID-19 and staff working remotely the importance of technology has increased. Consequently, we are more reliant on technology and this trend will most likely continue.
- The Municipality houses several of its servers in its municipal office. However, the facility is not built for the resiliency that is now necessary to continue to deliver resident services.
- The County has a purpose-built data centre (DC) and access to high bandwidth Internet connection.

Recommendation

- Migrate the Municipality's servers and storage to the County's data centre and increase the fibre connection bandwidth to the Municipality's main office.
- Work with County IT to coordinate a reoccurring cybersecurity readiness assessment.

Approach

Step 1 - Planning

- Work with County IT to determine the best timing to migrate the remaining servers to the County's DC. Consideration should be given to any asset refresh e.g. replacement of server hardware. Select a date / time that is most suitable from a technology perspective as well as minimizing any risk to business disruption.

Step 2 - Contracting

- Revise the service agreement contract with the County to include the new hosting service. Align this activity with Recommendation #2.
- Increase the Municipality's Internet bandwidth to 1gbps.

Step 3 – Migrate Hardware

- Migrate the servers to the County's DC. Perform adequate testing to ensure performance is as expected and there are no issues.

Step 4 – Select Cybersecurity Vendor

- Work with County IT to prepare an RFP to find a suitable cybersecurity firm to perform testing on a set frequency. The scope of the review should include cyber readiness tabletop exercise, penetration testing, vulnerability testing and a cybersecurity maturity assessment. This review should leverage industry practices such as NIST or CIS so that future reviews can use the same framework and show progress. As part of developing this RFP, the Municipality should consider including other member municipalities.
- It is a likely outcome that there will be recommendations or remediation activities. The Municipality should ensure it has some reserve funds available to address any high-risk areas.

Dependencies

- This initiative has a dependency with Recommendation #2.

Assumptions

- The County has sufficient space in its data centre.
- There are not technical constraints that require the servers to be hosted at the Municipality's office.

Risks

- There is a risk that the migration will cause some downtime.

Benefits

- Improved resilience.
- Improved response time for issues that require physical access to servers.
- Improved security and cyber readiness.

Costs



- Hardware and Services



2. Enhance IT's Service Delivery

Current Situation

- The Municipality does not have access to a dashboard or regular report summarizing IT service requests and tickets. This limits the ability of the Municipality and County IT to monitor service standards and emerging issues (e.g. stability of systems/network).
- The contract outlining County IT's service includes few service levels. Some service descriptions are a mix of definitions and activities.
- Due to the location of County IT in London, most service requests are fulfilled remotely.

Recommendation

- Amend the contract with County IT to refine the service descriptions, relevant service levels and change management procedures (e.g. tracking and communicating changes, system that tracks them, confirmation with user that changes have been resolved).
- Work with County IT to create an IT dashboard reporting on key IT performance indicators and service levels.
- Trial on-site support from County IT on a pilot basis (e.g. one day each week for six months).

Approach

Step 1 - Planning

- Determine the desired service levels and level of on-site support needed through consulting with departments and members of Senior Management Team (SMT). As part of this, review current service levels, IT services received, and the IT contract.
- Consult with County IT to determine if the desired changes to service levels and support are achievable. Confirm that County IT has the ability to report against service levels and for other metrics, including incidents, changes, project status, service availability, disaster recovery and testing. Confirm and agree the cost and timeframe to implement changes.

Step 2 – Revise the Contract

- Revise the contract with the updates to service description, service levels and reporting requirements. Ensure that the desired service levels are well-defined

and quantifiable, and that change management and regular reporting procedures are included.

Step 3 – Implement and Evaluate

- Changes to service levels may require a pilot period to ensure they are achievable as well as County IT establishing the mechanisms for reporting on key metrics.
- Evaluate effectiveness of on-site support pilot program by receiving feedback from staff in different departments across the Municipality. If effective, extend on-site support for duration of contract.

Step 4 – Monitor Services

- Regularly monitor services and service levels through dashboard or regular reports.

Dependencies

- None.

Assumptions

- County IT has staff available for on-site support.
- County IT has ability to monitor and report on service levels.

Risks

- Pilot program not effective and additional changes to the service delivery are required.

Benefits

- Higher, more consistent service levels.
- Ability to make data-driven IT decisions.

Costs

Se

- Services



3. Revise IT Governance

Current Situation

- The Municipality has a good relationship with County IT, and most management and staff receive adequate service, but interactions are generally informal. This can lead to missed opportunities or surprises on initiatives.
- The Municipality does not have a formal body to approve IT changes.

Recommendation

- Improve IT governance by having County IT attending Municipal meetings (e.g. SMT meetings, quarterly departmental meetings), creating Change Advisory Committee (CAC), and formalizing standards (e.g. architecture, communications).
- Refine interactions with other municipalities receiving County IT services to coordinate on direction, find economies of scale and improve efficiencies.

Approach

Step 1 – Update the Municipality’s Terms of Reference (ToR)

- Invite the County IT manager to attend SMT meetings to provide IT perspectives (e.g. at least quarterly). Set up regular meetings (e.g. quarterly) between County IT and department heads to discuss key issues / concerns, priorities and delivery of IT services. This should also include broader county wide initiatives e.g. updates regarding SWIFT.

Step 2 – Create an internal Change Advisory Committee (CAC)

- Draft terms of reference for a new internal committee – CAC. The CAC will be tasked with reviewing IT changes, creating a forward schedule of change, establishing criteria for different types of changes (e.g. emergency).

Step 3 – Enhance Shared Services

- Encourage the County to establish an External IT Committee with representatives from relevant municipalities. Set terms of reference including members (e.g. senior staff with responsibility for IT strategy – typically those that oversee IT e.g. Treasurer / CAO or senior managers that are more knowledgeable with technology), quorums, and the purpose. The objective of this committee is to formalize future planning and opportunities to take advantage of shared services, specifically new technology and projects.

- Prior to meeting, each member municipality should create a list of future projects and technology changes to compare, and potential align activities. This will help focus the discussion and improve shared service opportunities.

Step 4 – Review Effectiveness

- Review effectiveness of governance changes with users, management representatives, and County IT. The External IT Committee and the CAC should report periodically to relevant leadership in the Municipality, including to SMT (e.g. annually).

Dependencies

- This initiative has a dependency with Recommendation #4.

Assumptions

- Receive necessary approvals from SMT.
- The County IT and Municipality can perform this initiative with internal resources.

Risks

- Ineffective meetings leading to unproductive time.

Benefits

- Improved planning and strategic outlook.
- Decreased IT hardware, software, and services costs.

Costs

Se

- Services



4. Improve IT Policies and Procedures

Current Situation

- The Municipality has an Information Systems Disaster Recovery Plan that outlines how we will respond to an incident and an Emergency Response Plan. However, it does not have a formal framework for assessing risks, and linking them to a risk appetite, specifically those relating to IT. Typically, organizations will align their IT policies with an Enterprise Risk Management (ERM) Framework.
- Currently, the Municipality updates policies every three to five years (depending on the policy - IT policies set at every three years).

Recommendation

- Create a formal process to identify and assess IT risks and establish.
- Create review policies and management of those policies.
- Formalize and define key IT procedures like change and incident management.

Approach

Step 1 – Create Risk Framework

- Create a working group with representation from different departments to undertake this initiative. Assign accountability to a staff member (manager or higher) and set up a regular reporting schedule (e.g. quarterly). Consider aligning this with the Municipality's current emergency planning risk assessment work.
- Conduct research on enterprise risk management best practices (e.g. ISO 3001, NIST, Institute of Risk Management). Draft a risk management framework, including risk management phases, activities, roles and responsibilities, risk categories, governance and decision-making. Include tools and templates for later use by staff. Collect feedback on draft, revise as necessary, and test by performing an initial assessment on a department, area, or service. Revise the framework based on the results and bring the framework to SMT for approval. Create training materials for staff and implement framework.

Step 2 – Create Risk Committee

- Establish a committee to monitor risks. Assign membership and create a regular meeting schedule (e.g. quarterly). Draft a standing agenda and work outline. Periodical report to SMT and IT on the results of risk assessments.
- Change the IT policy review frequency from three years to annually.

Step 3 – Revise IT Policies and Procedures

- Revise policy template to enforce management of risks. Ensure that ownership, contact information, and revision dates are included in relevant IT policies. Create a tracking spreadsheet of current policies to enforce accountability and ensure policies are regularly updated.
- Draft and review new IT policies (as required) and assign ownership and accountability. Once policies are approved and adopted, communicate policies to relevant staff.
- Have County IT draft procedures for core IT processes and share them with the Municipality for approval.

Dependencies

- None.

Assumptions

- The Municipality will rely on County IT staff.

Risks

- Policies and procedures are not consistently followed.
- New structures are not effective.

Benefits

- Improved identification and proactive response to risks.
- Improved IT effectiveness and better user experiences.

Costs



- Software and Services



5. Modernize the Municipality's Systems

Current Situation

- The Municipality has good functional coverage of systems, however, will need a plan to replace its accounting system as it is aging.
- The Municipality has limited application integration. While the accounting system integrates with some systems (e.g. budgeting, records management, and payments), no other systems are integrated to support staff work.

Recommendation

- Go to market to replace the accounting system.
- Integrate GIS with key systems for planning, budgeting, accounts payable, HRIS, work order and asset management.
- Create formal training program to ensure staff can fully utilize systems.

Approach

Step 1 – Develop a Target Application Architecture

- At this point there are several unknowns and options (system replacement and integration) for the Municipality. However, it is important to have a blueprint of what the future may look like. Using a conceptual model (see Appendix 2), the Municipality should begin to develop a target architecture and focus more on a functional view of the Municipality. Having this will help inform the RFPs, the technical requirements (e.g. integrations with various systems such as Laserfiche, website, etc.) and the flow of information between the functional areas.
- The County IT should define this architecture diagram and evolve it as the Municipality selects new systems.

Step 2 – Change Implementation

- Replacing a core system and changing processes can be overwhelming for some. The Municipality should assess its readiness for change, the individuals that will be most impacted and how best to train, educate and ensure they have the necessary support. This will help ensure the Municipality maximizes its investments (people and technology).

Step 3 – Develop Requirements

- Now that the Municipality has an indication of the future architecture it can begin to formulate requirements.

Step 4 – Manage a Competitive Procurement Process

- The Municipality should follow a defined procurement process that includes:

Phase	Activities
Procure	Create RFP and tender it to the public
Select	Evaluate responses, select a vendor and contract
Discover (Optional)	Allow the vendor to perform further analysis of the Municipality's current state and future processes
Design	Configure the solution to meet the Municipality's needs
Implement	Test and validate the solution and switch over

Step 5 – Integrate and Optimize

- After the implementation, the Municipality should implement integration opportunities and optimize its business processes. Where integration is not feasible the Municipality should consider using Robotics Process Automation (RPA).

Dependencies

- None

Assumptions

- The Municipality can use some internal resources, County IT and an external advisor to deliver this initiative.

Risks

- Slow adoption of the new system causes service delays.

Benefits

- Reduce manual effort and improve integration with other systems

Costs



- Hardware, Software and Services

6. Optimize Service Channels

Current Situation

- The impact of COVID-19 is also accelerating the adoption of online services. This trend will continue and can cause accessibility issues with servicing residents with Internet issues (low bandwidth) or those that are not comfortable with using the Internet.
- In addition, new innovations will help make it easier to perform tasks online or over the phone.

Recommendation

- Continue to add / enhance resident services to the Municipality's website and other channels.

Approach

Step 1 – Review Services and Customer Experience

- The Municipality has plans to conduct a customer service review. This would be the starting point for this initiative.

Step 2 – Optimize Services

- Develop resident personas and customer journey maps using information from the customer service review. Analyze the customer journey maps and data gathered in Step 1 to identify ways to optimize the Municipality's services channels. Specifically, create a list of service improvement opportunities. Specify services, channels, systems, departments, response times, and acceptable and unacceptable outcomes.
- In consultation with County IT, define necessary technology requirements and set a budget for software and services.

Step 3 – Implement Changes

- Develop an implementation plan / capital plan to rollout the changes. Depending on the change the Municipality may wish to run several pilots to engage the community and refine services.

Step 4 – Promote Services and Channels to Residents

- Promote new service channels to residents. Evaluate results against key performance indicators and develop changes to further optimize and improve customer services.

Dependencies

- None.

Assumptions

- Residents will continue to desire digital services but will require an alternative.

Risks

- The Municipality does not have the capacity to implement such changes.

Benefits

- Better, more consistent customer service.
- Increased staff efficiency.
- Improved capability to make data-driven decisions.

Costs



- Hardware, Software and Services



7. Pilot Innovative Technologies

Current Situation

- Technology is changing at a rapid pace, making it difficult for smaller organizations to decide on when to use new innovative solutions.
- As with many organizations, innovation is unstructured and a shared responsibility within the business units. However, as technology trends indicate, organizations will need a better method for testing innovation in a secure and controlled fashion.

Recommendation

- Annually, hold an innovation working session to assess new advancements.
- Create a structure for prioritizing and piloting innovative projects.

Approach

Step 1 – Define and Ideate

- The Municipality should create an index of problem statements or technologies that they are interested in addressing / assessing. This can come from a formal process such as a continuous improvement program, hackathon with staff or survey, or informally capturing ideas throughout the year (see Appendix 3 for examples). Below is a list of potential areas the Municipality may wish to consider as a starting point:
 - Use of a mobile app for delivering certain municipal services and access information
 - Implementing chatbots to resolve frequently asked questions
 - Implementing a data warehouse and visualization tools to help improve tracking of KPIs and improve open data
 - Implementing a Building Automation System to improve energy efficiency and management
 - Using Internet of Things (IoT) as sensors for sensor information (e.g. parking spots, garbage collection, assets)
 - Implementing Robotics Process Automation (RPA) for automating transactions

Step 2 – Prioritize Opportunities

- Define criteria to assess each opportunity, such as: resident impact, organizational impact, cost, benefits (tangible/non) and risks. During the

innovation session present the prioritized ranking and determine which opportunity(ies) the Municipality would like to pilot.

- Set a target of achievement (an outcome) that the pilot can validate.
- Assign the opportunity an owner and next steps for piloting the opportunity.

Step 3 – Monitor Progress

- On a set basis (e.g. monthly), schedule a progress meeting with the pilot owner to discuss progress, learnings and whether it is able to prove its viability.

Step 4 – Create a Business Case

- At this point the pilot is complete and the Municipality will have sufficient information to determine if it warrants further investment (e.g. a positive business case). The pilot owner should complete a business case to move the pilot into broader adoption by the Municipality.

Dependencies

- None.

Assumptions

- Ownership of innovation is with the Municipality, not County IT.
- Residents desire more innovative solutions to accessing services.

Risks

- Without appropriate scrutiny or a process to develop business cases the pilots are more costly than beneficial.
- The Municipality does not have the capacity to pilot new solutions.
- Municipal staff burnout or change fatigue.

Benefits

- Piloting and implementing new innovations can improve staff productivity.
- Low cost and efficient way to test future opportunities.

Costs



- Hardware, Software and Services

APPENDICES

Appendix 1 – List of IT Policies and Procedures

Below is a list of IT policies and procedures County IT should consider implementing.

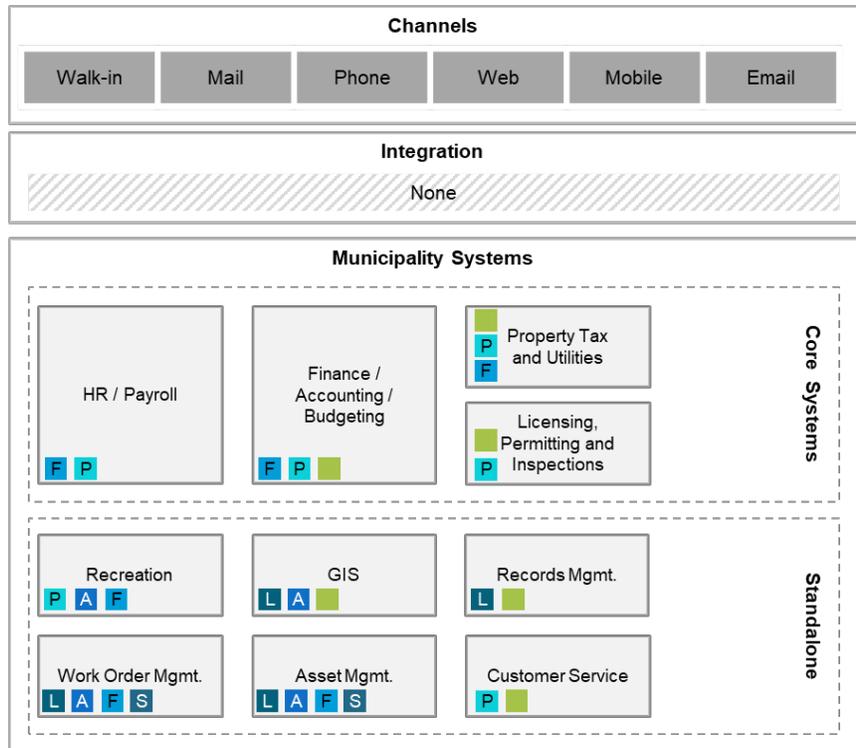
Procedure	Description
Cloud Policy	Define criteria for the Municipality to use to help determine when to use cloud services.
IT Service Request	Define a procedure for managing demand from the Municipality, specifically service requests and project requests.
Incident Management	Define a procedure that manages incidents whether from users or event monitoring. This procedure should provide details on registering an incident, escalation steps, notifications, remediation, and resolution.
Change Management	Define a procedure that provides guidance to manage IT changes to reduce risks, downtime and ensure appropriate scheduling and communications.
Release Management	Define a procedure that describes the build, test, and controls to move changes from one environment into another

Appendix 2 – Conceptual Model

To the right we illustrate a conceptual model of a municipality. It is not complete, however we provide this as an example.

As you can see it is also important to understand the type of data residing in systems. This will help ensure the Municipality is able to integrate (have systems speak to each other) and reduce potential duplication of data (e.g. same data residing in several systems) as this can

create an increase in errors and inefficiencies.



In this example we also provide an integration map of the different categories of data below:

Type of Data	# of System Using
L Location	4
A Asset Details	4
F Financials	4
P Personal Details	6
S Service Requests	2
Property Details	6

Appendix 3 – Example Trends

Trend	Description
 <p>Internet of Things (IoT)</p>	<p>As municipalities strive to provide quality services in today’s complex environments, there are technological advancements in the form of devices that have begun to make this easier and more efficient, while helping to generate greater public value.</p> <p>For example, the City of Calgary deployed sensors to measure and monitor light, humidity, temperature, and water to conserve water and park resources at a low cost. Other municipalities using IoT include Stratford, Waterloo Region, Milton, Mississauga, Brampton, Oakville and Burlington.</p>
 <p>Data Analytics and Big Data</p>	<p>Big data offers a great amount of value to the public sector as it presents the potential to reduce costs and generate transformative insights. A simple example of harnessing big data is vehicle maintenance. Municipalities do not usually track maintenance digitally and in most Public Works departments, where raising funds to buy new equipment and vehicles is usually a challenge, there’s typically old equipment that costs more to repair yearly than it costs to purchase a new and more efficient one. Having access to data on vehicle status will make maintenance more efficient and cost effective.</p>
 <p>Robot as a Service (RaaS)</p>	<p>A service that allows an organization to both lease a robotic device (e.g. robot security guard or milking robots for agriculture) and/or access a Cloud-based subscription service rather than purchasing the equipment outright. Thus, avoiding the challenges to ownership and maintenance issues. RaaS adoption has rapidly increased in recent years partly due to the reduction in hardware production costs as a by-product of rapid globalization and the increase in availability of low-cost powerful computing and Cloud infrastructure. Thus, vertical-specific, robotic-powered, solutions can today be offered as variable cost services instead being sold at a fixed cost, making them more affordable.</p> <p>The most popular segments for RaaS include delivery robots, cleaning robots, factory robots, warehouse robots and security robots. In the municipal space, the use of robot grass cutters have become increasingly popular. Examples include but are not limited to: Medicine Hat, Dryden, Grande Prairie.</p>

Appendix 4 – IT Master Plan: Efficiency Savings

Initiative / Activity	Assumption	Est. of Middlesex Centre Staff Effort Saved	Est. of Financial Savings
Improve the Municipality's IT Resilience			
Migration of the Municipal Hardware (Servers) to the County IT Building	County IT to be able to perform maintained while on site. Less impact to municipal operations on site. Savings of staff time after implementation - server updates, changing backup tapes and resetting server when there are issues.	Half an hour per week after implementation for Administrative Assistant	\$4,058.70
Select Cybersecurity Vendor	Selecting and implementing a cybersecurity vendor to review operations. No cost savings in this project, however if this improves security and monitoring, may prevent a cyber-security incident and would be priceless.		
Enhance IT's Service Delivery			
Additional meetings between municipal staff and County IT (service provider). In addition to the updated service contract, which will include a more strategic vision for the organization and working more closely with all departments.	Although there will be more time spent initially on this initiative, it will result in better communication between County IT and other municipal staff and departments upfront, reducing the amount of time on the Municipal Treasurer to assist in other department's projects.	1 hour a month of the Treasurer's time starting in 2024.	\$2,942.38

Initiative / Activity	Assumption	Est. of Middlesex Centre Staff Effort Saved	Est. of Financial Savings
Revise IT Governance			
Creating a change advisory board among all the lower tiers and the County in the County of Middlesex. This will have all representatives working with the County on streamlining processes and implementations of new systems and creating new policies.	Assumes there will be one-time effort by County IT to draft the Terms of Reference and set-up the governing bodies. Assumes the CAC will meet monthly. Assumes efficiencies with working as the larger group on projects and can share in the workload.	Estimated 1 hour a month for the Treasurer starting in 2024.	\$2,942.38
Improve IT Policies and Procedures			
Revise IT Policies and Procedures	Assumes County IT will take lead on drafting IT policies and procedures with review from MC. Assumes annual review of new IT policies and procedures.	Estimated 10 hours per month for the Treasurer each year.	\$4,086.65
Modernize the Municipality's Systems			
New Accounting Software	Hire a third party to complete the implementation and integration of a new Enterprise Resource Planning (ERP) system. Once implemented, staff savings in time with less manual effort on integrating systems. Ability to integrate with online platforms.	Estimated 2 hours per month for the Financial Assistant starting in 2026	\$819.57
Review Software packages	Only one software package that was reviewed was noted as not being fully implemented and in use. Recommendation to cancel when contract is complete. Savings noted.	Not time savings, however in 2023 savings in annual costs.	\$13,432.32

Initiative / Activity	Assumption	Est. of Middlesex Centre Staff Effort Saved	Est. of Financial Savings
Optimize Service Channels			
After a review of the customer service processes is complete and more processes are converted to digital platforms for residents.	Assumes this will require communications effort – one-time effort to create messaging and ongoing updates / promoting messages. After that time, more staff savings as residents are able to use the digital platforms to answer questions rather than calling in. Presently, the municipality has approximately 1,500 calls a month.	Estimated savings in customer service time for less calls from residents due to improved self-service options. Assumes 1 hour a week, reducing calls by 100 per month.	\$3,551.45
Pilot Innovative Technologies			
Staff need to review options, define and implement.	No savings at this time, as the timeframe comes to the end of the plan. However, based on different options, possibility of costs savings.		
Total Saved			\$31,833.45



**Municipality of
Middlesex Centre**

10227 Ilderton Road
Ilderton, Ontario, N0M 2A0

519-666-0190 • 1-800-220-8968

middlesexcentre.on.ca