Technology Service Delivery Review

Final Report

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1.0 Introduction and Background

1.1. Municipal Modernization and Service Delivery

1.1.1. Modern Workplace

Before business casual was introduced in the 1990s, the workplace was a rigid environment where employees conformed to cultural norms like wearing a shirt and tie and working 9 to 5. Employees used to spend most of their time in the office working under a manager's direction, and at the end of their one-year anniversary, receive a performance review.

Employers have found that the old, rigid style of thinking reduced efficiency and couldn't meet new age challenges, like employees collaborating effectively over long distances. Today's "modern workplace" has a blended workforce, is becoming more responsive to problems, and less tied down to physical locations.

The modern workplace is not a single location. Rather, it's a network of constantly evolving locations that connects members of an organization. The modern workplace is best described as a flexible, dynamic, and collaborative space powered by technology within which work is done.

The modern workplace has four pillars, each of which is required in order to function properly:

1. **Seamlessness:** The workplace must be streamlined, working without friction and with complete interconnection between each member of the workforce and across every division.
2. **Availability:** The workplace should be available without fail. A modern workforce should have access to it at any time and from any place, whether they're working in offices or communicating as remote workers.
3. **Flexibility:** The workplace cannot be bound to any single location (or time zone). A modern workforce must have geographical flexibility. The traditional Monday to Friday, 9-5 schedule can't be forced onto a team working in different time zones and cultures.
4. **Enabling:** The workplace must empower teams with the necessary tools to perform their best. A modern workplace should not only allocate adequate resources for new tools, but accompanying training, as well.

As organizations continue to advance and technology continues to evolve, the desire to finally put it all together, and truly drive new levels of productivity, collaboration, and intelligence is stronger than ever.

To point, the Government of Canada has created an initiative, called GCworkplace to modernize the workplace for the public service.

The GCworkplace vision defines the following seven dimensions:

1. Flexible
2. Digital

3. Efficient
4. Green
5. Collaborative
6. Inclusive
7. Healthy

As defined by the Government of Canada: "*The GCworkplace implementation goes beyond space, towards an integrated project delivery model that includes functional area experts in information technology (IT), information management (IM), human resources (HR), security and facilities. Our approach also includes design leadership as well as comprehensive support for employees to be successful in their new workplace through robust change management*."

Further to this, the Canadian Digital Service (CDS) was initiated at the Treasury Board of Canada Secretariat (TBS) with a mandate to partner with departments to improve service delivery to Canadians.

The CDS announced they would develop a roadmap for the Government of Canada to deliver its public-facing services digitally by 2025.

1.1.2. Modern Service Delivery

As we move through 2021, municipalities continue to plan, modernize, and improve the delivery of services to the public; a public that fully expects modern and efficient services.

The Town of Parry Sound (the "Town") has recognized that, for the modern municipality, the workplace of the future is global, networked, virtual, and mobile. For local government in the digital age, it's also imperative that public service delivery follows suit by improving the online experience of citizens.

The journey to achieve these objectives should include opportunities for shared services with other municipalities, particularly within Cloud computing where collaboration can be used to support municipal government IT services more efficiently, and at a lower cost, while providing enhanced and customizable information sharing capabilities.

1.2. Approach to Developing this Report

Given the importance of the project to the Town, the consultants gathered an extensive amount of information throughout the course of the project. The project was divided into three phases: Discovery; Strategize; Plan.

The report captures the following core deliverables in addition to several value-added recommendations developed as part of the engagement:

- Identify opportunities to better and further utilize technology to support business-related functions and achieve efficiencies.
- Identify where cost savings and efficiencies can be achieved by leveraging shared technology service opportunities.

- Develop recommendations that reflect consideration of business needs, resource requirements and restrictions, industry best practices and ROI and that are realistic and sustainable.
- Define an attainable prioritization for implementation of actionable recommended solutions.

1.3. Acknowledgements

Perry Group would like to acknowledge the participation of the Town's internal departments and the following area municipalities: Seguin Township; Township of The Archipelago; Municipality of Whitestone; Township of McKellar; Township of Carling.

Technology Review

2.0 Technology Review – Departmental Interviews

2.1. CAO Office and Clerks

2.1.1. Key Technology and Resourcing

This department consists of the CAO and a Clerk.

2.1.2. Primary Applications and Technology

- Microsoft Office
- Various Webtools

2.1.3. Challenges and Requirements

Technology Awareness and Training

The organization does not publish a user-based business service catalogue that delineates applications, tools, and other services available to Town staff. This has resulted in a culture of users discovering solutions organically or in an ad hoc manner.

Example: The Town Clerk requires a tool to efficiently search documents/records for key words and phrases as part of the daily activities. However, the capabilities of in-house technology would only flag files based on the contents within the *filename,* i.e., not the actual *contents* of the file.

The Town Clerk searched the Internet for a tool that would provide the appropriate functionality. Once the tool was discovered, IT was called to install a local copy of the tool on the Town Clerk's desktop.

Although this satisfied the requirement for the Town Clerk, there are several issues with the process:

1. The required functionality of the Town Clerk is one that would resonate will other departments, but this was an ad hoc installation limited to the Town Clerk.
2. As a best practice, business technology requirements should follow a process that captures elements such as: determine if a tool already exists; identify cost-benefits; and ensure it adheres to security standards.
3. Technically, the tool installed for the Town Clerk would be considered "unsanctioned" since it was not formally introduced as a supported application.
4. Installing untested applications and tools on production desktops and servers presents a risk to the organization.
5. Unsanctioned applications and tools required to support the business are often missed in disaster recovery plans.

In addition, a user training strategy is required for core business applications. The department feels that there are capabilities available with certain applications that are not being exploited due to inexperience and an overall lack of knowledge.

Limited Visibility into IT Strategy

The Town does not have a formal IT Strategic Plan. This limits staff visibility into future technology initiatives and positions IT as a somewhat siloed "black box"**.** The department wants to understand the "big picture" from a technology perspective.

Manual Processes

Council Agenda Preparation – The current council agenda preparation process includes the capturing of minutes and follow-up activities using a rudimentary tool (Task-Tracker). The department would benefit from an enterprise class meeting management solution for improved efficiency and capabilities.

Digital Signatures – Signing agreements with third-party vendors/partners is a multi-step inefficient process:

- The Town sends a digital contract to the vendor/partner.
- The vendor/partner prints and signs the document.
- The vendor/partner scans the document.
- The vendor/partner resends the digital document to the Town.
- The Town prints and files the hardcopy document.

Document Management and Collaboration – The department uses a manual process to collaborate on active documents. The group will identify a document version on a file share and simply edit "one at a time". This is a manual process which is not leveraging true document collaboration technology. In addition, there is no document management solution to help retrieve, manage or track digital documents. This promotes inefficiencies, security risks, and inflated storage costs.

Note: The Town follows The Ontario Municipal Records Management System (TOMRMS) system for paper and digital records.

2.2. Human Resources

2.2.1. Key Technology and Resourcing

This department consists of a single HR Coordinator.

2.2.2. Primary Applications and Technology

- TOPSI – Intranet (internal communication).
- Town Website – Job postings and recruitment.
- Email (Outlook) – Job applications and general communication.
- Dynamics (Great Plains) – ERP system (HR-related activities).
- HRISMyWay (Cloud) – Employee and Manager HR and payroll tracking system.

2.2.3. Challenges and Requirements

Town Access to Corporate Intranet (TOPSI)

Staff working outside of the main municipal office are challenged with accessing the TOPSI Intranet system (limited computers and general access capabilities). This is the primary form of communication within the organization for critical information to employees, however, approximately 40% of Town staff are not properly connected to the system.

Examples of functionality provided by the system include copies of employment policies, procedures, performance reviews, collective agreements, etc. The organization as a whole requires easy access to the system.

Inefficient Processes in Town Website (Job Postings and Recruitment)

The Town's website was developed and is supported by eSolutions.

The process for job postings and recruitment is cumbersome in that a document must be uploaded multiple times resulting in inefficient management of job postings.

There is an add-on module (Recruit Right) used for applicant tracking endorsed by the Ontario Municipal HR Organization that will resolve these issues by streamlining the processes.

Technology Awareness and Training

There has been no/limited training within the Dynamics GP (Great Plains) system. The system may not be overly intuitive which requires a certain degree of training/awareness to work efficiently within the product.

A similar situation exists with a related module (HRISMyWay) – both systems are supported by third-party vendor "CentralSquare". The HR Coordinator was told by the vendor to search "YouTube" for training assistance.

Manual Processes

Human Capital Management (HCM) – Reporting and analytics for employees for processes are manual and inefficient. An example would be the need to run a report related to *attendance management*: hours are spent manipulating the data into an acceptable reporting format. An initial data dump into a simple Excel spreadsheet requires multiple steps to develop a formal report.

The HCM system has the ability to improve manager access to attendance management, automate performance management, automate goal planning, improve talent management information and tracking of education and training expiry details, health and safety incident/injury tracking, reporting and analytics.

There is, however, a *lack of awareness* within the Town that these capabilities exist and the benefits they would present to the organization. In many cases, it could take the HR Coordinator weeks to manipulate data for a manager, whereas an automated process could provide the necessary information in real-time directly to the manager without assistance.

The current requests for data are unrealistic considering the current toolset.

Health and Safety Processes – The processes are extremely manual and inefficient. There is no unified collection of information spread out to individuals or groups. There is no technology being used for this program (paper based). There are tools available to streamline processes and standard operating procedures (e.g., reporting an accident) however, they are not current being used at the Town. The HR Coordinator is running this program.

2.3. Finance (Accounting, Revenue & Taxation)

2.3.1. Key Technology and Resourcing

The Finance department is using multiple enterprise business systems. Great Plains (GP) is the main system where most of the finance processes are automated.

2.3.2. Primary Applications and Technology

Following is a list of business systems used by the Finance department:

- Great Plains (GP) used for AR, AP, Payroll, Accounting, Water and Sewer billing.
- Questica budgeting system.
- Bambora online payments system (only used in Recreation).
- CaseWare to develop financial statements from Questica.
- CityWide for asset-related financial reporting.
- HRISMyWay for timesheets and vacation requests.
- EFT has been established recently.

Great Plains is a popular Enterprise Resource Planning (ERP) system in small and medium municipalities. All other systems used in the Finance department are common systems in the municipal landscape. The Town is interested in expanding the use of GP to automate some manual and over-the-counter processes to be more self-service and online.

2.3.3. Challenges and Requirements

Reclassification Project

The Town went through a GL reclassification exercise that needs more work. The classification project has impacted the integration of GP and Questica. The Finance staff are working on resolving this issue. The support from the GP vendor has been a challenge.

Online Customer Service

The Town needs an online payment service that allow residents to make payments for various services such as permits, planning applications, licenses, etc. The current website has a payment service for Recreation services which is limited. There is a need to enable more online services through the Town's website. Online payments, online billing and online forms are mandatory requirements to enable online services.

Centralizing Asset Management Databases

The Finance department uses the CityWide system to track asset-related financial information. CityWide is not used by operations staff. Another asset management system, HIPPO, is used by Water and Wastewater Services for their asset maintenance and work order management. The assets in the two systems are not in sync.

Manual Processes

The GP system has been implemented to automate the functions within the Finance department, but most finance functions require departmental staff involvement.

The departmental staff involvement has not been automated through workflows, therefore, there are manual activities related to some of the finance functions such as Accounts Payable, Accounts Receivable, Payroll and purchasing.

The consultants did a Business Process Optimization (BPO) exercise to identify the current state of the Procure-to-Pay process. It was identified that there are over 100 steps in the current process with 8 reviews and electronic documents saved on 18 folders. There is potential to save over 6000 person hours annually by optimizing the current process.

The detailed As-is process map is provided in Appendix A.

The rollout of the HRISMyWay system for timesheets has been successful among the office staff, but the rollout to field staff has not produced the same success. Further examination of improved pay type costing methods is required for successful implementation to all staff for improved efficiency.

2.4. Finance (Court Services)

2.4.1. Key Technology and Resourcing

Parry Sound is managing the POA court for 18 area municipalities. The main system used for most of the court services is the provincial system ICON.

2.4.2. Primary Applications and Technology

Following is a list of business systems used in the Court Services Division:

- ICON system to track offences, fines, payments etc.
- CAMS system.
- GP for revenue management and expense tracking.
- Bambora for phone payments.
- HRISMyWay.

The ICON system is a province-wide system provided by the Province. The system is built on an older technology platform and has not been modernized in a long time.

2.4.3. Challenges and Requirements

Reporting Out of ICON

The ICON system produces over 25 reports on a daily basis. These reports are directly sent to the printer. The data in these reports are required for daily functions of the Court Services Division.

At the end of the month, a report with over 200 pages is printed that has information related to inter-municipality payment transactions, etc. The data on the printed reports are required in a digital format. Court staff are manually entering data from the printed reports into Excel for further analysis. This is an ongoing challenge. A solution is available to redirect the print output to a database and the Town has not been able to successfully implement that system.

The region being a tourist destination, there is a large number of out-of-town customers who receive court services. It is inconvenient for them to be physically present to request and receive the services. Therefore, online service offerings would be more appropriate.

New legislation is on the way to enable virtual court proceedings. Court Services would like to be ready to enable this virtual service when the legislation passes.

Manual Processes

The staff is manually entering data from the ICON reports into Excel for analysis.

All services are over-the-counter and over-the-phone with manual intervention.

2.5. Parks and Recreation

2.5.1. Key Technology and Resourcing

This department consists of a Manager, Parks and Recreation with a Community Recreation Programmer, Parks and Recreation Facilities Attendants, Arena Canteen staff, and Swim Program and Lifeguard staff.

2.5.2. Primary Applications and Technology

- Dynamics (Great Plains) – Financial daily metrics.
- TOPSI – Intranet (internal communication).
- HRISMyWay (Cloud) – Employee attendance.
- Questica – Budgeting.
- GIS – Event mapping and parks/trails infrastructure mapping.
- HIPPO – Asset Management.

2.5.3. Challenges and Requirements

Technology Awareness and Training

The department utilizes HRISMyWay but have had limited exposure to the capabilities.

The department uses only the most basic features at this time (attendance), but believe there are many opportunities to leverage this platform for tools such as employee certifications, wellness checks, etc. They have had no formal training or exposure to the full capabilities of this software.

A large segment within this department continue to use paper timesheets and have not been formally introduced to the potential of automating these processes within the HRISMyWay system. Access to devices to exploit these systems is also a challenge (e.g., one PC shared among five employees).

The department has had limited training with the budgeting software (Questica) and are not currently utilizing many of the capabilities that would provide efficiencies such as: long-term forecasting, staffing functions, etc. These features have never been formally introduced to the department. Excel spreadsheets are typically used as alternatives to proper software solutions.

NOTE: There appears to be issues with the integration between Dynamics GP and Questica. The migration process has not been properly defined and managed which has resulted in "broken" functionality and capabilities. Staff may be resorting back to manual Excel spreadsheets and other inefficiencies in order to deliver certain processes/services. Tracking budget continues to be a challenge.

Another issue involves the maintenance management solution "HIPPO". This was originally purchased by the Wastewater department but has been made available to other departments, where the use has been limited.

NOTE: The organization has invested in an enterprise level asset management solution "CityWide", purchased independently by Finance with no involvement with the Wastewater department. There does appear to be a lack of corporate asset management strategy.

Manual Processes

Program Room Booking – Room booking information is available by calling/emailing the Recreation Programs Coordinator (RPC) and communicating back and forth to determine facility availability and client needs. Once a date has been agreed on, the RPC adds the date into the Outlook Room Booking Calendar for building staff, emails Building staff and Finance with rental agreement contract details, sends the contract, terms and conditions, and rental instructions to the client. The client must also either purchase insurance through the Town or provide their own Certificate of Insurance naming the Town as additional insured. All of these documents get emailed back to the RPC when complete. Payment for the rental is only accepted by cash/cheque/debit at the Town Office (not BOCC).

Rental inquiries can be made online through the Town website, although actual bookings cannot be made through this program – only inquiries.

There is no function to bill or accept payment online. All payments and invoices run through the Finance department.

It would be ideal if the BOCC was able to charge clients directly for room bookings, and if there was an automated communication to Building staff and to the Finance department.

Recreation Program Registration – Recreation program registration is offered online through the Town's website. The online registration system allows clients to request spots in recreation programs and submit payment online via credit card. The online registration system does not allow for registration caps, so all registrations that come through the website must be manually reviewed and approved by the RPC. Once approved, the client is prompted in a separate email to submit payment for their registration.

Before a program begins, the RPC must migrate the information from the online registration to an Excel/Word document and print it off for the program instructor.

The online booking process only makes the process more efficient for the registrant by offering registration online instead of in-person and offering payment via credit card. The online registration creates the same or more work for the RPC.

Program registration should give participants real-time program availability based on program capacities, and available space should be altered in real-time when a client pays for a spot in a program.

Once registration is complete, there should be an automatically-produced registration form with all pertinent information that can be shared with the program instructors.

Budgeting and Spending – When spending budgeted funds, the current process involves the requirement to access old budget account codes, locate a PDF document with the new budget account codes and find the new corresponding budget code. Staff will then code the purchase to the new account number and send the invoice to Accounts Payable.

Ideally, staff would have access to a system that provides up-to-date balances in each budget code. The current Dynamics GP software does not provide real-time budget information.

2.6. Programming and Events (Charles W. Stockey Centre)

2.6.1. Key Technology and Resourcing

This department consists of a Manager, Programming and Events, Technical Director (contracted), Marketing Coordinator, Curator (BOHF) and various hospitality/box office support staff.

2.6.2. Primary Applications and Technology

- Theatre Manager (Cloud) – Ticketing software.
- Vegas Movie Studio (Desktop) – Local application used for pre-recorded events.
- Open Broadcasting Software (Free) – Used for live streaming events.
- Various Supporting Tools – GitHub, Adobe, Apache OpenOffice.
- TOPSI – Intranet (internal communication).
- Questica – Budgeting.
- HIPPO – Maintenance management.

2.6.3. Challenges and Requirements

Technology Awareness and Training

The department has had limited training with the budgeting software (Questica) and are not currently utilizing many of the capabilities that would provide efficiencies such as: long-term forecasting, staffing functions, etc. These features have never been formally introduced to the department. Excel spreadsheets are typically used as alternatives to proper software solutions.

NOTE: There appears to be issues with the integration between Dynamics GP and Questica. The migration process has not been properly defined and managed which has resulted in "broken" functionality and capabilities. Staff in this area are resorting back to manual Excel spreadsheets and other inefficiencies in order to deliver certain processes/services. Tracking budget continues to be a challenge.

The department was directed to use the maintenance management solution "HIPPO" when it was originally purchased by the Wastewater department in 2018. There has been a lack of corporate asset management strategy. The solution appears to be cumbersome and ineffective for this department.

NOTE: The organization has invested in an enterprise level asset management solution "CityWide", purchased independently by Finance with no involvement with the Wastewater department. There does appear to be a lack of corporate asset management strategy.

The Intranet (TOPSI) would be a great tool for this group, however there is limited access due to the current inability in delivering Intranet capabilities to anyone not using a corporate device. This platform could be used for posting updates and announcements pertaining to live events and other activities.

Manual Processes

Live Stream Broadcasting / Mixing Equipment and Software – The impact of the COVID-19 Pandemic has steered the live performing arts industry in new directions by offering hybrid or solely live streamed events. This is expected to become a standard service within the industry.

The organization currently has a manual process that includes outsourcing the setup and support of live streaming events to various third-party vendors. The costs for these events exceed $2,000.00 plus internal support.

There is a requirement for an in-house "static" solution that will eliminate the costs and inefficiencies associated with outsourcing this service.

NOTE: As part of a government "Special Equipment Program", in September 2020 the organization applied for a grant through Canadian Cultural Spaces. The response is expected in December 2020.

2.7. Economic Development

2.7.1. Key Technology and Resourcing

This department consists of an Economic Development Officer, with minimal use of corporate applications. The objectives are to attract new business and investments to the Town, and assist local businesses as required.

2.7.2. Primary Applications and Technology

- Zoom (Cloud) – Video conferencing.
- Teams (Cloud) – Video conferencing.
- Skype (Cloud) – Video conferencing.
- Viber – Chat software.

2.7.3. Challenges and Requirements

Website Language Text and Voice Translation – In order to attract foreign investment, multinational text and voice translation technology on the Town's website would be beneficial.

General – As far as regional economic development, West Parry Sound Economic Development Collaborative unites 6 local municipalities (website https://www.investwps.com/.)

The Collaborative is currently in the process of hiring a Regional Economic Development Officer.

This person will be responsible for identifying and fostering community economic development opportunities in West Parry Sound.

The Town should consider *interactive virtual experience* technology. This could become a good marketing tool for out-of-town (especially international) real estate investors.

NOTE: According to the Economic Development Officer, Zoom is the primary conferencing application used by the Mayor and Council. This should be explored further as the Town considers standards such as Microsoft Teams.

2.8. Public Works (Water Systems, Wastewater Systems)

2.8.1. Key Technology and Resourcing

Water and Wastewater operations are highly regulated by the Province. The water and wastewater processes are managed with the SCADA system. The department also owns high value physical assets that require regulated maintenance practices. The department is using the HIPPO asset management system to maintain the asset inventory and to track work orders.

2.8.2. Primary Applications and Technology

Following are the most used business systems within the Water and Wastewater Division:

- SCADA [redacted]
- HIPPO for maintenance management.
- GP for water and wastewater billing.
- Questica for budgeting and financial reporting.
- [redacted] valve turning system.
- HRISMyWay used by some staff.

The HIPPO system is implemented in the Wastewater section with all assets and work orders managed within the system. The preventive maintenance is built into the system where automatic alerts are generated for the Wastewater section staff. The same system has been implemented in the Water section and requires more work.

2.8.3. Challenges and Requirements

A comprehensive asset management system to track all information related to assets is preferred. Currently, the Water and Wastewater teams are using HIPPO to track maintenance activities, while the Finance department is using CityWide for asset management and reporting. The Roads Operations do not use either of the systems. The HIPPO system is not integrated with the GIS platform. It is desirable to have all physical assets be geo referenced.

The budgeting system, Questica, is used occasionally and the staff require more training. Since it is not used regularly, online refresher training would be useful.

The HRISMyWay system is only used by some staff. Wastewater staff is using it for their vacations and timesheets while the Water staff are using Excel.

There is a need to provide online services to the public. Service requests such as meter turn on/off, billing inquiries, new water meter installations, etc. are some candidates for online services.

The [redacted] system that is used to manage valves, requires Windows Media Centre. Due to desktop operating system incompatibilities, this system needs a replacement.

Manual Processes

The Water and Wastewater staff are required to maintain logbooks as legislated by the Province. These logs are updated throughout the day by the staff. Currently, the logbooks are manual. The timesheets for Water section staff are also manually prepared using Excel.

The service requests received via email and/or online are manually entered in HIPPO for staff action.

[redacted]

2.9. Public Works (Operations Centre)

2.9.1. Key Technology and Resourcing

The Operations Centre is responsible for roads-related services, waste management and the management of cemetery services. Most of the activities are tracked manually including assets and work orders. The StoneOrchard system is used to manage cemetery services.

2.9.2. Primary Applications and Technology

Following is a list of common systems used in the Operations Centre:

- Excel for timesheets.
- StoneOrchard for cemetery services.
- GIS to find property-related information.

2.9.3. Challenges and Requirements

- Due to manual tracking of work orders, there are no data available to inform decision-making. It is difficult to track trends, resource requirements, service levels, etc. without proper collection of data.
- The asset-related information is not fully digitized.
- Timesheet entry is a manual process where the Foreman is required to enter timesheets for all staff daily.
- The property files and other paper-based documents are in use. Sharing paper-based information is a challenge and as a result, each department tends to maintain its own set of paper files. This makes it difficult to have a single source and a single view to information that should be consolidated, e.g., all activities including historical information related to a property would be stored in multiple paper documents and network drives.

Manual Processes

Operations staff timesheets are manually entered daily by the Foreman, using an Excel template. The Excel template has over 100 department codes which should be selected based on the work performed by the staff. This is a manual, time-consuming process. Timesheets are then re-entered by the Payroll staff in the payroll system. The Payroll staff use the department codes selected by the Foreman and update the pay codes to indicate pay rates (e.g., shift premiums, over-time banked, over-time paid, etc.).

The Town is just starting to issue Road Occupancy Permits (ROP). The process and policies are being developed. Currently, the permits process is managed manually. The Town will be developing a by-law for ROPs shortly.

The majority of Operations Centre activities are related to service requests and asset maintenance. These activities are tracked manually. Service requests are mostly received over-the-phone by the customer-facing staff. These requests are emailed to the Operations staff who save the email in a folder and a printed copy is used to initiate the work. The request is manually filed in the property file as well.

2.10. Development and Protective Services (Building and Planning)

2.10.1. Key Technology and Resourcing

The Building staff is using the CityView system to track building permit information. CityView is a popular system among municipalities for tracking land-related business processes such as planning applications, by-law complaints, building permits and licenses.

The Planning and Building staff also use GIS. There are two GIS environments: Parry Sound GIS and the West Parry Sound Geographic Network (WPSGN).

The development planning applications are tracked manually. Microsoft Teams is used to automate some of the activities of subdivision applications. Email is the main channel used for circulations and collaboration on planning applications.

2.10.2. Primary Applications and Technology

Following are the most used systems in the Division:

- CityView.
- GIS.
- HRISMyWay.
- Questica.
- TOPSI – Intranet (internal communication).

2.10.3. Challenges and Requirements

The current version of CityView is not supported by the vendor. CityView has not been upgraded in more than 10 years. The database is in MSAccess and there has been a considerable number of customizations made over the years.

The main user of the system (who is also the only technical support) is retiring. This has been identified as a risk and the Building Division is aware of the risk. The upgrade or replacement of CityView has been identified as an important next step by the Building Division. Parry Sound has collaborated with the Municipality of Huntsville on a collaborative purchasing initiative. As a result, the Cloudpermit (formerly Evolta) system has been selected as a replacement.

There is a need to have a consolidated view of land-related services and business processes. Development planning applications, building permits, by-law complaints, business licenses are some of the common business processes that could be consolidated to help each business unit be more efficient in the services they provide.

Planning and building staff are also looking for more use of the GIS environment to build efficiencies in their day-to-day work.

Manual Processes

Development planning applications are processed manually. Some building permit information is also replicated in manual property files while most of the tracking is done within the CityView system.

Manual property files are used in multiple departments. Planning and Building are maintaining a property file while Fire, Public Works and By-law have their own property files.

Property information is also stored digitally, on the network and in physical folders in multiple departments. This disintegrated property information is making it more difficult to have a single view of the activities taking place on a property.

2.11. Development and Protective Services (Fire Prevention and By-law)

2.11.1. Key Technology and Resourcing

The Fire Prevention and By-law Division's main system is FirePro. FirePro is used to track all fire incidents, training, volunteer firefighter timesheets and all other fire-related information. The By-law staff is tracking by-law complaints also in FirePro.

2.11.2. Primary Applications and Technology

Following systems are currently in use by Fire and By-law staff:

- FirePro
- HRISMyWay
- Operations Commander (new parking ticket management system)
- Who's Responding
- Scott Connect
- TOPSI – Intranet (internal communication)
- Questica

2.11.3. Challenges and Requirements

While Fire's activities are tracked in FirePro, there are other key business processes with no tracking system. The municipality maintains business and vehicle licenses using Excel and a paper-based system where annual renewals are managed using manual forms. Over 800 pet licenses are also tracked manually. Some information related to by-law complaints are tracked in FirePro with while all letters, orders etc., are generated outside the system using MSWord documents. This requires re-keying of the same information that is entered in FirePro.

The Division is looking to provide more self-service offerings to the public via the website. Currently, the processes are designed for over-the-counter and over-the-phone interactions. This requires integrated online forms with payment options. One of the challenges is the inability to accept online payments.

The Fire Incident Response Team has a business need to track all information and activities of each incident. The Incident Command has some technology available in the fire vehicles, but a more mobile solution is more desirable.

Manual Processes

All licenses are tracked manually. Payments for applications are received over-the-counter or via mailed in cheques. Processing of payments requires manual interventions. Generating letters, orders, etc. is done outside the system and requires manual re-typing of core applicant information.

2.12. Geographic Information System (GIS)

2.12.1. Key Technology and Resourcing

The Town has a shared services agreement with Archipelago Township that includes access to ArcGIS tools and a shared GIS resource (50/50). The GIS business needs of the Town are increasing. GIS is able to facilitate integrated view of multiple data sources for easy visualization and analysis.

There are many opportunities to ease manual searching, querying and analyzing information that are spread over a specific geographic area. These enhanced business needs are mostly related to physical assets and land related business processes such as permitting, development approvals fire and bylaw incidents.

For example: The Asset Management Plan project, field GPS data collection, and the development of web-applications for various corporate business units are specific areas that may benefit from additional GIS resourcing.

More specifically, the lack of GIS availability has impacted the following activities:

- GPS field data collection
- Zoning Bylaw mapping revisions
- Field collection applications – just a lack of development
- Utility locates application issues (if an issue arises when the GIS resource is not scheduled to work at the Town)
- Data building for asset management planning

Therefore, the current 2.5 days the GIS resource is allocated to the Town may not be sufficient to provide the increasing needs of the business.

2.12.2. Challenges and Requirements

The current GIS users are required to switch between two environments: The West Parry Sound Geography Network (WPSGN) and the internal GIS platform. Some data on the two platforms are not consistent. E.g. Arial Photography.

There are also concerns about the data quality and the ability to maintain GIS data. These challenges should be resolved through a detail GIS analysis. The demand for GIS based data is increasing. Mainly in the areas of asset management, Planning, Permitting, Fire and By-law business areas, the need for more and more GIS related data and analysis has been recommended in this report. It will be beneficial to develop a GIS Strategy for the municipality.

Increased efficiency with more GPS Devices: There is only one GPS device (Trimble Catalyst Antenna with smartphone receiver) to collect data with high accuracy.

Current Workflow

- The GIS resource will be contacted when a department needs GPS data collected.
- GIS will meet operations staff in the field and will direct field staff to the assets to collect measurements.
- In some cases, GIS staff will help find the assets that are recorded but operations staff can't find them because they are limited with iPad GPS accuracy (3-5m accuracy).
- Once GPS collections are finished, GIS staff transfer the collected data over to the geodatabase in the office before it is published for internal viewing.
- Being out in the field requires the GIS resource as well as 1-2 other operations staff at one time to be collecting data.

Ideal Workflow

- More GPS devices for operations staff to collect data in the field.
- Devices with sub-meter accuracy.
- Rugged phones/iPads/tablets to use with GPS antennas to sustain in all weather.
- Data could be collected more frequently and with fewer people involved.
- QA/QC checked by GIS staff.
- Device with higher accuracy – the current Trimble Catalyst with subscription (10 hr package) for data corrections or higher accuracy measurements where needed.

2.13. Information Technology (IT)

2.13.1. Key Technology and Resourcing

The IT department consists of a Manager, IT along with a full-time IT Technician. The IT Technician spends a considerable amount of time supporting Town software, including Office 365. It should be noted that 25% of all software support time logged by the IT Technician is allocated to onsite financial applications Dynamics GP and Questica.

The Manager, IT has extensive knowledge outside of the typical activities performed in this role, and tends to be pulled away from required duties as the manager of IT.

2.13.2. Primary Applications and Technology

Support is augmented by a third-party consultant whose primary role is supporting the following core platforms with the following responsibilities:

- Server Hypervisor Infrastructure [redacted]
- Microsoft O365 Cloud Service – Consultant acts as the Global Administrator.

- Consultant acts as the interface between the Town and Dynamics GP/Questica vendor CentralSquare.

The small team spends most of its time “keeping the lights on” with limited ability to plan and strategize for future growth in supporting the business.

With proper training, the IT Technician has the potential to play a pivotal role in the Town’s Cloud journey.

2.13.3. Challenges and Requirements

There are unique challenges for small IT departments and the Town is no different, however, the portfolio of IT Manager is being hindered by the reporting structure and “non-IT” related activities (i.e., requests to leverage knowledge/expertise outside of the scope of IT).

There is minimal time to focus on core IT governance requirements, including the development of IT policies and procedures.

Additionally, the following technologies were highlighted by IT as not being fully utilized at the Town:

- **Keeper is under-utilized**. Even with positive reinforcement, tens of hours of one-on-one work with individuals (including custom-made group training) leaves this solution not being properly utilized.
- **Personal or departmental Wikis** (e.g., Teams) to share and pass on knowledge are rarely, if ever, used. This is an incredible resource for departments with complicated processes to lay out step-by-step procedures.
- **GIS** can do much more than we have the resources to achieve.
- **MS Dynamics issues** must be pushed to CentralSquare support which is a substantial cost to the Town. The once-a-year updates in the first week of January have to be carefully orchestrated between IT and a single resource at CentralSquare. Other experiences have impacted the Town for two or more weeks, while the Finance department tries to do work without the end-of-year process.
- The **CityView** database program from 2001 is still being used by the Building and Planning department.
- The **Provincial Offences** system must be passed through a physical Windows Server [redacted]. The Ministry of the Attorney General (MAG) is required to design a new system.

Manual Processes

- There are no mobile device management capabilities other than the manual configuration of a device. This presents a major inefficiency in the support of corporate mobility which is expected to grow throughout 2021 onward.
    - There are 71 mobile devices vs. 91 computers.
    - They are purchased individually, set-up manually with individual Apple IDs or Google accounts, and apps are downloaded manually.

- [redacted]
- Mass software deployment only reliably covers 50% of the target devices; the remaining 50% require manual installation.
- Some staff are hesitant to use conferencing solutions such as Zoom or Teams meetings. They require someone from IT to moderate (e.g., Council Meetings or other committee meetings).

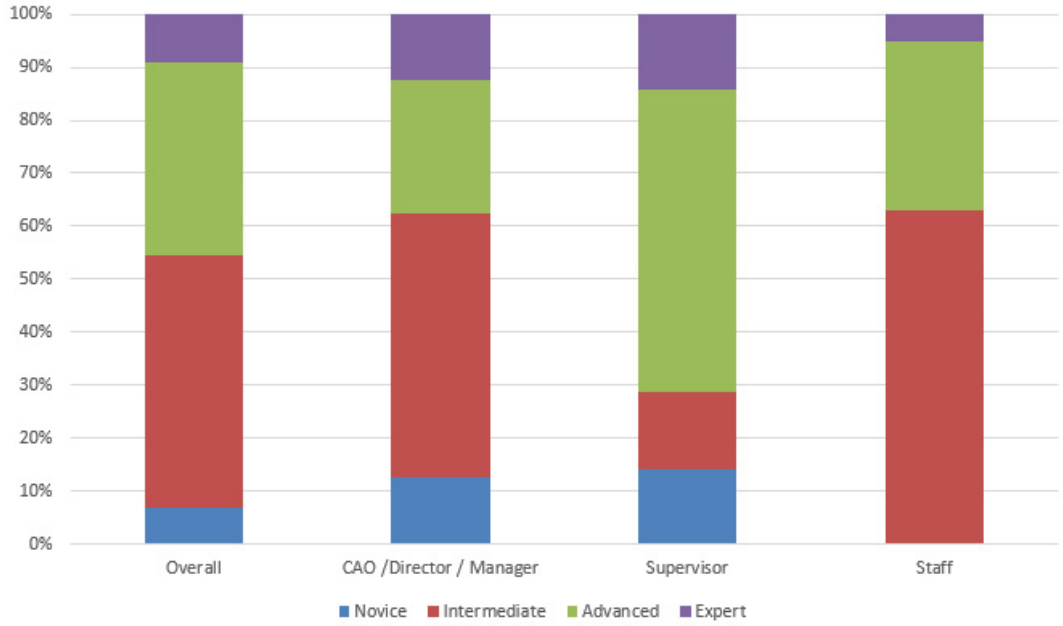
2.14. Staff Survey and Common Themes

As part of the IT Service Delivery Review, PGC conducted a corporate-wide survey around technology use at the Town. Responses were anonymized and analyzed. The survey was available to Town staff from October 20, 2020 and closed November 3, 2020 with 44 total respondents.

This section includes a high-level summary of results and common themes. Please note that detailed results will be provided as a supplementary document. It should also be noted that all Town departments were represented in the survey.

2.14.1. Staff Survey

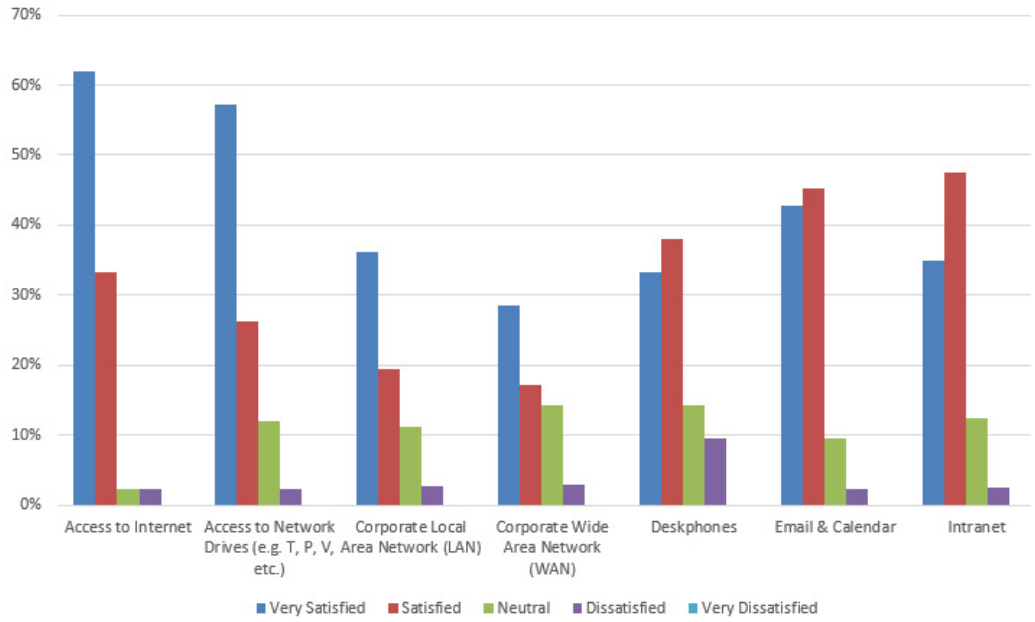
How would you rate yourself and your overall ability to use technology?



Notes:

- Overall, and across all roles, respondents identify as having intermediate or advanced technological skills.
- Supervisors identify as being the most technically savvy.

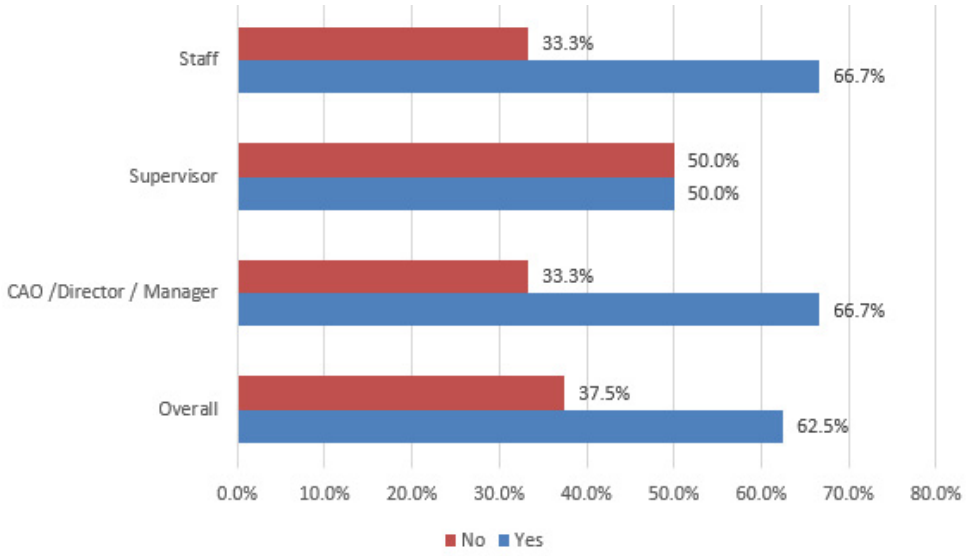
Please rate the following services:



Notes:

- Satisfaction with Access to the Internet was exceptionally high at ~95%.
- Use of Email & Calendar (O365) had a high satisfaction rate of ~88%.
- The Intranet is a valuable tool for ~80% of the Town's users.

Do you feel you've been adequately trained to use the required technologies?



Notes:

- Half of the Supervisors responded that they do not feel adequately trained.

2.14.2. Survey Summary

The survey highlighted an overall high-level of satisfaction with the Town's full-time IT support team (IT Manager and IT Technician). However, comments and responses also

reinforced a lack of technology training and limited understanding of the capabilities available for many of the Town's business applications.

There were also negative comments around the current third-party IT support resource pertaining to responsiveness to issues.

Some key comments included:

IT Staff (full-time)

> *"IT staff are great and are genuinely trying but seem constrained in many ways that hamper delivering the best service possible."*

Third-Party IT Support

> *"… 3rd party IT support is used when escalating issues however the response time has a negative impact on service levels…tickets are unanswered and/or put on hold for weeks or months while waiting for a reply."*

GIS

> *"The GIS staff do genuinely try and the current team is very helpful and knowledgeable but when it comes time to finally put a newly discovered underground infrastructure into the mapping, it's difficult when it's a constant "my machine's not finding the satellites" or "the system won't log in."*
>
> *"Missing large amounts of data, difficulty getting data entered when discovered, some data inaccurate or very out-of-date, overlay map out-of-date and doesn't show new significant landmarks."*

General

> *"CityView needs replacement, it is easily broken and challenging to use. We need software that is user friendly and allows for online permit applications. CityView contains a massive amount of historical information which I would not want to see lost, however, its day-to-day functions are extremely out-of-date."*
>
> *Desk Phones – "It would be nice to see the phones updated at Town Office to make it easier to transfer calls/put people on hold."*

[redacted]

2.15. Business Process Optimization (BPO) Exercise (Finance)

The consultants performed a single BPO exercise to identify potential improvement opportunities in a single business process.

This was done to show the value of BPO and the process of identifying improvements and the opportunities for automating business processes. The Procure-to-Pay process was selected as a sample. The consultants held a workshop with the Finance and Public Works staff to map the current process.

2.15.1. As-Is Process

The current Procure-to-Pay process steps were mapped so that all activities could be identified. A detailed as-is process map is available in Appendix A. The following process statistics were identified:

- The Town processes over **6000 invoices** each year.
- The bulk of the purchases are **less than $2000**.
- **75%** of the payments are through Electronic Fund Transfer (EFT).
- The process has over 100 activities.
- At various occasions, staff in the process would save digital PDF files containing key process data in **18 folders**.
- The consultants identified **8 reviews** that are performed by various staff members throughout the process.
- The process is almost paper-less. There are only **4 hardcopy documents** in the process.
- **6 systems** are used at various points in the process multiple times:
    - Great Plains system.
    - Excel.
    - Town's bank system.
    - OneDrive folders.
    - Network folders.
    - Email.

As evident above, the process is cumbersome and has potential for improvements. The next step of the BPO process is to identify potential optimization opportunities and savings.

2.15.2. To-Be Process

The to-be process is the ideal future state for the Town. This could be adjusted based on the capabilities of the systems and the policies of the Town. The ideal to-be process was designed based on the following objectives:

- Build a more efficient business process.
- Reduce the number of activities without compromising the controls that are required.
- Reduce the amount of time spent on administrative tasks.
- Look for cost avoidance through the time saved.

The to-be process map was designed based on the above criteria. The detailed map is available in Appendix D.

In order to identify the benefits, the as-is process was marked up to identify the activities that could be eliminated through the redesigning of the process. The eliminated activities have been identified in the as-is process map with savings

documented in Appendix E. A summary of the benefits were tabulated based on the time saved through the elimination of activities. The cost avoidance was calculated by applying a standard rate of $40 per hour. Below are the potential benefits that were identified:

- Potentially, **58 activities could be eliminated** from the current process which amounts to a **57% improvement**.
- The time saved from the eliminated steps are estimated at **1 hour per transaction,** which amounts to a saving of **6000 hours each year**.
- The total number of hours saved each year is estimated to be **6000 hours** across the organization.
- Applying a $40 per hour rate, this is an annual **cost avoidance of $240,000**.

It is important to note that these savings are estimates. Based on how the final solution is implemented, these numbers could change. It is also important to note that these savings are not hard dollar savings, they are cost avoidances. By optimizing the processes, the Town could increase its capacity and avoid future expenditure.

3.0 Technology Review – Area Municipalities

3.1. Municipal Interviews

3.1.1. Seguin Township

Current State of Technology

The Township has 50 full-time staff, 30 with access to technology (e.g., computer, smartphone, tablet). Approximately 50% of the staff are in the field. The following systems are in use:

Business Function	Systems in Use	Notes
Office Productivity	Microsoft Office – Email – Thunderbird (client)	Some old Coral still is use. Migrating to Outlook. Service provider hosts email. They are against O365 (cost).
Planning, Permitting, Licensing and By-law	Direct-IT Land Manager	
Asset Management	No system	
Finance and HR	ASYST	
Parking	N/A	
Records Management	TOMRMS (manual)	Trying to digitize records.
Web	eSolutions (2006)	

The Township has an onsite part-time IT resource who works 3-days per week. There are some external partners providing additional support. The annual IT operating budget including IT support is approximately $100,000.

Potential Shared Services Opportunities

- Cloud Services – the Township is interested in a Cloud pilot program to help identify opportunities with shared Cloud services.
- There are opportunities to share IT support services which would provide the Township with resource redundancy.

3.1.2. Township of The Archipelago

Current State of Technology

The Township is a small municipality with 19 users (devices and network accounts). Of the total user count only 9 have assigned smartphones and 6 with corporate laptops. There is very limited Cloud services with the exception of GIS and Google Workspace (testing). The following systems are in use:

Business Function	Systems in Use	Notes
Office Productivity	Microsoft Office, Thunderbird (email)	Currently testing Google Workspace
Planning, Permitting, Licensing and By-law	Planning uses a customized Microsoft Access based database to track applications. Building uses a program called PRINSYS for permitting and applications.	No Licensing or By-law applications
Asset Management	No system	
Finance and HR	ASYST (accounting, pay, taxes)	Legacy application
Parking	N/A	
Records Management	TREENO – more of a permanent archiving system	Have their own file server for day-to-day files
Web	All-Net	

IT support is provided by a consultant with a budget of $45,000 (on-call support, regular maintenance of devices). The consultant also provides advice/recommendations regarding purchasing, budgeting and security regards with Manager of Corporate Services. There are no internal IT resources, however the Township is planning to budget for additional onsite support in 2021 ($40,000).

Potential Shared Services Opportunities

The municipality is interested in the following shared service opportunities:

- Cloud services where possible.
- Building, Planning, Public Works, and Finance Departments could all use the same share programs.
- Sharing of email services such as O365.

- IT resource sharing would provide cost-effective support opportunities.
- The Town of Parry Sound and the Archipelago are only a couple hundred meters apart and could leverage VPN technology.
- The Archipelago also owns a 280’ tower in Parry Sound that is capable of providing a wireless VPN to any other municipality.

3.1.3. Municipality of Whitestone

Current State of Technology

Municipality of Whitestone is a very small municipality with 16 full-time staff where about 50% are using computers for their day-to-day activities. There are 25 volunteer fire fighters and a small number of seasonal part-time staff. A third-party IT service provider is available to support the IT infrastructure. The following systems are in use:

Business Function	Systems in Use	Notes
Office Productivity	Microsoft Office	
Planning, Permitting, Licensing and By-law	Microsoft Access	Internal staff trying to use MSAccess for building permit tracking.
Asset Management	No system	It is cost prohibitive to implement a system.
Finance and HR	Unisoft, Paymate	Financial information tracked in Unisoft and payroll in Paymate.
Parking		
Records Management	No system	
Web	AllNet	Currently building a new website with Allnet. Plastiq payment service is available for online payments for tax, dog tags and invoices.

The municipality has a third-party IT service provider who takes care of the network, hardware and some software implementations and support. The service contract is based on the number of service calls and computers. An additional annual budget of $10,000 is available, mostly for software-related needs.

Potential Shared Services Opportunities

The municipality is interested in the following shared service opportunities:

- Building Permits is a common service that all area municipalities are providing. Whitestone is interested in collaborating with the area municipalities to implement a common system for permits.
- A collective approach for a Customer Relationship Management (CRM) system would be beneficial as well.

3.1.4. Township of McKellar

Current State of Technology

Business Function	Systems in Use	Notes
Office Productivity	Microsoft Office	
Planning, Permitting, Licensing and By-law	N/A	
Asset Management	No system	
Finance and HR	ASYST	ASYST is used for Finance functions and there is no HR system.
Parking	N/A	
Records Management	No system	
Web	Linkhouse Media	Basic functionality, mostly text based with non-fillable PDF forms are available on the website.

The Township is using a third-party IT service provider. The budget formation was not available.

Potential Shared Services Opportunities

- Building Permits is a common service that all area municipalities are providing. Whitestone is interested in collaborating with the area municipalities to implement a common system for permits.
- A collective approach for a Customer Relationship Management (CRM) system would be beneficial as well.

3.1.5. Township of Carling

Current State of Technology

Township of Carling is a very small municipality with 25 full-time staff where about 50% are using computers for their day-to-day activities. A similar number of seasonal staff and volunteer fire fighters are available. A third-party IT service provider is available to support the IT infrastructure. The following systems are in use:

Business Function	Systems in Use	Notes
Office Productivity	Office 2016, Office365	O365 is used for email
Planning, Permitting, Licensing and By-law	Land Manager	Used for building permits and planning application tracking. Tablet used in the field for building inspections.
Asset Management	No system	Excel sheets and manual paper-based process for asset-related functions.
Finance and HR	Asyst, ADP	ADP is used for timesheets and Payroll. Asyst support is a challenge.
Parking	No system (using Excel)	Manual issuing of 3 water access permits to each household annually.
Records Management	Document Locator	Using TOMRMS.
Web	Stradea	Recently moved from eSolutions web platform to Stradea. Online forms available for many services website.

The IT budget for the Township is around $50,000 where 50% is spent on the external service provider. There is no IT staff in the Township.

Potential Shared Services Opportunities

Due to the small size of the Township, it is cost prohibitive to implement and support industry-recognized best-of-breed solutions. The Township is interested in the following shared service opportunities:

- Online payment services could help improve the customer experience.

- Shared payroll services could help reduce the cost of processing payroll activities through shared resources.
- Collaborative business systems implementation could reduce the cost for individual municipalities, e.g., parking permits system, pet licensing system, etc.
- Broadband connectivity is a challenge that has potential for shared responsibility with area municipalities.
- Converting existing PDF forms to electronic fillable forms is a business need.
- Due to lack of connectivity, landfill payments are limited to cash payments. Internet connectivity to similar remote Town locations is a County-wide challenge that could be a candidate for a shared service.

3.2. Common Themes

Parry Sound as the largest municipality in the area, is able to lead and support the smaller municipalities in many ways. The current collaboration with the Township of Archipelago to share a GIS resource, as well as the West Parry Sound Geography Network (WPSGN) are examples of collaborative service delivery within the district.

Parry Sound also maintains the Provincial Offences Court for 19 area municipalities and the land ambulance service for the district.

Based on the business needs of the area municipalities and the challenges they face, the following technology collaborations should be considered:

- **Online Cloud Services:** The participating municipalities have an opportunity to share a Cloud-based infrastructure that could be utilized for production services (e.g. Cloud applications, data backup, data archiving, disaster recovery) or testing of additional Cloud opportunities by initiating joint pilot projects.
- **Online Services:** The area municipalities are working with multiple vendors to build and maintain their websites. Some have been successful to a great extent. It is economical to work as a group and reuse some of the development efforts of successful implementations. Sharing a service provider allow each municipality to reduce the cost of implementation through developing common reusable tools. E.g. Online building permit form is a common form that could be developed once and repeated among all area municipalities.
- **Online Payments:** An effective online payment solution is required to enable online services to residents. There is an opportunity to work together with multiple municipalities to find a solution that could be built once and reused by all participating area municipalities.
- **Collaborative Business Systems:** There are two main areas of opportunities for shared business systems: Planning, Permitting, Licensing and By-law system that could automate the tracking of Building Permits, Development Applications, Licensing and By-law complaints tracking. And an Asset management system to track service requests, workorders, preventive maintenance, asset inventory, asset reporting, condition tracking and replacement functions for all physical assets. These are large investments that smaller municipalities could not afford. A collaborative approach could allow the area municipalities to implement a

common system with common workflows and processes that could be repeated among the participating municipalities.

- **Resource Sharing:** Similar to how the GIS resource is shared between two municipalities, there are other areas of opportunity. When common systems are implemented in multiple organizations, the support staff could be shared as well. The knowledge and time needed to maintain and support a single system is less than what is required to support multiple systems. These shared benefits could be achieved in enterprise systems such as the financial system and the asset mgt system. For example: Township of the Archipelago has an operational budget of ~$40,000.00 for IT support that could be used in a collaborative agreement similar to the current GIS arrangement.
- **Internet access to Town locations:** This is a common challenge with the area municipalities. The basic internet access at municipal buildings and especially remote municipal service locations such as Landfills is a challenge. A common consistent solution for this challenge could be found through a collaborative effort. The same solution could be applied to all participating organizations and their remote locations.
- **Online municipal 311 CRM solution**: We are in a digital age where most of our needs are requested and received through online services. Municipalities are no different. A collaborative online services initiative along with a Customer Relationship Management (CRM) could reduce the cost of building individual systems for each area municipality.
- **GIS services:** Continue the successful collaboration between Parry Sound and Archipelago and expand to other area municipalities. GIS is a universal tool that help organizations build insights to land related processes. GIS also provide an intuitive interface to residents to find information related projects in their neighborhoods.
- **Broadband internet access**: High-speed internet access to the residents in the District is an ongoing challenge. Parry Sound and the area municipalities could work with the existing West Parry Sound Smart Community Committee that was developed by the Parry Sound Region Economic Development Committee (REDAC).

Opportunities and Recommendations

4.0 Opportunities

4.1. Introducing the Municipal Technology Maturity Model

Perry Group's standardized Municipal Technology Maturity Model (MTMM), shown in our sample Figure 1 below, was the basis for evaluating the Town's technology environment.

The Municipal Technology Maturity Model (MTMM) is a model developed by Perry Group Consulting Ltd., based on consultation with many municipalities over the past 10 years. The MTMM introduces several key concepts that are important in the overall management and delivery of technology services.

The model is customized based on the scope of each engagement and the services provided by the municipality. Although the engagement did not include a standard analysis of the entire IT infrastructure, most elements in the MTMM have been identified and assessed.

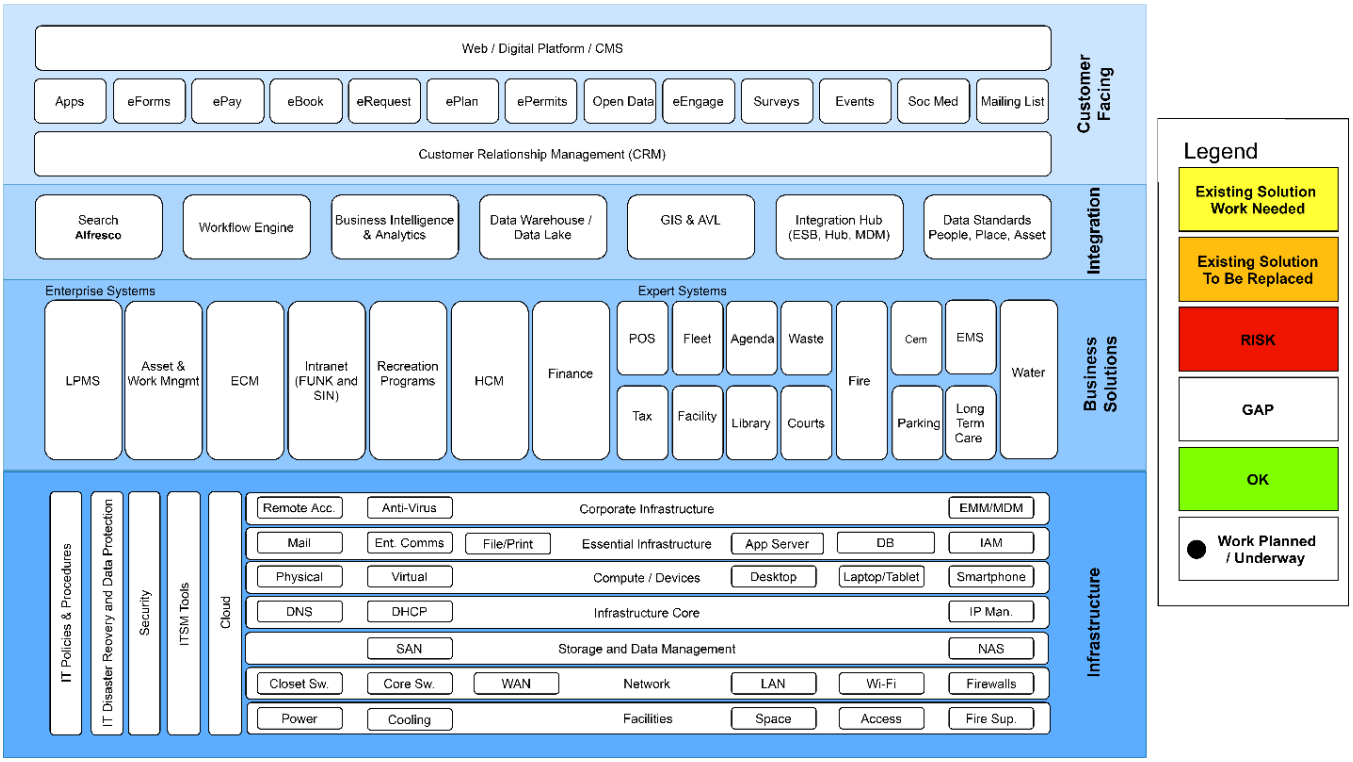


Figure 1: Perry Group Sample MTMM

- There are 4 main technology layers: Infrastructure, Business Solutions, Integration and, Customer-Facing; each requires discrete IT skill sets to be managed effectively. For instance, while technology infrastructure management is deeply technical, project management around business solutions projects requires project experience, change management and soft skills; an IT organization needs a breadth of skills in various domains to effectively manage the complete environment.

- The Infrastructure Layer is the foundation for the entire technology environment
    - Infrastructure must be robust and reliable because it provides the basis for all other layers; unreliable infrastructure undermines all the technology that sits above it.
    - Appropriate policies, security, data protection and disaster recovery provisions should be in place.
    - In an ideal situation, the IT team will also need appropriate tools to help manage the environment including: a helpdesk request tracking system, a set of systems management solutions and automation tools (e.g., remote support, patch management, mobile device management) to simplify IT management tasks, increase productivity of IT staff, and to enable employee self-service (e.g., password resets).
- A municipality should limit the number of corporate business solutions platforms it runs to reduce process and information silos; these business solutions provide the foundations for automated and streamlined business processes; they will gather data to drive analytics capabilities and underpin the effective delivery of online services.
- Business solutions should be integrated allowing for data to be automatically passed between solutions (using integration technologies), thus reducing data duplication and errors, and ensuring auditability.
- The IT architecture should build from the bottom up – infrastructure first, then business systems, and so on.

These are some of the basic tenets under which a well architected technology environment will operate and these provide a framework for the consulting team to assess a municipality's technology environment.

NOTE: This engagement did not include a full assessment of the Infrastructure Layer since the activities were primarily focused on business systems and achieving technology efficiencies. However, a significant percentage of technology and supporting processes were assessed and can be viewed in Figure 2, the Parry Sound MTMM.

As part of this engagement, Perry Group reviewed the Town's technology against the MTMM and the results of the review are shown below.

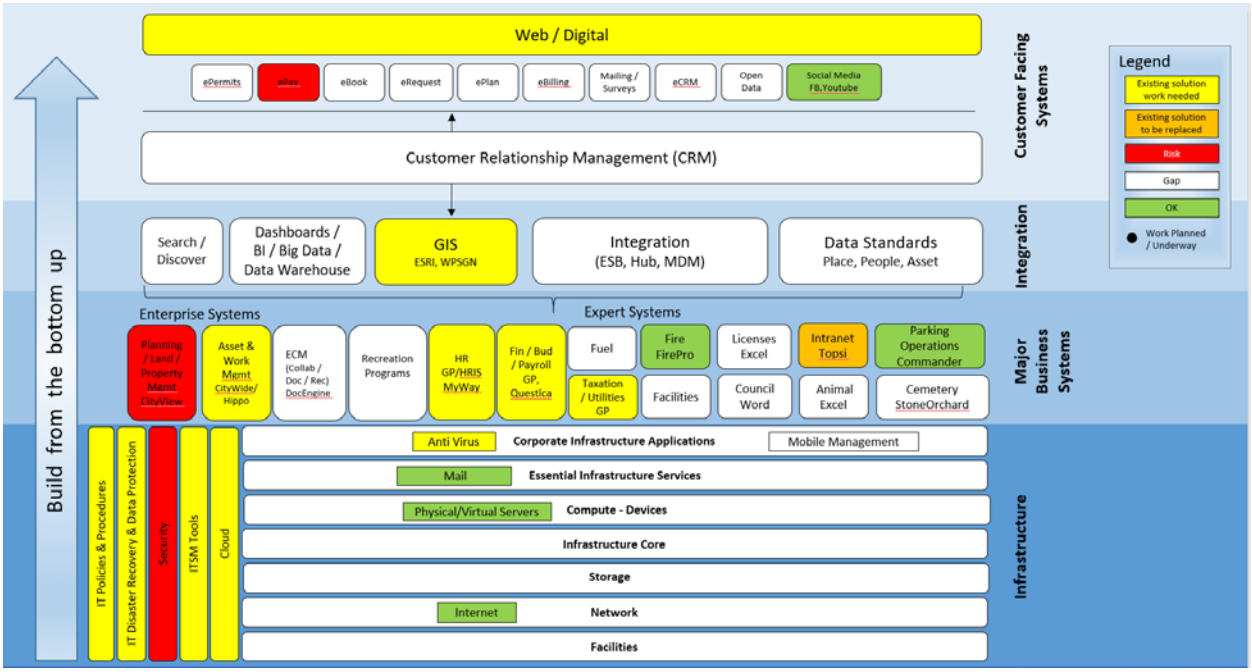


Figure 2: Parry Sound MTMM

The green components in the diagram identify a number of positives, however, there are a number of key gaps, risks and areas that do require work. The Legend identifies – by colour – the assessment findings for each element reviewed.

The assessment revealed that there are a significant number of gaps and solutions that require work across all four layers of the MTMM.

The Major Business Systems layer has a mix of systems that are either missing or in place without proper training or awareness.

It should also be noted that there are a number of gaps in both the Integration and Customer-Facing Layers.

4.1.1. Infrastructure Layer

IT Policies and Procedures

Although some policies exist (e.g., onboarding/offboarding) there are several essential policies that need to be developed including:

- IT Governance Policy
- Backup/Restore Policy
- Mobility Policy
- Acceptable Use of Technology Policy
- Information Security Policy

- Cloud Computing Policy

IT Disaster Recovery & Data Protection

The Town has an impressive documentation process that includes a comprehensive business continuity strategy (*Business Continuity Plan v2.0*). The process requires some refinement including the development of a formal Business Continuity/Disaster Recovery Program that includes representation from the business and senior management.

This is a critical requirement for the Town that needs to be fully supported and driven by the business and senior leadership. IT has a key role in the delivery and support of the technology, however the business must define the recovery time objectives.

The overall backup strategy includes replication to the Fire Hall for offsite data protection ([redacted] Storage). A formal documented procedure would be recommended, including the continued strategy of leveraging cloud opportunities for low-cost data backup and/or archiving.

Security

Although the organization has some sound cybersecurity practices (e.g., penetration testing, secure SSL VPN), this area was flagged as high-risk primarily due to the lack of a formal security strategy that included proactive activities such as real-time vulnerability scanning.

ITSM Tools

The Town currently supports a helpdesk system that provides limited capabilities and features. The system does not provide IT Asset Management, Configuration Management, or appropriate Incident/Problem Management supporting ITIL best practices. Many organizations of your size are shifting to cost-effective Cloud solutions for IT service management.

Cloud

In many ways, the Town has embraced the Cloud, migrating several applications from on-premise hardware/software to platforms hosted by third-party cloud providers (Microsoft O365 would be a prime example for Town email) however, there are additional opportunities for business applications and supporting IT services to follow suit. The Town has had the foresight to invest in significant Internet connectivity; additional Cloud opportunities need to be exploited.

Mobile Device Management (MDM)

This is the only element assessed as a gap within the Infrastructure Layer. There is no visibility into the management of corporate mobile devices. This is a major gap that could be addressed by upgrading the current O365 services (e.g., E3/E5 licensing). This activity should be coupled with a formal MDM policy as outlined under “Policies and Procedures”.

Mail

The Town has migrated to Microsoft O365. This will allow the Town to leverage the many capabilities of the O365 platform, while reducing the costs associated with the support of on-premise enterprise email.

Physical/Virtual Servers

Although no issues have been identified within this area, the Town should scrutinize any further investments in on-premise hardware/software, and exploit Cloud technologies.

It should also be noted that a single external consultant acts as the primary support resource for the hypervisor infrastructure ([redacted] along with the current O365 environment (Global Administrator). This presents a significant risk to the Town.

Internet

With exceptional bandwidth (1Gbps), the internet pipe is an asset that needs to be exploited to its fullest potential. With the migration of email to O365, the Town is well positioned to expand services by migrating additional workloads/services to the Cloud. This report includes recommended opportunities that should be explored further.

4.1.2. Business Solutions Layer

The Business Solutions Layer has many gaps that require attention.

The Town staff are working on replacing the outdated CityView system which is being used to manage building permits. An Intranet strategy (TOPSI) that defines current/future capabilities including access for all Town staff, would help maximize value. A potential migration of the platform to the cloud (e.g. SharePoint) should also be considered once the strategy has been developed.

The consultants have identified the following business processes with no business solutions:

- Council and committee meeting management.
- Development planning application tracking.
- Recreation program registration.
- Electronic records/content management.
- Business and animal licensing.
- Licensing tracking.

4.1.3. Integration and Data Layer

The Town does not have the necessary tools to maintain data integration between multiple systems. There are some capabilities using REST APIs that have been used in GIS integration. Some opportunities for integration are listed below:

- All property and infrastructure-related business activities into GIS.
- All physical assets integrated with GIS

- All payments with the Great Plains system.
- Single Sign On (SSO) for business systems.
- Online forms with business systems.
- Property owner information between the tax system and the business systems (e.g., permitting).

The Town does not have a data warehouse for reporting and data analytics. A data warehouse could be useful in consolidated Town-wide reporting such as Key Performance Indicators (KPI) and dashboards for internal decision-making and external public-facing data sharing.

4.1.4. Customer-Facing Layer

The Town website is full of information to residents and visitors. A commonly used navigation allows website visitors to access the information they need. The Town is missing a huge opportunity to communicate with social media users due to its lack of social media presence.

The website should also be used as a channel to provide online services.

The current website has a limited number of online services. Most of the forms on the website are PDF forms where the customers are required to fill, print and send by mail or over-the-counter to complete the transaction. Online payment options are also limited. Other than a few recreation related payments, there are no other online payment facilities available to the residents on the Town's website.

4.1.5. Key Takeaways

The key takeaways from the assessment are as follows:

- The Town has a major gap with respect to IT Governance – specifically a structured process around IT strategy and technology decision making.
- The lack of IT Governance has resulted in the inefficient use of existing technology coupled with manual processes throughout the organization that could be streamlined with modern technology.
- The reporting structure of the IT Manager has had a negative effect on the ability to achieve the desired outcomes around IT governance – we must consider the importance of this role in technology decision making.
- All area municipalities interviewed are interested in exploring shared service opportunities.
- There are gaps in the Business Solutions layer that the Town needs to address.
- The Integration and Data layer has many opportunities to provide consolidated data analytics capabilities to enhance decision making based on evidence.
- There are lot of opportunities to improve online services through the Web channel

4.2. Opportunities

4.2.1. Governance of Information Technology

Information and Technology Governance Framework

An Information and Technology Governance Framework should define who makes technology decisions and how these decisions are made. It should clearly identify the groups and individuals who are involved in IT decision-making. It should specify which decisions are the responsibilities of which groups.

The goals of an Information and Technology Governance Framework are to:

- Establish a clear mandate and authority for all technology decisions.
- Engage stakeholders directly in technology decision-making.
- Better coordinate corporate technology initiatives, from which wider benefit can be derived.
- Establish a more rigorous evaluation and selection of technology projects to ensure a focus on ‘”high value” projects.
- Track the business benefits and value accrued from investments in technology.
- Ensure more effective resource utilization within IT and the business by focusing on corporately agreed directions.

The Information and Technology Governance Framework should allocate responsibilities for setting and approving the Town’s IT strategy including:

- Setting technology-related policies and standards.
- Determining prioritization of technology-enabled investment programs in line with the Town’s strategy and priorities.
- Monitoring the status of the IT portfolios and projects and resolving resource conflicts.
- Establishing and following the Town’s technology architecture and standards.
- High-level monitoring of the status of IT assets (e.g., hardware, software, resources).
- High-level monitoring of service levels and service improvements.

As a point of background, COBIT is an industry standard guide related to IT governance and management summarizes the purpose of governance as,

“Governance ensures that stakeholder needs, conditions and options are evaluated to determine balanced, agreed-on enterprise objectives to be achieved; setting direction through prioritization and decision-making; and monitoring performance and compliance against agreed-on direction and objectives.”

Roles and Responsibilities

The Information and Technology Governance Framework should typically include groups and individuals with defined responsibilities. These are the early days in the

journey towards a sound governance model, and the most important function will be to focus on a small set of priorities that support corporate objectives. The model *must* directly engage Directors and Managers in decision-making.

Project Portfolio Management

The term Project Portfolio is used to refer to the collection of projects (the technology work plan) that the Town is planning and undertaking at any one time. The Project Portfolio Management approach is the methodology by which projects are proposed, evaluated, selected and executed.

The goals of the Project Portfolio Management approach are to:

- Define the rules by which new projects are initiated.
- Create more visibility into the status of projects, so that projects that are facing challenges and delays can be identified and addressed.
- Select fewer projects, so that scarce IT resources can be focused on the projects with the highest value, and that the projects selected can be successfully delivered. Though it may be unpopular, the flip side of this approach is to eliminate low value-added technology projects that consume precious resources.
- Slow things down. There is often a tendency to jump from idea to execution too quickly without appropriate due diligence. This Project Portfolio Management process should be designed to ensure that ideas get fully thought through with all of the key stakeholders inputting before the projects are funded. This will mitigate the risk of implementing technology without a clear understanding of the potential benefits a solution might provide to *multiple* departments/divisions and/or the training required to properly leverage and exploit the products' capabilities.

The annual capital budget cycle should be the driver for the development of the annual IT work plan (Project Portfolio). Annually, in advance of the corporate budget process, the departments (including IT) will be invited to submit Project Proposals for evaluation for consideration for inclusion in the overall IT project portfolio. Note that all technology projects must be submitted through this process. Technology projects should not be budgeted directly in departmental budgets, without approval.

4.2.2. Digitization

As it tackles modernization, it is important that the Town consider digitization from an end-to-end perspective. That is, digitizing all the steps in a process from the customer, to the Town and back to the customer, not just small parts of the process.

For example, consider a paper form to apply for a grant: if the Town digitizes the form allowing a customer to submit the form online, that undoubtedly simplifies and digitizes the first step of the process for the customer.

However, if the next step of the process inside the Town is for staff to print the form and then manage a paper-based process, we have only digitized a small part of the process and missed the opportunity to achieve the biggest internal process efficiencies.

Moreover, what if the customer wants to check on the status of their request, or upload additional information, or amend something they have submitted – without an end-to-end system, they may not be able to do that. The Town will have made some of the customer's experience better but not all of it.

A more complete example of end-to-end process digitization can be seen in thinking about a Building Permit application:

- A customer visits the Town's website, clicks apply for permit and fills out the details of their renovation, attaches necessary drawings, pays the fees, and submits the application.
- Internal staff are notified by the system of a new application.
- Plans review is completed online, with marked up drawings returned to the customer online for them to make some minor revisions.
- The customer makes the adjustments and returns to the Town's website and submits revised drawings.
- With the plans review completed, the Town issues the building permit via the system, and the customer is automatically notified and downloads their building permit for printing and displaying at site.
- Work progresses well, and the customer now needs a plumbing and electrical inspection. The customer visits the Town website using their mobile phone and uses the online booking tool to book the local inspector for their first available inspection, which is automatically scheduled in the inspector’s calendar.
- The next morning, the inspector plans their day on their tablet, and the system provides a route to the location. Onsite, the inspector uses their tablet to record the detail of the inspection, take photos of the work, and issue a pass certificate. All of this is automatically filed in the system, without any administrative paperwork, and the results of the inspection are automatically emailed to the customer.

This is an example of true end-to-end digitization of a process where customer, office staff and field inspectors are connected throughout the process using a common system.

Such systems are in place in a growing number of municipalities across Canada, and not just large ones – small municipalities with 10,000 residents are now offering this level of service and this is the type of end-to-end service that the Town should aspire to deliver.

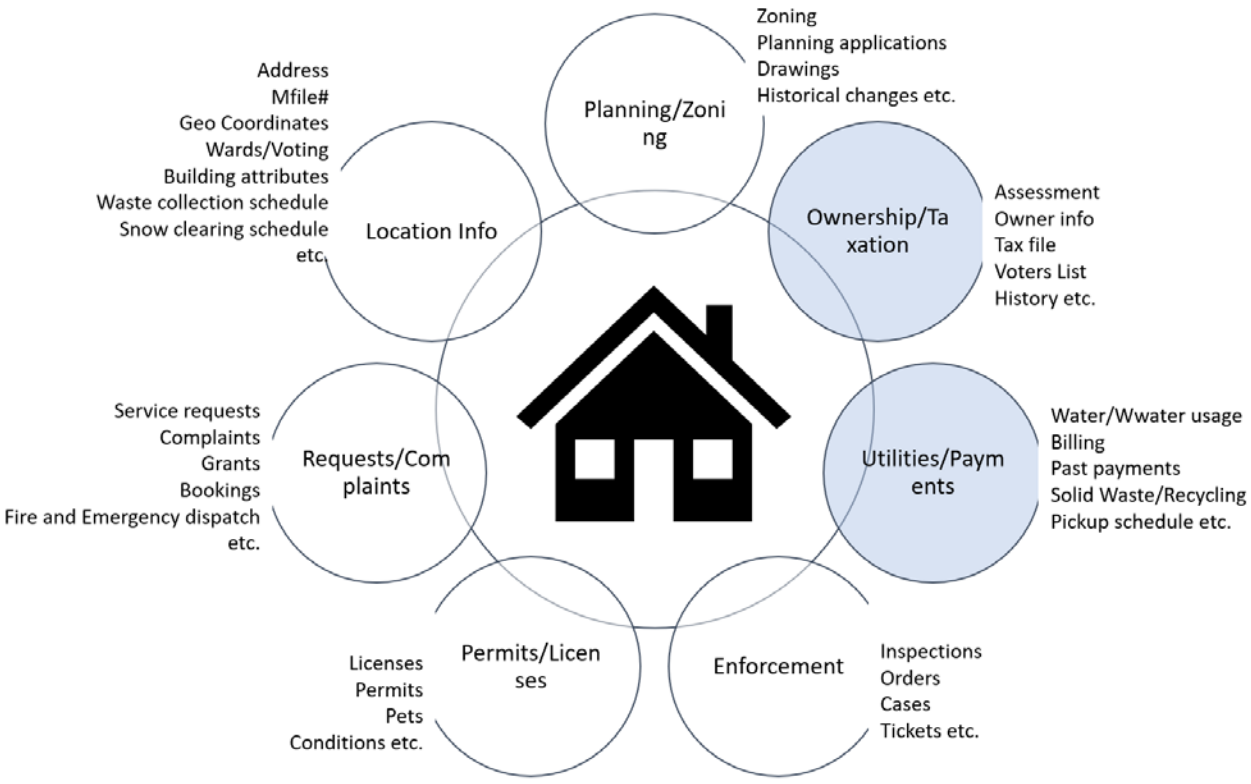
Specific areas of digitization opportunities are identified below:

Planning, Permitting and Licensing (PPLS)

The Town staff are in the process of replacing the CityView permitting system. It is recommended that the number of systems used to track land-related business activities be reduced.

The best scenario would be to have a single system that tracks all business activities related to land. These include: development applications, building and other permits,

by-law complaints, inspections and business licensing. There are systems that allow municipalities to track all these activities in an integrated manner. These out-of-the-box systems also come with built-in GIS and financial system integrations, online portal for customer self-service and mobile app for field staff that allow an end-to-end digital experience. The following diagram shows the land-related services that are typically automated through such a system. The highlighted areas are typically maintained in the financial system with an integration to the PPLS where the owner information is passed to the PPLS from the tax system.



The ultimate goal of implementing a PPLS is to consolidate all land-related information into a single interface where the Town staff could retrieve a property address and see the current and historical activities against that property such as permits issued, open orders, inspections done recently, etc. A subset of the same information could be made available to residents through a GIS interface to find out about activities taking place on a property in their neighborhood.

There are multiple off-the-shelf business systems that provide these integrated functionalities such as: CityView, Amanda, CityWorks, TownSuite, POSSE, Accela, etc.

Asset Management

The Town has implemented two asset and maintenance management systems. HIPPO is used by the Water and Wastewater business units for asset maintenance, whereas CityWide is used by the Finance department for asset reporting. The Town does not require two systems. Instead, the digitization of assets should be expanded to all

physical assets and all asset-related functions. The Town should consider a system that has the following features:

- Online service request tracking with access for the public through the Town's website.
- Work order generation, scheduling and completion including linking work orders to assets.
- Mobile access to field staff to update work orders/inspections and to collect work and asset-related information from the field.
- Tracking of preventive maintenance (PM) of assets with automatic reminders about upcoming PM activities.
- Asset condition tracking that allows third-party condition data to be imported to the asset management system.
- Asset capital planning functions that allow Town staff to prepare scenario-based reports to plan capital budget requirements.
- Asset commissioning and replacement function to allow adding new assets to the asset inventory and replacement of existing assets.
- The system should maintain the asset inventory and the core data related to assets such as original cost, ongoing costs, location.
- Integration with GIS where all physical assets can be visualized on a GIS map.
- Ability to track end-to-end permits such as Road Occupancy Permits should be available within the system.

There are multiple off-the-shelf business systems that provide these functionalities. Some commonly used are: Cityworks, CityWide, Maximo, Worktech/Pearl, Cartegraph, etc.

Document Digitization, Records Management, and the Intranet

The Town is in the middle of digitizing historical paper documents. This process requires special attention and a strategy. The current process allows users to receive/generate digital documents as well as paper copies. A system should be in place and all users should be trained towards a future paperless environment.

The Town's current intranet tool is not heavily used. The Town also has access to the SharePoint intranet and document management environment through the Office365 platform. O365 comes with multiple tools that allow the Town to integrate and automate the following functions:

- Intranet using SharePoint built-in intranet tool to improve staff collaboration and access to internal information.
- Electronic document management using the SharePoint document management features.
- O365 Flow is a workflow automation tool that could be used to automate business processes in areas where the Town does not have a business system in place.

- Teams virtual meeting tool that the Town is already using.
- There are third-party apps available for many process automation needs that are available in the O365 marketplace.

Online Services

The Town has a huge potential to improve the customer service through online services to residents. The current website is primarily used for information sharing only. Online channel is used by many municipalities to provide municipal services to be consumed from anywhere, anytime.

The cost of online services is proven to be a cheaper option than over-the-counter and over-the-phone interactions. The following chart shows a cost comparison between traditional and digital channels.

Channel	Cost per Transaction (Service Canada)
Web / Online	$0.10
Phone	$4.00
Face-to-Face	$6.50

Table 1 - Transaction Cost Comparison Across Service Channels

Reference: Anywhere, Anytime, Any Device: Innovations in Public Sector Self-Service Delivery Research Report by Kenneth Kernaghan Brock University 2012

Following are a few candidates for online services:

- Building Permit applications.
- Tax bills and account review.
- Utility billing and payments.
- Online payments for accounts receivable invoices, parking tickets, permits and applications.
- Licensing, including online renewals and applying for new licenses.
- Dog tags.
- Parking permits.
- Service requests and complaints.
- Marriage license requests.
- Facility booking and recreation program registration.
- Road occupancy permits.

The Town is in the initial stages of defining a Road Occupancy Permits program. This is a good opportunity to design this process as an end-to-end digital online process as a pilot project. The customer requests and payments could be online and integrated with a back-end permitting system for internal tracking and digital approval with the permit being emailed to the customer electronically.

Financial Processes

The Town is using Great Plains (GP) for all financial functions of the Town including utility and tax billing. The recent GL re-classification project has caused some challenges in the integration of GP with the Questica budgeting system. The finance team is working on resolving this issue. It was noted that the vendor support for both Questica and GP was a challenge and by directly going to the Questica vendor, the support has improved.

GP is implemented as a system to help the Finance department. The focus has been data processing for the Finance department and not necessarily automating the finance business processes. The consultants performed a Business Process Optimization (BPO) exercise to review the accounts payable process and found potential improvements that equates to over $200,000 cost avoidance. Details are in provided in Section 2.15.

Similarly, the timesheet and payroll process could be further improved by expanding the use of the HRISMyWay system to all staff. Currently, certain operational staff do not use the system to report their time. A process improvement in time tracking is proposed as the current Excel-based timesheets in some business units is cumbersome, e.g., roads operations Foreman needs to select department codes from a list of over 100 codes to prepare timesheets for the staff.

eBilling and ePayments for Utility bills and tax bills is another potential project that could help improve the customer experience as well as reduce the internal staff time required to process manual bills and payments. The Town uses the Bambora online payments service for recreation-related payments through the Town's website. This is a limited use of online payments. It is recommended that the eBilling and ePayment modules of GP be reviewed for implementation. The Town should optimize the current business process prior to implementing a digital solution. The current restriction on credit card payments should be re-evaluated for online payments.

4.2.3. Shared Services

Municipal Shared Services (History)

Service sharing has been common practice among municipalities for many years. There are three primary principles[1] of service sharing that must be satisfied to promote effectiveness and longevity:

1. **Common Interest:** In cooperating with political bodies and diverse sectors, it is critical to ensure that the objectives of all parties are aligned, achievable and fulfilled.
2. **Mutual Benefit:** All participants need to gain from the arrangement, and they need to gain in proportion to their contribution. The perception that arrangements are fair is important.
3. **Cost Effectiveness:** Managing the shared service relationship cannot take more time than the benefits of service sharing are worth. Arrangements should deliver value for money.

In 2016, the Association of Municipalities Ontario (AMO) formed the Digital Government Task Force as a means to provide input on digital government transformation to the provincial government. In 2017, AMO published a report stating that municipalities could consider sharing infrastructure and capabilities as this would allow economies of scale to occur organically.

Township of The Archipelago circa 2005: Graphical Information System (GIS)

With the nascent development of digital transformation and Cloud computing comes opportunities for the sharing of these digital services. However, we tend to believe it is the larger municipalities that have pioneered these initiatives, while smaller towns and townships continue to lag behind.

With a population of ~530 residents, the Township of The Archipelago ranks in the bottom 10% of the 444 Ontario municipalities. Yet, in 2000, the Township had the technological foresight to recognize the benefits of an emerging technology: Geographical Information Systems – better known as “GIS”.

Released in 1999, ArcGIS has now become the de facto standard globally for spatial analysis technology.

After several years of perfecting the use of ArcGIS, the Township proposed a shared service with the six other area municipalities:

1. Town of Parry Sound
2. Township of Seguin
3. Carling Township

[1] Municipal Finance Officers Association of Ontario – “Shared Services in Ontario’s Local Public Sector” 2016/09

4. Municipality of Whitestone
5. Municipality of McDougall
6. Township of McKellar

In 2005, the GIS shared services model was officially launched and for the past 15 years the success of this endeavor has cemented the program as the archetype for future West Parry Sound area collaborations.

Opportunities in 2021 and Beyond

Based on feedback from the area municipalities and the common themes identified, the majority of opportunities for cost efficiencies and improved service delivery will involve Cloud-based technology in some form or another. This may be a subscription-based Software as a Service (SaaS) or a shared Infrastructure as a Service (IaaS). Either way, informed decisions will need to be made on the advantages of these opportunities.

Since Cloud computing uses on-demand pricing, it is important for all municipalities to calculate the cost of maintaining IT infrastructure in-house. For most of the components involved, the concept of total cost of ownership (TCO) should be used. TCO is the means of addressing the real cost attributing to owning and managing IT infrastructure.

It comprehensively considers the entire lifetime spending, capital costs, cost of operations and hence is suitable for base cost estimation. A total of nine components should be considered in base cost estimation including:

1. Amortization.
2. Cost of servers.
3. Network cost.
4. Power cost.
5. Software cost.
6. Cooling cost.
7. Real estate cost.
8. Facility cost.
9. Support & maintenance cost.

For each component, the following two details should be provided:

- Explanation of all the variables involved.
- The method to calculate the cost of the component.

The overall aim is to come up with monthly costs for all the components being considered and thus all variables are converted to monthly parameters.

These are some of the activities that can run parallel to a shared Cloud pilot program that involves the testing of various service delivery platforms. This would be a low cost/low risk investment for each municipality.

5.0 Recommendations

5.1. Roles and Responsibilities

5.1.1. IT Governance

As a result of the drivers outlined in the Opportunities section the following two governance bodies are recommended:

1. **Information and Technology Governance Team** – Although this is typically a Director level group, the IT Manager will need to be included in this team as the Town's IT leader. The group will provide corporate leadership of technology decision-making regarding strategic directions, identifying and recommending investment priorities, policy and approval of corporate IT architectures and standards.
2. **IT Steering Committees** – These types of strategic working groups are convened as required around Enterprise Systems/Processes (e.g., Finance, HR, Work Management) and/or major work programs (e.g., mobile working, information management, digital service delivery). They are responsible for the more detailed level of determining strategies, work plans, and projects.

IT Governance has been recognized as a critical gap within the Town, with the above recommendations defined as activities in the initial stages of the work plan.

5.1.2. IT Leadership

The role of the IT leader doesn't look anything like it did three or five years ago. At one point in time every request for a new application or device was filtered through the IT department. However, with the proliferation of Cloud services, "shadow IT" – or employees self-selecting unsanctioned apps and devices – has become more prevalent. Initially, shadow IT was a threat; today it's become a business reality that has slowly made its way out of the shadows.

However, the IT leadership role remains critically important to an organization, even though the day-to-day responsibilities may have shifted to a certain extent.

Examples of key responsibilities that have shifted in an IT manager/director portfolio include the following.

From Gatekeeper and Configuration to Making Cloud Secure for Employees

"Ask IT" is no longer the default when an employee needs access to a Cloud app. Often, business leads have the power to select the apps their teams need to do their jobs. IT is no longer required to "set up" the app, since Cloud makes it much easier to launch a new platform.

However, IT leaders still need to be responsible for the security of the organization. Cybersecurity awareness training is a key aspect of this job. For example, a department may neglect to implement two-factor authentication on its Cloud service, either because it's too cumbersome or they're unaware of the security benefits. Others may reuse

passwords across many accounts or use weak-but-memorable passwords. This is where IT can provide proper guidance and governance, educating users on security best practices.

From Managing the IT Budget to Collaborating

IT used to hold budget control when it came to everything technology-related in an organization. Now, specific departments may have their own dedicated budget for Cloud applications or on-premise technology. However, this can lead to unnecessary waste.

For example, organizations may have investments in multiple applications with redundant functionality or licenses that are unused or under-used by employees (Cloud or on-premise). This is an area that the Town currently struggles with and would benefit from sound technology procurement practices.

A Seat at the Table

The only way to control security risks and budget inefficiencies is to collaborate and involve IT in all technology-related procurement discussions. In other words, IT leaders should regularly meet with senior leadership to understand their technology needs and help assess potential solutions.

From Tactical to Strategic

Traditional IT is reactive; responding to people who have limited technical ability. Today, tech has permeated most people's daily lives; the legacy IT service desk approach is no longer enough. The role of IT has become much more strategic.

IT departments are moving from "*a technology-providing cost center to a value-based service brokerage*." In other words, they're working with different lines of business to identify priorities and find the best technology solutions to meet the business needs. This also applies to municipal government where the business now *demands* IT be a strategic partner.

The Town needs to embrace the shift in the IT portfolio and promote alignment with the business. We recommend that current job description for the IT Manager role be reviewed and reshaped to address the recommendations in this section. The IT Manager will not have available cycles to provide strategic guidance if Facilities Management, Infrastructure Management and Energy Management remain in the portfolio.

5.1.3. IT Resourcing and Operating Expenditures

There is an organizational risk in having a (single) third-party resource holding a significant amount of control of the core infrastructure. A disruption of services could have a severe impact to the business which is why resource redundancy for core technology is critical. This is a common challenge for smaller organizations who quite often rely heavily on external support

However, the exponential growth of Cloud services has proven to be a panacea that's shifted the traditional approach of capital investments in IT infrastructure (e.g. datacenter, servers, storage, maintenance, etc.). It is not uncommon to see smaller organizations move 100% of their workloads to the Cloud; the only onsite technology being printers, desktops, local storage (if required), and any network gear required to connect to the Cloud.

Businesses are demanding more from IT including scalability and compute/storage on demand; municipalities are no exception. It's a Sisyphean task for the small IT shop to keep up with this level demand.

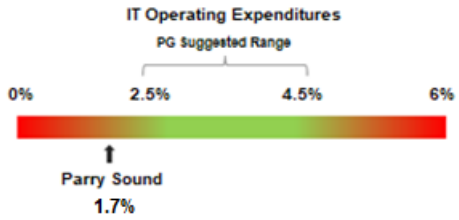


Figure 3: IT Operating Expenditures

The current IT operating budget is approximately 1.7% of the Town's total operational budget (see Figure 3). This places the Town below the recommended municipal average of 2.5% to 4.5%. However, there are opportunities within the current IT spend to achieve technology efficiencies that will address some of the common themes identified in the report.

The current infrastructure is struggling to support the demands of the business, with the following projects being considered in 2021/2022:

- Hyperconverged Technology – Being investigated as a replacement for current onsite infrastructure.
- Cybersecurity – Antivirus and training requirements.
- Mobile Device Management – IT requires the ability to manage the growing list of corporate devices.
- Backup/Recovery – Define business recovery time objectives and develop a disaster recovery plan.
- Corporate Phone System – The current phone system is 10 years old and does not provide the functionality required to support the business.
- Websites – Various security requirements (TOPSI, GIS, etc.).

The Town needs to assess the opportunities outlined in this report as they relate to the above requirements. To further illustrate the current state *figure 4* identifies the challenges and a high-level overview of the Town's infrastructure. The recommended future state (*figure 5*) includes options for efficiencies that will fit within the Town's current IT budget, however there may be a requirement for additional funding in order to provide capabilities in areas that currently have no solutions in place (i.e., manual processes) or solutions with limited functionality.

Note: Internet Uptime and Utilization (2020)

1. The average uptime for 2020 was 99.999%.
    - Service level maximum downtime calculation of ~5 minutes for the entire year emphasizes the stability of the Town's fiber connection.
2. The average bandwidth utilization for 2020 was less than 10%.
    - This statistic illustrates the substantial amount of available bandwidth the Town can/should be exploiting as part of a Cloud strategy.

Resourcing

As per the opportunities identified in the report, to be successful, these major projects should have dedicated staff and the necessary funding to support resourcing from business units.

The following are typical project roles that are required to implement the changes proposed through the BPO exercise:

Project Manager (PM): The PM will ensure that the projects are implemented as per the budget, scope and schedule. A dedicated PM for the BPO projects is proposed (and we believe) necessary based on the number and complexity of these projects. The PM will also play the role of a change manager.

Business Analyst (BA): The BPO project has identified multiple business process changes. The BA will: work with the PM in the digitization of the optimized business processes; understand the functionalities of business systems and match the business processes accordingly; identify alternative process steps in line with the functionalities of the systems; work with the business to interpret the business needs into system functions. It is recommended that a dedicated BA be made available to the BPO implementation project team.

Note also that it is possible to have a combined PM/BA role played by the same person.

Subject Matter Expert (SME): Town department users are busy with their day-to-day work. It is not practical to pull existing staff into a project and expect them to be able to do project work as well as operate effectively in day-to-day business. It is vital that dedicated SMEs are available as part of the project team for successful implementation, e.g., a Tax Billing SME would be made available if the Tax Billing business process were digitized. The recommendation is to reserve funds to hire backfill staff to do the day-to-day activities while a seasoned SME from the business unit is assigned to a project.

5.2. Cloud Opportunities

5.2.1. Challenges and Observations

The assessment has highlighted several challenges and general observations pertaining to the delivery of services including:

- Solution Redundancy.
    - Asset Management: CityWide and Hippo.

- Onsite Server Infrastructure Costs.
    - IT is spending a large percentage of the budget supporting onsite hardware/software.
    - A single external resource controls access/support capabilities to certain applications, e.g., [redacted] O365 (Global Administrator).
- Limited Capabilities (Intranet).
    - The TOPSI Intranet platform resides on a physical server and provides limited functionality.
- Insufficient Application Training/Awareness Practices.
    - Dynamics GP (Financial system).
    - Questica (Budgeting).
    - HRISMyWay (Employee/Management Portal).
    - TOPSI (Intranet).
    - CityWide (Asset Management).
    - HIPPO (Work Management/Asset Management)
- Missing Capabilities
    - Meeting Management Software, e.g., eScribe.
    - HR Recruitment Software, e.g., Recruit Right (eSolutions).
    - Recreation Program Software, e.g., BookKing.
- Internet Connectivity
    - Extensive bandwidth presents Cloud opportunities, e.g., shared Cloud sandbox

5.2.2. Cloud Benefits

There are numerous benefits associated with the continued move of business workloads and supporting IT services to the Cloud. Many of these opportunities will result in operational cost efficiencies for business areas and the Information Technology team.

Key opportunities include:

- O365 Upgrade to a hybrid of E1/E3/E5 licensing.
    - The license model will depend on the requirements for each line of business.
    - Corporate collaboration capabilities will have a positive impact on many areas experiencing inefficiencies.
    - Document Management (SharePoint).
    - Enhanced functionality for the Intranet (SharePoint).

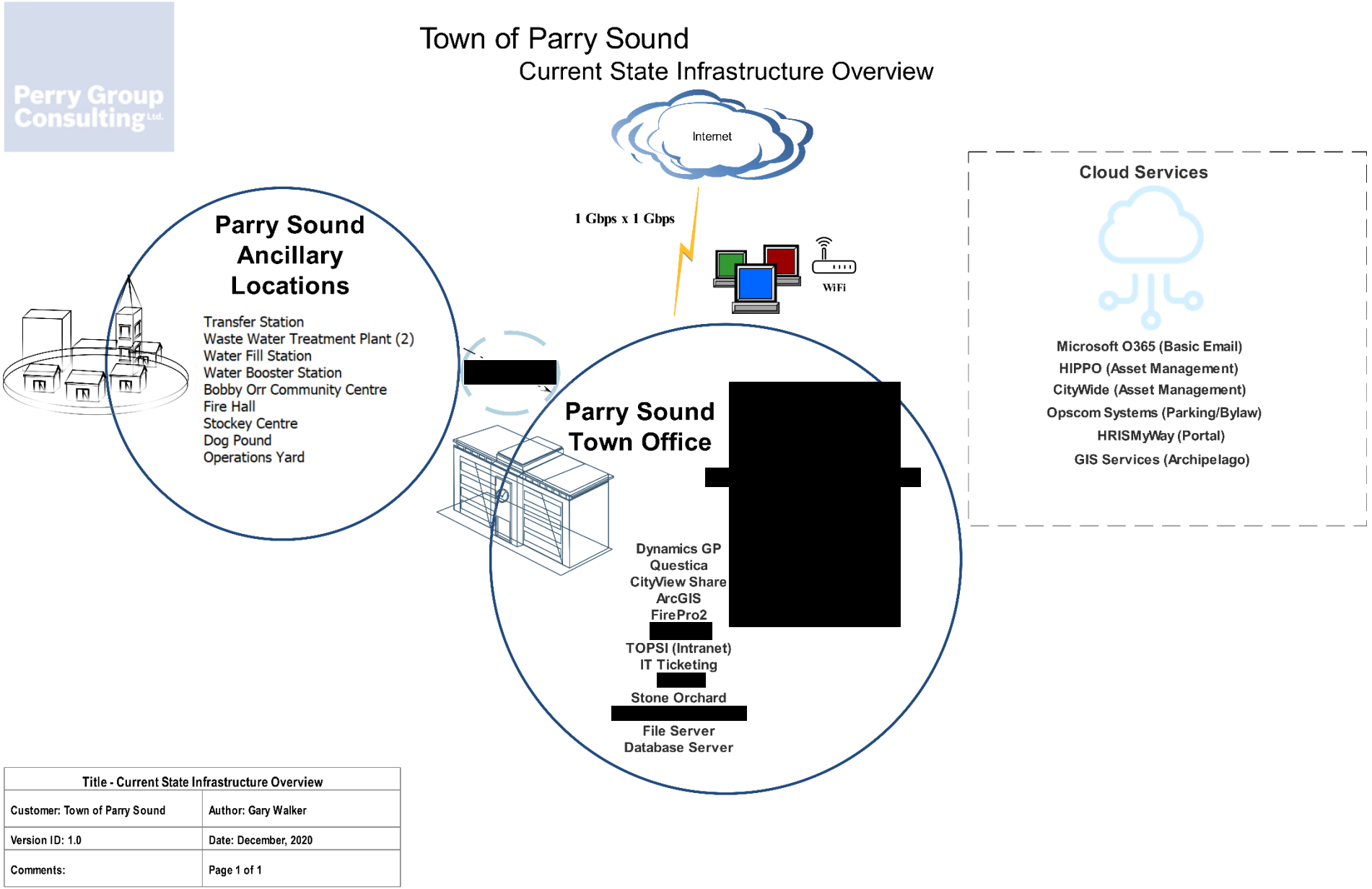
    - Mobile Device Management (Intune).
    - Enterprise class antivirus (Cylance, Carbon Black).
    - Enhanced security (O365 E5 licenses).
- Dynamic GP (CentralSquare).
    - Eliminate onsite hardware/software support costs.
        - Application supported/updated by the vendor (patches, fixes, etc.).
    - Third-party infrastructure support may no longer be required.
    - Additional modules included in the costs.
        - Building permits.
        - Municipal ticketing.
        - Pet licensing.
        - Business licensing.
- Questica (CentralSquare).
    - Eliminate onsite hardware/software support costs.
        - Application supported/updated by the vendor.
- Recreation Program Software (BookKing).
    - Cost-effective booking solution.
    - Integration with CentralSquare products.
- Council Meeting Management (eScribe).
    - Eliminate manual processes.
    - Streamline meeting management.
- Phone Upgrade (Softphone/Deskphone).
    - Private Cloud-hosted telephone system.
    - Dedicated hardware.
    - Unlimited calling.
    - Unified communications integration with O365.
    - Cost-effective alternative to buying/supporting an onsite system.

There are many opportunities for the Town to leverage current Internet capabilities as part of a well-defined Cloud journey. A high-level diagram outlining key elements of the current state IT infrastructure can been seen in *Figure 4*.

For a small IT department there is a substantial amount of on-premise hardware/software requiring support. Demands from the business will continue impact the infrastructure thus requiring annual increases in support costs. Most organizations are moving away from investments in hardware toward the scalable elasticity of the Cloud. To illustrate potential opportunities, *figure 5* highlights some examples of where

the Town can find both efficiencies and new opportunities by leveraging Cloud services. The items highlight in **green** are a combination Cloud services providing new functionality and/or enhancements to existing applications/tools.

Please refer to Appendix C – Municipal Case Study (Cloud) for a sample listing of Cloud services and associated costs for an Ontario municipality of a similar size to Parry Sound.



Title - Current State Infrastructure Overview	
Customer: Town of Parry Sound	Author: Gary Walker
Version ID: 1.0	Date: December, 2020
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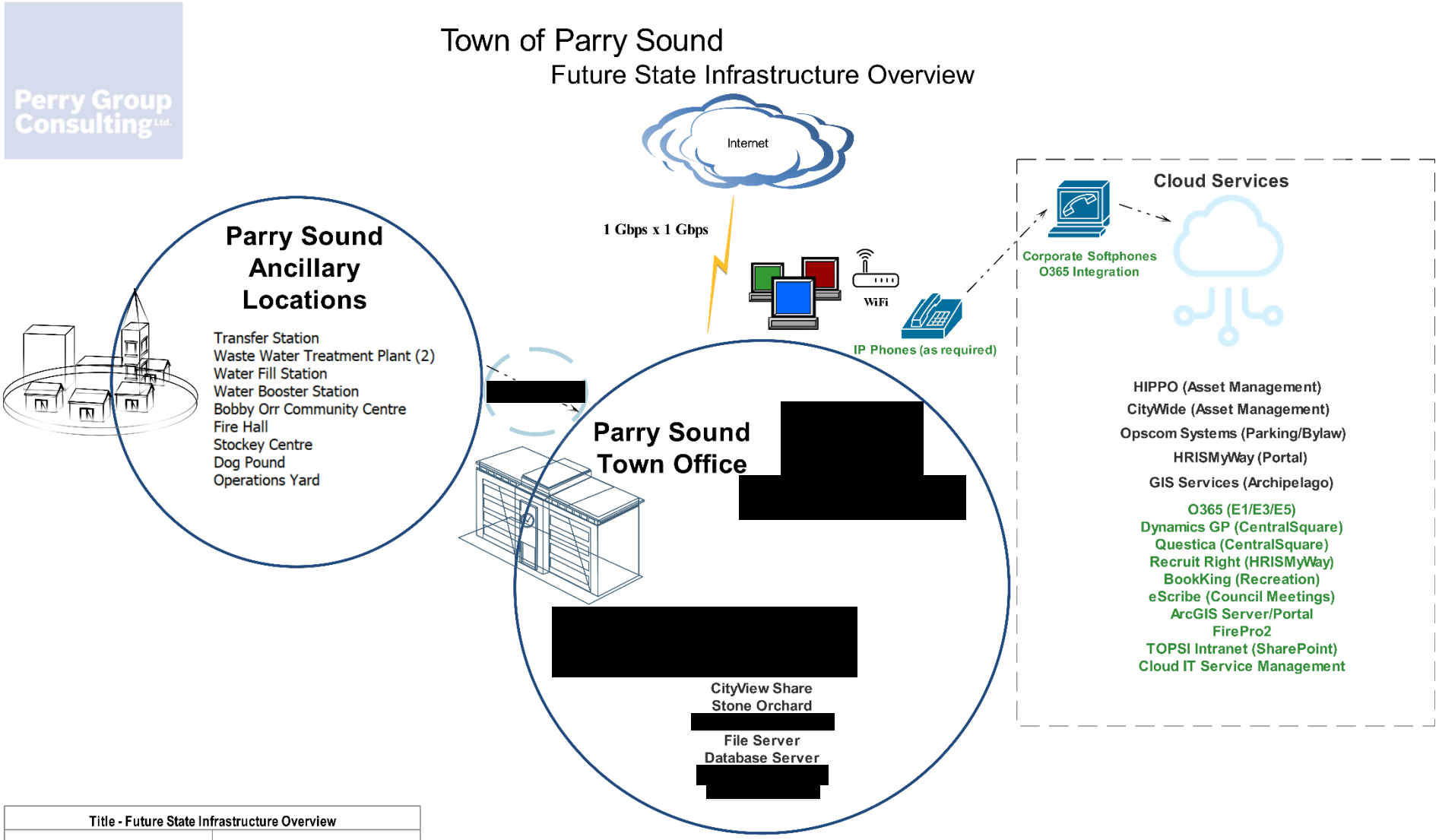
Figure 4: Current State Infrastructure



Title - Future State Infrastructure Overview	
Customer: Town of Parry Sound	Author: Gary Walker
Version ID: 1.0	Date: December, 2020
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Figure 5: Potential Future State Infrastructure

Action Plan and Roadmap

6.0 Action Plan

6.1. Approach

An analysis of the core recommendations as defined by the consultants throughout the engagement was conducted as part of the project ranking process. These activities helped define the preferred order of execution over a period of time with the understanding that the Town would need to take a logical phased approach based on the number of recommendations outlined in the report.

The list of core items has been captured in the Work Plan section with the recommended timelines presented in the Road Map section.

6.2. Risks

Important to the success of the recommended activities is the identification of risks that may in fact have a negative impact on one or more projects.

6.2.1. Organizational Structure

Although this project is not an organizational review per se, it should be noted that the current structure has the Information Technology (IT) department reporting to the Director, Public Works. This is an unconventional approach that needs to be revised, to ensure that all technology decisions are properly vetted by IT. Consideration should be made to have the Manager, IT report directly to the CAO including direct involvement in all technology related activities.

Additionally, there is an “IT Working Committee” that functions as a technology decision-making body for the Town. However, this process appears to be bypassed in certain situations; the procurement of the HRIS and Questica systems did not include adequate input from IT.

The “IT Working Committee” is a recommended approach to technology decision-making which should be reviewed to ensure proper processes are followed on a consistent basis.

6.2.2. IT/GIS Resourcing (Third-Party Support)

A phased hand-off of all IT activities, including a knowledge transfer pertaining to core Town IT infrastructure, will require a well-defined plan. A technology disruption could have a negative impact on critical Town services, and the current third-party support resource poses a threat to the organization as a *single point of failure*.

Moving forward, all third-party support of critical IT infrastructure should include formal service level agreements (SLA), sound documentation, and a level of redundancy that adheres to the Town’s tolerance for risk (as defined as part of a formal IT risk management program).

With respect to GIS, it is recommended that the Town assess the maturity of the current GIS strategy and identify any gaps. This will provide the information necessary to define

a roadmap. This should then be added to the work plan and roadmap outlined in this report. It should be noted, that a large number of municipalities of a similar size to the Town have a fulltime GIS resource. This is becoming a common requirement.

6.3. Work Plan

ID	Description	Implementation Cost	Annual Operational Cost	Total Cost (Est.)	Benefits
1	Upgrade [redacted] systems	~$300,000.00	TBD	TBD	Improved security and support - required for a core/critical systems.
2	Initiate IT Governance Groups	$0	$0	$0	Provides clarity between the business strategy and the IT strategy and initiates. Provides a measurement of performance related to IT management and control practices, to help detect failures and ensure continuous improvement.
3	Re-assess the reporting structure of IT	$0	$0	$0	Enable organization-wide IT support and allow the current IT Team to provide enhanced strategic direction to the business.
4	Develop a plan to initiate Cloud sandbox	$0	$0	$0	Increase the agility of system deployment, and decrease the dependency in technology support, Reduce the long term cost of infrastructure.
5	Launch sandbox services	$7,500 – $10,000	$6,000 – $7,000	$13,500	Enable research and test capabilities that will help streamline IT costs by limited investments in hardware and associated support costs.
6	Initiate area municipal Cloud consortium group	$0	$0	$0	Enable cost sharing among area municipalities
7	Expand HRISMyWay to all staff				Build consistent digital processes, enhance the time capture process efficiencies
8	Fix the GL reclassification issues				Enhance the user experience of Questica reporting

ID	Description	Implementation Cost	Annual Operational Cost	Total Cost (Est.)	Benefits
	and the Questica integration				
9	PPLS Implementation (Including CityView replacement)	$50,000 – $100,000	$20,000		Enable property related integrated data analysis to staff, Reduce the time spent by staff in searching for property related information in multiple systems, Improve internal decision making capabilities
10	Implement Council Meeting Management solution (eScribe)	$5,000 – $7,000	$12,000 – $15,000	$17,000	Enable efficient meeting management processes, reduce paper use
11	Purchase Recruit Right module (HRISMyWay)	TBD	$6,000	$6,000	Improved customer service with online features and more efficient internal process saving staff time and costs
12	Recreation Booking Solution (BookKing, PerfectMind)	$5,000 – $7,000	$5,000 – $7,000	$10,000	Improved customer service with online features and more efficient internal process saving staff time and costs
13	Develop a strategy for O365 expansion – MDM Security	$0	$0	$0	Engage an O365 broker for guidance (no cost options available). This will help ensure costs are aligned with actual needs, thus avoiding over-provisioning of cloud services.
14	Upgrade O365 – Email, MDM, Security (incl. AntiVirus)	$10,000 – $14,000	$65,000 – $75,000	$80,000	Enhanced mobile device management and security. Resource estimate based on occasional support outside of Town IT.
15	Upgrade Phone System to Cloud-based softphone service	$7,500 – $9,000	$10,000 – $13,000	$17,500	Software will reduce costs, provide mobility to field workers, and allow for enhanced conferencing capabilities. O365 integration and desk phones not included in estimate.

ID	Description	Implementation Cost	Annual Operational Cost	Total Cost (Est.)	Benefits
16	Move IT Ticketing System to Cloud service (ManageEngine, Jira)	$2,500 – $4,000	$4,000 – $5,000	$6,500	Enhanced management of support requirements and tracking of IT assets.
17	Migrate Dynamic GP/Questica to CentralSquare SaaS	$9,000 – $11,000	$14,000 – $18,000	$23,000	Additional modules included for: building permits, municipal ticketing, pet licensing, business licensing
18	Completion of the document digitization initiative				This is an ongoing project. It is important that all manual files be digitized and made accessible to relevant staff, improving staff efficiency
19	Virtual Courthouse system requirements	$5,000 – $10,000			Improved customer service and more efficient use of staff time and resources.
20	ICON data extraction for POA daily reports				Reduce the time spent in manually extracting data and duplication of efforts to save staff time and resources
21	Procure-to-pay process automation (GP)	$5,000 – $7,000			Using the GP workflow, automate the Accounts Payable process. As per the business process optimization exercise, over 6000 staff hours can be saved annually.
22	Digitize the roads permits business process	Included in PPLS			Improved customer service with online features and more efficient internal process, saving staff time and costs
23	Asset Management system expansion (CityWide)	$40,000 – $60,000	$8,000 – $10,000		Improved customer service with online features and more efficient internal process saving staff time and costs. Ability for evidence based decision making with data analysis through an integrated digital solution

ID	Description	Implementation Cost	Annual Operational Cost	Total Cost (Est.)	Benefits
24	Online services with eBilling, ePay (GP)	$25,000 – $35,000	$7,000		Improved customer service with online features and more efficient internal process saving staff time and costs. Saving paper through the elimination of paper bills to customers
25	Digitize the licensing process including pet licenses, marriage licenses, taxi licenses etc. using the PPLS	Included in PPLS			Improved customer service with online features and more efficient internal process saving staff time and costs
26	Digitize the development planning process using the PPLS	Included in PPLS			Improved customer service with online features and more efficient internal process saving staff time and costs. Improved citizen awareness and transparency
27	Digitize the by-law complaints process using the PPLS	Included in PPLS			Improved customer service with online features and more efficient internal process saving staff time and costs. Improved citizen awareness and transparency
28	Implement a digital mobile solution for fire response tracking in the field for the Incident Command				More efficient business process to save staff time and increase access to information anytime, anywhere

Appendices

8.0 Appendix B – PGC Policy Guidelines (Sample)

2. Policies, Standards and Procedures Descriptions

1. Policies

1.1 Overview

Many organizations confuse policies by including procedures within them or calling a procedure a policy. The two should always be separated, as policies should not change frequently, whereas procedures may change for a variety of reasons, such as performance improvement or additional tasks.

1.2 What is a Policy?

A policy is a deliberate system of principles to guide decisions and achieve rational outcomes. A policy is a statement of intent and is implemented as a procedure or protocol. Policies are generally adopted by a governance body within an organization.

A policy should be clear and precise, should include relevant information, and be as concise as possible to ensure understanding and clarity.

A policy should be implementable and enforceable, meaning a policy that does not make sense or that nobody would or could follow would be impractical and a waste of time for everyone in the organization.

1.3 Types of Policy

In many municipalities, there are two types of policy: Administrative and Council.

Administrative

In this type of policy, the policy is developed by administrative staff, vetted by senior management and approved by an appropriate person or group, usually the Head of Department, CAO, or Senior Leadership Team. There is no requirement to go to Council for approval due to either the enterprise governance model, or that Council have no involvement with how the policy is to be managed.

Council

Some organizations require only certain types of policy to be approved by Council, while others require all policies to be approved by Council. You should check your organization's typical approach before issuing any policies.

It is important to understand the type of policy model in place for your organization, and to determine the level at which approval is required for your IT policies.

1.4 Issue and Audience

There are two key questions relating to any policy:

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

1.5 Categories of Policy

We recommend that IT Policies should be broken down into the following categories:

1. IT Governance, Risk and Compliance policies.
2. Project and Change Management policies.
3. IT Procurement policies.
4. Service Availability policies, like disaster recovery (DR), business continuity (BC).
5. Acceptable Use policies, like an email usage policy or computer usage policy.
6. 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.
7. Information Management policies - focus on managing data such as its retention and destruction.

1.6 Specific vs Overall Policies

We recommend an approach which clearly differentiates between issue-specific, operational policies, standards and procedures, each of which should be set forth in separate documents. However, one policy that covers several areas of acceptable use can be created in a combined document e.g. Acceptable Use of IT Policy. It is essentially several specific policies wrapped into one document directed at one intended audience (e.g. users).

1.7 Characteristics of Good Policies

They should be:

- Short and to the point
- In plain and understandable language
- Well structured
- Consistent
- In accordance with and in line with the latest laws and regulations
- Clear on what is permitted and what is not
- Specific, relevant and applicable to the target audience

1.8 What should be included in a Policy?

As already stated, a policy should be as concise as possible, but some information must be included to ensure the audience understands why the policy has been established.

1. A header with the policy name and number, who it affects, the date it was established and the date it will be reviewed, as well as who has approved this policy.
2. The purpose of the policy. The audience must understand why the policy has been established, so providing a clear purpose is a necessity.
3. The scope of the policy. While the general audience is defined in the header, this is where specifics are included. For example, are volunteers or third-party contractors affected by this policy? Are there exceptions? Clearly state to whom the whole policy applies.
4. The statement. The statement is the actual rule or rules, standard or standards, that the policy needs to communicate.
5. The owner of the policy: who is responsible for maintaining this policy?

6. Definitions. Clearly define any terms used within the policy.
7. Legislation considered when developing the policy. State any legislation that was considered when developing the policy, and why it was considered.
8. The person or persons to whom questions regrading the policy should be directed.
9. References. Provide references to other documentation that support the policy, including other policies and any associated procedures.
10. Compliance requirements and penalties for non-compliance

2. Procedures

2.1 What is a Procedure?

A procedure is a document written to support a policy statement. A procedure is designed to describe who, what, where, when, and why in support of the implementation of a policy.

2.2 What should be included in a Procedure?

The procedure document should contain clear and precise information on how to complete the series of tasks that define the procedure.

1. A header with the procedure name and number, who it affects, the date it was established and the date it will be reviewed, as well as who has approved this policy.
2. The policy that the procedure is associated with.
3. Scope and applicability. Describe the purpose of the procedure, standards, and any regulatory requirements.
4. Roles and responsibilities. Describe who is responsible and what they are responsible for.
5. Desired outcomes. Describe what will happen when the procedure is completed.
6. Definitions. Clearly define any terms used in the procedure
7. Health and safety. Provide any health and safety warnings that may affect this procedure.
8. Equipment and supplies. Provide a list of equipment and supplies that may be required to complete the procedure.
9. Methodology and procedure. This is where you describe the tasks performed to complete the procedure. Use a series of numbered and sequenced steps. Include any 'what if?' considerations and what to do if situations are encountered.

3. Maintenance

3.1 Maintaining Policies

Policies should be reviewed on a regular basis to ensure they are still accurate, applicable and enforceable. Policies by nature should not change frequently. However, various factors may affect your policies and cause changes to be made.

For example, new legislation may take effect, or a Council may change and take a different strategic direction that would require an organizational policy change.

Policies should be reviewed at the very least bi-annually, and preferably annually.

3.2 Policy Disposal

In addition to policy maintenance, it may ne necessary at times to dispose of a policy. For example, a policy that states that confidential files must not be removed from the municipal building or network may become obsolete in today's world. The use of USB keys, Dropbox and other technologies result in a policy such as this being impossible to enforce, and also may be limiting performance and efficiency within the organization.

As such, it may be time to retire this policy. It could however be replaced with a new policy, stating that the confidentiality of these files must remain a priority and it is the responsibility of the staff member to ensure that confidentiality is maintained.

3.3 Communication of Polices

A consistent and effective way of communicating policies to their intended audience must be in place. This includes new policies, policy updates and changes as well as when policies are disposed of.

It is paramount that the audience for the policy be informed on the policy, and their responsibilities with regards to the policy.

3.4 Policy Sign-Off

It is recommended to have the audience members sign off on policies, to acknowledge that they have read and understood it and will abide by it. This will ensure that if a violation of the policy occurs, the sign-off document can be referred to in case lack of knowledge of the policy is given as mitigation.

3.5 Onboarding

When new employees are hired, important policies should be provided at onboarding, along with an explanation of each policy and the responsibilities of the new hire. Sign-off on understanding of the policies should be obtained at this time.

3.6 Maintaining Procedures

Procedures may change more frequently than policies. For example, someone may discover a better way to perform the procedure. Regulatory requirements may change requiring procedural changes.

Due to the potential of such changes, documented procedures should be updated as soon as a change in procedure is required. Ensure the procedure is tested against the documentation to ensure accuracy and effectivity.

Additionally, procedures should be reviewed annually to ensure they are still applicable and effective.

9.0 Appendix C – Municipal Case Study (Cloud)

9.1. Situation

As a small Ontario municipality with two IT staff, supporting applications and devices for ~75 staff was becoming a challenge. The business was demanding digital transformation and efficiencies that the current IT infrastructure could no longer support.

Decisions needed to be made on where future IT investments would be made, *i.e., the internal infrastructure or external Cloud services.*

Perry Group developed an IT strategy for the municipality that included both security and Cloud recommendations taking them into 2020/2021 and beyond.

9.2. Recommendations

The IT strategy developed by Perry Group included a series of phases that would serve as the starting point of the municipality's Cloud journey. It was critical that the plan was coupled with a sound IT governance framework.

9.3. Benefits and Costs

Over the past two years (2019/2020) the municipality has moved the vast majority of workloads to the Microsoft O365/Azure platforms with the help of a Cloud broker specializing in Microsoft Cloud and supporting technologies.

To ensure the municipality was able to control the budget and meet the needs of the business, a hybrid approach coupled with mobile device management and enhanced security was implemented.

Example services and associated monthly costs include:

- Microsoft Email Only Licenses (33 staff) – $4.80 ($158.40)
- Microsoft O365 E1 Licenses (14 staff) – $9.90/ea ($138.60)
- Microsoft O365 E3 Licenses (33 staff) – $25.10/ea ($828.30)
- Microsoft Enterprise Mobility + Security E5 (78 staff) – $18.52 ($1,444.56)
- Antivirus Software (72 staff) – $10.00 ($720.00)
- Microsoft Advanced Threat Protection (75 staff) – $3.00 ($225.00)
- Hosted Azure Servers (6) – $250.00 ($1,500.00)
- Patching and Monitoring of Onsite Servers (4) – $250 ($1,000.00)

As seen in the sample pricing, the municipality has a hybrid of servers remaining onsite (4) and those residing in the Cloud (6). In addition, staff have different requirements for email and collaboration, so a mix of Microsoft O365 licensing models were used (Email Only, E1, E3). There was a requirement for mobile device management and enhanced security so the Microsoft E5 package was added for 75-staff members.

The end result has been an increase in efficiencies, mitigation of security breaches, with minimal impact on the annual IT budget.