County of Renfrew
Ontario . Canada
Experience Our History, Share Our Future!

Digital Strategy

Final Report

Perry Group Consulting Ltd.

March 30, 2022

www.perrygroupconsulting.ca
647-669-9540

1.0 Version History

Version #	Date	Prepared By	Prepared For	Comments
1	February 25, 2022	Perry Group	C. Ryn	Draft Version
2	March 15, 2022	Perry Group	C. Ryn	Updates for Roadmap
3	March 26, 2022	Perry Group	C. Ryn	Final modifications
4				
5				

Table of Contents

2.0 Introduction

Perry Group Consulting (PGC) is a firm that specializes in technology in municipalities. Our mission is *building better municipalities* and we have worked with over 150 municipalities across Canada on technology strategy and planning work, business process optimization and solutions implementation.

Perry Group was hired by the County of Renfrew (the "County"), to assist in the development of a Digital Strategy. The project, which began in September 2021, was sponsored by the County's Director of Corporate Services and the IT Manager and was supported by the Senior Leadership Team (SLT).

The consulting team spent a considerable amount of time meeting with representatives from all departments, County Council, and several of the local municipal elected officials and CAOs to fully understand the current situation and goals.

2.1 Strategic Plan Alignment

This project was identified in the Corporate Strategic Plan (CSP) 2019-2022 as a major priority. The goal of the Technology Acceleration priority in the CSP states:

> *"Position the County of Renfrew so that residents benefit from advances in technology, and to ensure residents and staff have fair, affordable, and reasonable access to technology".*

The development of an IT Roadmap was also identified in the Service Delivery Review, completed in 2020. This review further identified the need for the digitization of several processes which have been included in this plan.

The previously submitted Current State Report reviewed foundational areas such as the technical infrastructure, policies and procedures as well as IT Service Management Practices. It identified areas that were working well and in a good position to move forward, as well as areas that require further attention.

The Current State Report provided the opportunity for senior leadership and Council to set a new direction for how technology is managed at the County. This new direction forms the basis for this Digital Strategy and helps to set the foundation for the roadmap moving forward.

This Final Report provides details on the opportunities, the prioritization processes, and an understanding of the expected benefits of the Digital Strategy.

Thus, implementing online services and encouraging their adoption is an important way for the County to reduce staff time processing requests and overall transaction costs.

2.2 Pressure on Core Services

All departments are reliant on core corporate functions but financial processes, in particular, are critical business processes in discharging their responsibilities and impacting others.

Many manual processes inhibit the County's departments' ability to move at the speed they need, while balancing corporate controls. These core functions, used by all departments, must be efficient, effective and operate in real-time if the County is to be successful.

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

Threats and opportunities include:

Delivering customer service that meets expectations.

- With further restrictions from COVID-19, there is a need to ensure that customers can transact with the County through online services. This means the County must change the way it is delivering service to meet the needs of its customers (residents, businesses, local municipalities, partners) who, especially now, use online services as part of their day-to-day routines.

Stretching scarce resources.

- Resources are scarce in municipalities, as is funding. It has been proven that municipalities that utilize integrated systems – rather than manually keying in data – are able to utilize staff more efficiently to work on more value-added activities. The value of integrating systems is that there is "one version of the truth". In other words, there is only one place data is entered and the system does the linkages between programs. Having good data is valuable to any organization, especially municipalities that manage many lines of business.

Doing more with less.

- Enabling mobility is a valuable step in moving toward modernization. By deploying, for example, mobile building inspections software and enabling online inspection booking, the County would see increased productivity of inspectors. Other municipalities have seen cost savings each year by enabling mobility in areas such as Building, Emergency Services and Asset Management. Organizations that have implemented Work Management systems with mobile capabilities have seen a significant increase in productivity, in some cases seeing crews resolving up to 60% more work orders through supporting technologies.

Using data to optimize services.

- Municipalities are seeing savings using route optimizing technologies (as used by UPS and FedEx) to optimize patrols, inspections, and snow clearing routes. Integration of systems is a key component in being able to optimize services through data.

COVID-19 and other infectious viruses.

- Municipalities are working remotely and streaming Council meetings rather than having face-to-face interactions due to the changes thrust on them by COVID-19. Some municipalities are adopting this model as a permanent way of doing business, and this requires availability to broadband services that allow residents and staff to interact effectively and seamlessly. There will be more pressure on municipalities to implement solutions quickly and offer online services.

These are some examples, but new technology opportunities appear daily, and the speed at which new innovations arrive is accelerating. Municipalities need to be well-positioned to evaluate and implement those innovations that can add value.

Being an organization that can react and embrace new technologies as they become available, to deliver improved and even more cost-effective services, is advantageous. Adaptation should become a core competency for any high-functioning municipal organization.

2.3 Return on Technology Investments

Investments in technology – when done right – can deliver tremendous efficiency gains and radically improved customer experiences. When technology solutions are implemented poorly or not fully implemented, the detriments are easily discernible.

The County of Renfrew has a number of key systems in place, but they are mostly underutilized. This leads to frustration, reduced staff morale, and too much attention being paid to administrative issues rather than the more human elements of public service.

It is imperative, therefore, to be positioned so that the organization can truly maximize the value it receives from technology investments. This will not only improve life for staff, but also the residents of the municipality.

2.4 Project Approach

Given the importance of technology and data to the County, from the outset, this project was approached as an enterprise initiative, not an IT Division project.

The project was essentially developed in four phases:

- Meet with Project Sponsor and Team to clarify project scope.
- Gather background documentation.
- Discuss opportunities and barriers with SLT.

- Conduct all-staff Ideation survey.
- Interviews with staff on the current state of technology
- Conduct MTM*, MOSA* and DMM* assessments
- Interview County Council

- Identify and prioritize digital opportunities
- Conduct Digital Readiness Assessment
- Identify people, process and technology recommendations
- Review with SLT

- Develop a shared Digital Vision and supporting principles with SLT.
- Develop roadmap and draft strategy.
- Finalize and deliver Digital Strategic Plan
- Present to County Council

* MTM = Municipal Technology Model, MOSA = Municipal Online Services Assessment, DMM = Digital Maturity Assessment

In addition to building on the background material and information collected, extensive consultation was conducted in order to collect and validate information through conversations with staff, IT, SLT, several local municipal elected officials and County Council.

Detailed consultations with the IT Manager, the IT Team and the Director of Corporate Services were conducted to fully understand the complexity of the network and the different systems in use as well as updates on project status and concerns.

Several workshops were held with SLT to understand their goals and requirements as well as to prioritize opportunities best suited for digitization and to establish a shared Digital Vision and supporting principles.

2.5 Acknowledgements

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

3.0 The Digital Opportunity

3.1 The Context

It is undeniable that, over the last decade and a half, the world has become increasingly digital and this past two years has only accelerated this growth. In response to the pandemic shutdowns and work from home protocols, there have been disruptive changes to all business models forcing many to embrace technology to simply maintain operations as businesses were forced to close their physical locations.

Technology was shifted into being a critical function and IT departments were no longer a supporting back-office service, but they became essential to new service delivery methods. The County of Renfrew, like so many other municipalities, faced unprecedented similar challenges when the pandemic hit, resulting in needed changes to service delivery and interactions with residents, businesses and the local municipalities.

Even before Covid-19 and the execution of technology-enabled business continuity measures, County staff were already heavily dependent upon technology. It is central to the County's ability to deliver services as diverse as managing finances, maintaining critical infrastructure, managing community housing and delivering emergency services. All of these services today rely on technology to operate effectively and efficiently and would be significantly more costly to deliver without technology.

The latest information from Statistics Canada shows that over 92% of Canadians are online and 76% have smartphones and over 88% of Canadians bank online – illustrating starkly just how pervasive technology has become.

Federal, provincial, and municipal governments across the country have recognized these trends and are embracing these concepts and ideas too – implementing new capabilities to deliver digital government services to their customers. Just think about your own experiences with online health card renewals, getting a fishing license, or ordering your vehicle sticker.

In response, municipalities across Canada have been rapidly introducing digital services to streamline service delivery and make customer experiences better. For example:

- Haldimand County has made it easier to pay for different services through an online payment solution.
- Durham Region has several applications available online including the Oversize Load application.
- Middlesex County has found success in providing IT services to the local municipalities.
- Peel Region has extensive information, applications, and online payments for the different waste collection services.

By applying digital techniques and technologies, there is the opportunity to transform customer-facing and internal processes. It is possible to reduce how often customers must come into the municipal offices to make payments, to sign forms, to drop off drawings or to pick up a permit. The County can proactively notify customers of what is happening with their requests, rather than customers having to contact staff to check up on progress or status.

Not only does delivery via the internet offer the ability for customers to self-serve and create capacity in the County, but digital services are significantly cheaper for the County to run as the table below illustrates.

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

The results are consistent in their message: online transactions cost a fraction of phone or face-to-face transactions. The conclusion is that implementing online services and encouraging their adoption is an important way for the County to reduce staff time processing requests and overall transaction costs.

What's more, the expectations of customers are also the expectations of our staff – who, just like customers, want to use digital technologies to help them be more productive and efficient.

Internally, there are various opportunities to automate and streamline high-volume back-office processes, such as payroll, expense management and invoicing processes, to improve collaboration on projects, and to enable our mobile and field workers.

The opportunity is to take advantage of the internet and smartphone era and the associated technologies available to improve services and internal processes – to move to a self-serve, digitally-powered service model that uses data to support continuous improvement.

In doing so, we can:

- Offer more convenient services that meet customer expectations.
- Build customer trust.

- Effectively scale our services as the community continues to grow.
- Increase front- and back-office and mobile worker efficiency and productivity, freeing staff for higher value-add work.
- Improve recruitment and retention (by providing a flexible, modern workplace).
- Improve our stewardship of the asset portfolio.
- Reduce the overall cost-of-service delivery.

3.2 The Importance of this Digital Strategy

This Corporate Strategic Plan and Service Review project identified the need for a Strategy or roadmap for technology.

While this need may have been the impetus for this project, the development of this Digital Strategy is intended to further enhance the strong technical infrastructure to providing more services that are so required today. The demand for more digital offerings and services is growing quickly. Leaders and staff in the business departments are looking for IT to provide more guidance and support for service efficiencies through the use of technology, however, the current mandate of IT is to ensure a strong and stable network infrastructure – this includes data services, voice services, cybersecurity as well as support.

The IT team is not resourced appropriately to provide assistance with both Cloud and on-premise business solutions implementations. This is a challenge that becomes even more evident when assessing the current state of technology use.

Given the importance of technology and its role in delivering County services – and particularly given the many competing demands of the municipal setting – a Digital Strategy is crucial. It should address questions that are fundamental to the County's future success, such as:

- Are we doing the right things with technology and digital?
- Are we making the right technology and digital investments?
- Is our information technology environment properly managed, maintained, secured and able to support the clients?
- Is it cost-effective?
- What are our future business needs?
- Is our technology environment equipped to meet current and future business needs?

The diagram below is an illustration of how the crux of common systems feeds a multitude of areas – internal and external to the County – such as back-office staff, customer service agents, field staff, Council and management as well as online customers, face-to-face customers, phone customers and app/social media customers.

Figure 1: Connecting People Through Common Technology Systems

Using common, integrated systems ensures that inquiries flow from front counters to the back-office and to appropriate field staff for resolution. This increases the potential to deliver expected results consistently and reliably at a reasonable cost.

Technology should provide management with the information it needs to support evidence-based decisions – helping to identify optimizations that drive service costs down (with improved efficiencies and reduced redundancies) and support cost avoidances. It should give Council the insights, performance indicators and long-term projections it needs to provide effective oversight to the administration.

Beyond back-office systems, municipalities are increasingly employing what are referred to as “Smart City technologies” and more connected County-wide sensors are being used to monitor critical infrastructure (e.g., detect water leaks, highlight congestion, or report a full garbage can) and alert staff to where problems are anticipated or have occurred.

Data and information is expected to become increasingly more important, providing insights about service delivery that allow County officials to improve efficiency and improve services. Predictive analytics will likely help municipalities work smarter and more efficiently.

Critically, a Digital Strategy allows the County to determine its strategic technology priorities and then set out the initiatives and activities that will be critical to supporting the County’s strategic business goals and objectives, and what supports will be needed to deliver on the priorities.

To date, the IT team has had the mandate to focus on network infrastructure and general support. This has worked well in the past and IT has grown accordingly, however, this model no longer works in today’s digital world. Business departments are looking for more technical and digital expertise from their IT resources. Help is needed in moving more and more services to the Cloud, to navigating the world of mobile service delivery and, of course, managing the risk of cybersecurity.

A shift is needed – not only in the resources and skill sets within IT, but also in the way the organization plans how to move forward – in order to deliver these new expectations and new outcomes. As an organization, the County must develop its digital savviness and awareness across the organization, building a digital culture where technology and digital is recognized as being central to service delivery, efficiency and effectiveness.

A new direction needs to be established. One that will define how technology can be better leveraged to enhance the effectiveness of service delivery but also provide a focus on the digital projects that will establish corporate technology foundations and enable future growth and scalability that will meet the changing expectations.

4.0 Current State and Challenge

4.1 Current State

In order to determine how to move forward, it was important to have a good understanding of the current state. This provided the forum to identify successes and strengths as well as gaps and opportunities.

The consulting team conducted a detailed assessment of the current technology and digital environment and an assessment of the overall systems management procedures. Findings were then compiled and shared and validated with the County's IT team and senior leadership.

Interviews were conducted with every department, with management and with several of the local municipal mayors and CAOs. Also, a workshop was conducted with County Council to gain an understanding of their goals and desired outcomes. A survey was conducted among all staff to give everyone the opportunity to share their opinions. Over 170 staff responded representing every department.

4.2 Introducing the Municipal Technology Model

Perry Group's standardized Municipal Technology Model (MTM), shown below, was the basis for evaluating the County's technology architecture environment.

The diagram shows four interconnected layers. Each entity noted within a layer relies on the other layers for staff to deliver services to internal and external clients.

Each layer is described in detail below.

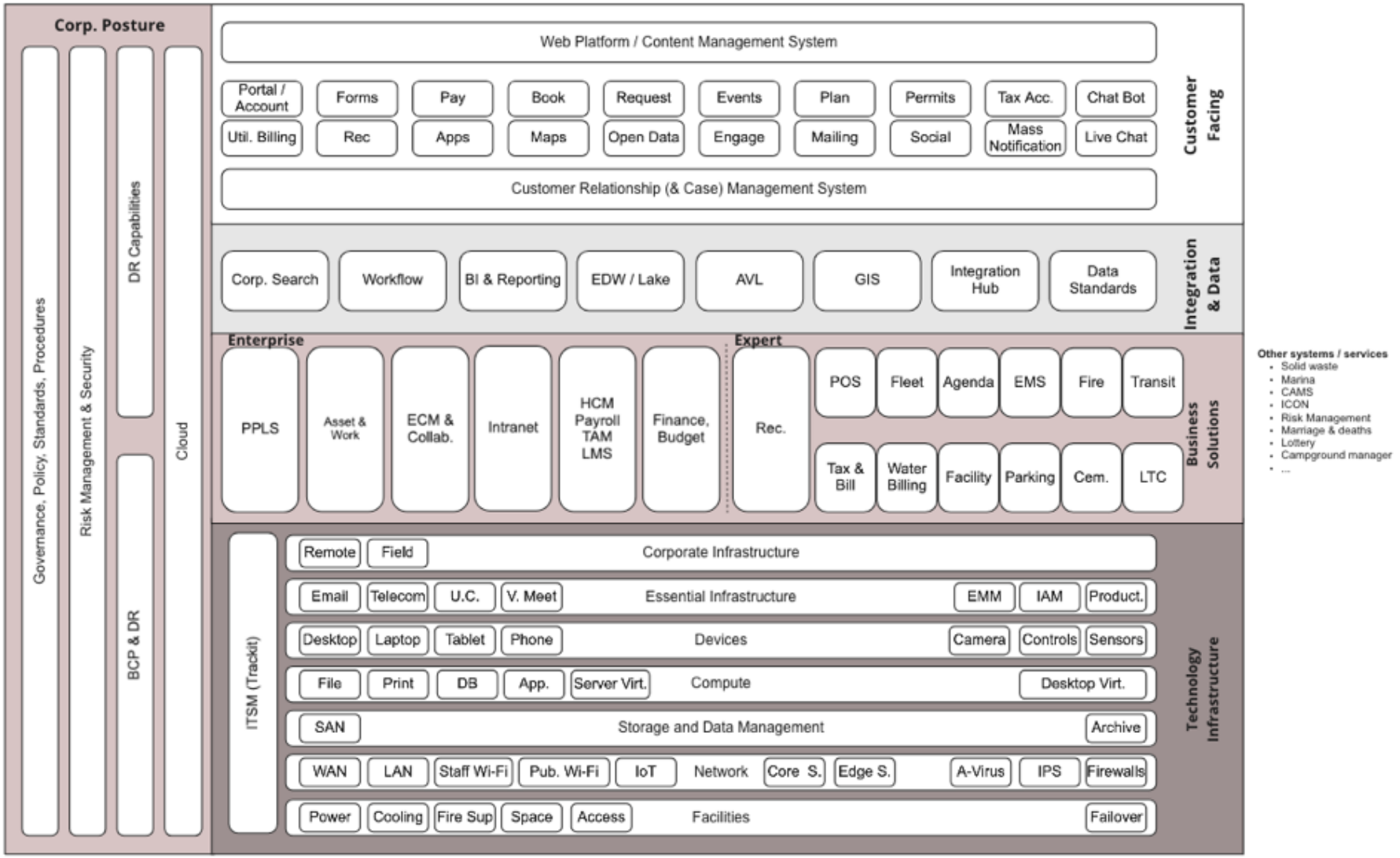


Figure 2: Municipal Technology Model

This is a generalized, conceptual municipal IT model, developed with Canadian municipalities over the last 10 years. The MTM introduces several key concepts that are important for the County at this time, including:

- There are four main technology layers (labeled as: Infrastructure, Business Solutions, Integration and Data, 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 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, high performing and dependable because it provides the basis for all other layers. Unreliable or inaccessible 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.
- Online, customer-facing services should connect / integrate into back-office business solutions, reducing the requirement to re-key information and enabling complete end-to-end digital services.
- The IT architecture should ***build from the bottom up*** – Infrastructure first, then Business Solutions, and so on.

These are some of the basic tenets under which a well architected technology environment will operate.

4.2.1 Municipal Technology Model Assessment Results

At the conclusion of the Current State Assessment, a Findings Report was prepared and shared with the Senior Management Team.

Perry Group reviewed the County's technology against the MTM. The MTM diagram below colour codes the results of the review and provides a visual summary of the results of the consultant's assessment. A summary of the assessment follows the diagram.

The traffic light colour coding highlights where the County is in good shape (green) and where work is needed (yellow=some work needed; orange=major work needed; red=risk/replace and clear/white=gap).

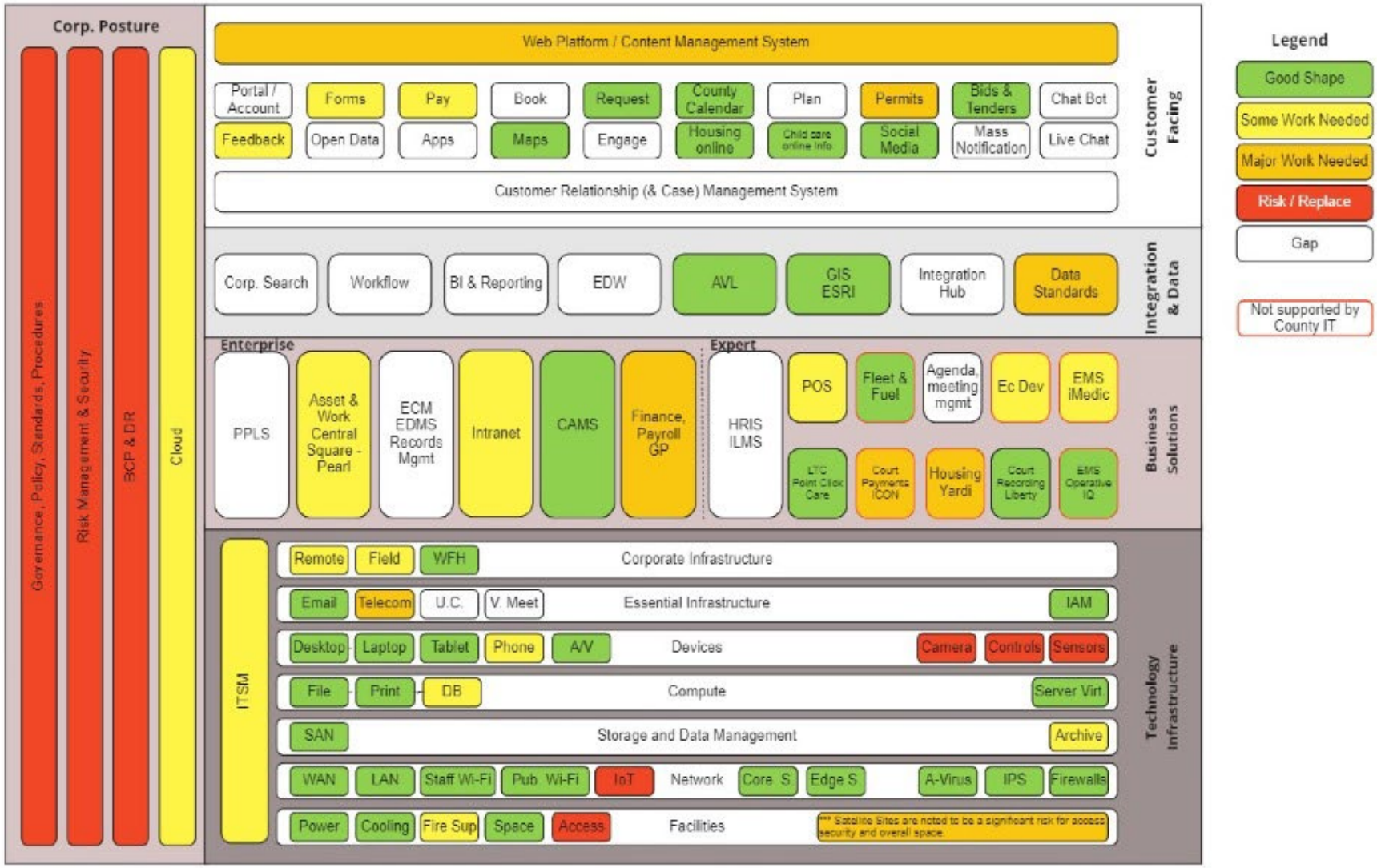


Figure 3: Renfrew's Completed MTM Assessment

4.2.2 Key Takeaways from the MTM

Infrastructure

Infrastructure	Description
Positive Aspects	• The primary network infrastructure is stable and reliable. • Security tools and practices are evident. • Annual funding for Infrastructure and hardware replacement is in place. • Remote work from home is available through a secure VPN. • M365 is implemented to a small group.
Key Issues	• There is a lack of formal IT Governance. • There is a large and remote area to support. • The telephone system requires attention. • Risk Management and Security – programs are in place but there are no formal policies. • There is no Business Continuity or Disaster Recovery Plan.

Business Solutions

Business Solutions	Description
Positive Aspects	• The core Financial system is a good product although is not fully leveraged. • Several industry best-practice solutions are in use. • Some business solutions are provincially supported and mandated.

Key Issues	• No formal in-house solutions support. • No business solutions roadmaps. • Some older versions of software are in use. • Several systems have workarounds in place. • There are many systems – shadow, parallel and competing – with Excel filling many gaps. • No Planning Application Tracking and Management solution. • Document and Records Management is a concern.

Integration

Integration	Description
Positive Aspects	• County GIS provides good services. • GIS provides strong opportunities for integration.
Key Issues	• Limited integrations in place – currently, integrations are considered only if vendors can provide. • Systems have been added randomly and reactively. • Workflows and processes can be fragmented within and across departments.

Customer-Facing

Customer-Facing	Description
Positive Aspects	• Website is good, easily accessed. • Some fillable forms available on the website.
Key Issues	• Report a Problem available for service requests, however, there is no associated service/case management solution. • New digital services are dependent on back-office digitization which often does not exist. • Internal online services are not as strong. • Limited capacity for posting content creates bottlenecks.

4.3 Digital Maturity Assessment

An assessment of the overall digital maturity of the County was conducted using a Digital Maturity Assessment specifically designed for municipalities.

The Perry Group Digital Maturity Assessment (DMM) looks at a municipality's digital maturity in three *Areas*:

People – Humans should be at the centre of digital transformation.

Process – Processes power services and are how we get work done.

Technology – Technology enables digital services.

Each *Area* contains numerous *Factors* that are rated between 1 (non-existent to limited) and 5 (leading industry). The Digital Maturity Assessment helps a municipality identify what its current level of digital maturity is as well as what it strives for its target state to be. It can easily be used as a benchmark for tracking, measuring, and reporting on progress against the defined targeted levels of maturity. It can also be used to monitor improvements over time.

The results of the Digital Maturity Assessment and Progression help to clearly delineate the stages of progression and what each stage means to the end user.

The consulting team, in association with County staff, conducted the assessment and evaluated the 40 *Factors* across the three *Areas*. Renfrew scored 1.55 on the assessment, placing the County in the "Early Experimenter" level. The People and Technology Areas had the strongest scores, and the Process Area lagged behind. The focus of the Digital Strategy should shift the level to elements of "Digitally Accelerating" and eventually to "Digitally Transforming".

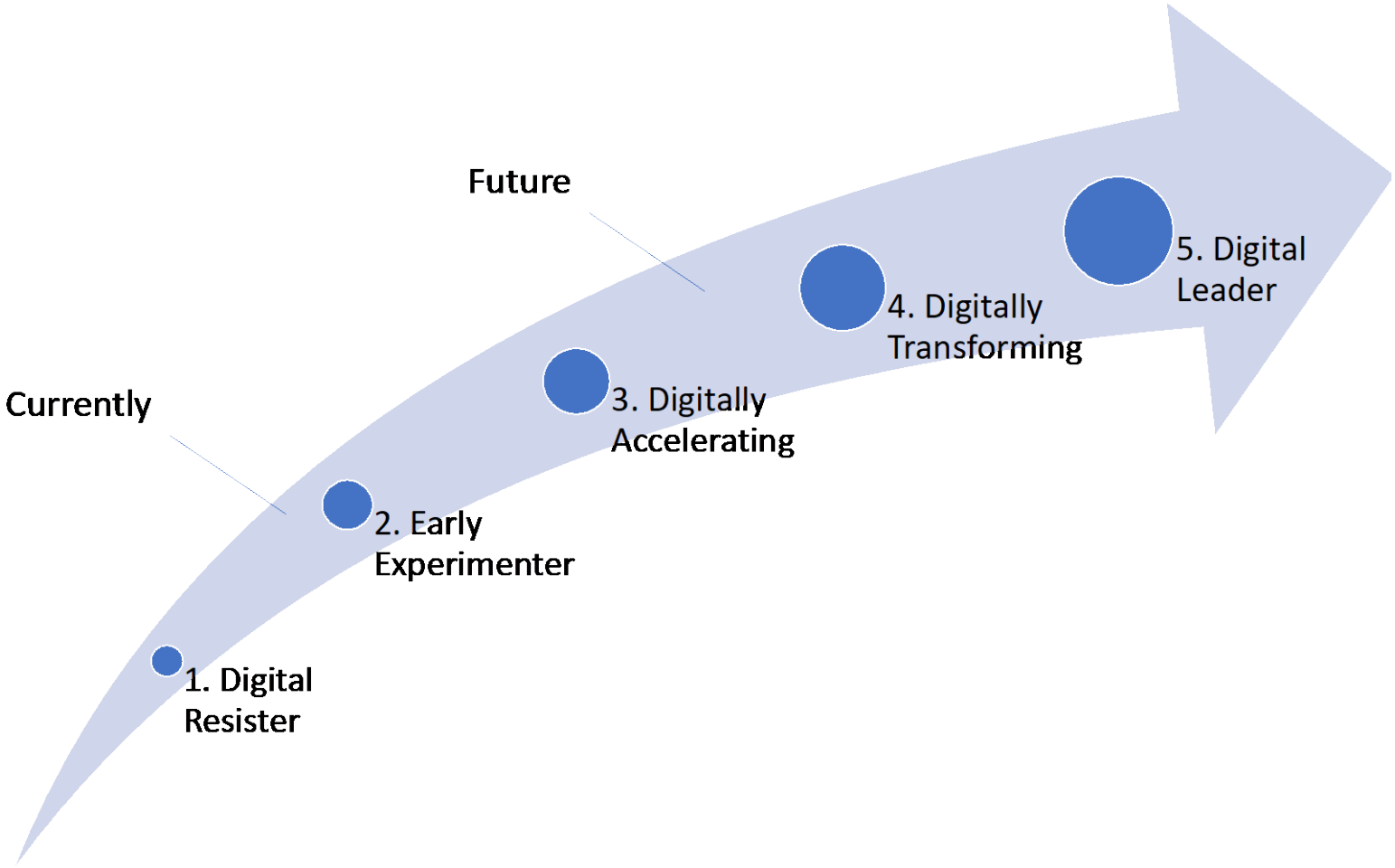


Figure 4: Digital Maturity Assessment Plotted on Progression Arrow

The assessment highlights key areas requiring digital attention that will be supported through the Digital Strategy including:

- Implementation of a Digital Strategy and appropriate oversight.
- Delivery of digital services in a consistent and repeatable manner.
- Cataloging digital services and monitoring performance.
- Improved digital literacy and training programs for both staff and public.
- Process reviews and ensuring end-to-end optimization of existing services.
- Implementation of a core Technology Strategy including enterprise resource planning (ERP) technology.
- Improving integrations and data management.

4.3.1 Characteristics of the Five Levels of Digital Maturity

In the figure below, the items highlighted in blue and yellow highlight current characteristics that the consulting team observed; green points to the characteristics or capabilities that the County must put in place to make progress to becoming a digitally accelerating organization, namely:

- Put governance in place.
- Focus on increasing digital literacy and collaboration.
- Digitize cross-corporate processes end-to-end.
- Put key digital platforms in place.
- Define current and target technology.
- Conduct data analysis to assist informed decision-making.

1. Digital Resister

- No leadership, vision or strategy on digital along with an absence of governance and business strategies
- There are few digital skills within the organization which is typically unengaged, traditionalist and uncollaborative
- Business focus is not citizen centric and the approach on customer service is divergent and siloed between areas
- Corporate systems are absent or utilized < 10% leaving siloed areas largely reliant on inefficient manual workflows
- Digital service is hampered by an anti-cloud position with an overburdened IT acting as an "order taker"
- Data is looked at for compliance purposes versus rather than an asset that can be leveraged for efficiency and service delivery

2. Early Experimenter

- Some visioning around digital but there are competing views between service areas
- There are small pockets of digitally skilled, tech-savvy staff, but largely are unguided and unconnected – digital is explored off the side of their desks
- Culture is skeptical of change and project management is disconnected from corporate objectives and strategy
- Core business solutions are in place but are outdated, some digital tools but aren't fully leveraged or integrated as decisions are made by service areas directly
- Some collaborations between keeners in each areas, however, notions of digital differ widely
- No corporate standards, practices or resources are in place to support ideation and leverage digital tools already in place

3. Digitally Accelerating

- Governance is in place to align digital and business strategies with guidance from corporate policies, standards and a service inventory
- Recruitment and training efforts have some focus on increasing digital literacy and collaboration is ad-hoc, but occurring (internally and externally)
- Core high volume, cross-corporate processes are fully digitized end-to-end and if digital tools are not deployed, staff are finding and using their own to make work easier
- Agile approaches are used to support small and niche implementations and key digital platforms are in place but lack integration and consolidated value
- Current and target technology architecture is defined but some key systems and infrastructure are delaying growth of digital
- Digital processes and use of agile are designed to be repeatable and slowly scaling out and data analysis is assisting some areas in making better decisions

4. Digitally Transforming

- Senior leadership and Council are formally behind digital transformation with alignment to strategies, talent recruitment and training
- Digital is embedded into business planning and service channels are used to index improvement projects delivered through agile and followed up by quality audits
- There is active engagement and collaboration with community and industry partners along with a 360 view of customers with a mission to exceed service standards/expectations
- An architecture function guides evolution of the technology landscape along with data governance and cloud adoption
- End-to-end processes are fully digitized and core systems are current, well utilized and managed as products vs. projects
- Customer profiles and predictive service delivery employed through some integration of web, a digital platform and a CRM – not employing all capabilities but priorities are reviewed to support forward momentum

5. Digital Leader

- Digital is the mantra of the organization driven by aligned leadership and governance who focus on the "art of the possible" vs. digital transformation
- Experimentation, collaboration and coproduction *are* business as usual and all areas employ a design-thinking approach to meet and optimize service standards
- Digital inclusion opportunities are made available through community partnerships and customers are actively involved in shaping/prioritizing how service is delivered
- Modern, digital and mobile platforms in place evolve alongside defined architecture and a roadmap that standardizes digital/cloud/data-first
- Digital service channels are supported by web and CRM which provide predictive service to citizens and improved using aggregated service data
- Business processes are geo-coded, IoT based infrastructure is the norm and machine learning/AI is employed to make work more efficient

Figure 5: Identification of Current and Future Digital Characteristics

4.3.2 The Levels of Digital Maturity Explained

The table below lists what the general characteristics are of each of the five Levels of Digital Maturity:

Level	Levels of Digital Maturity
Level 1 – Digital Resister	• No leadership, Vision, or Strategy on digital along with an absence of governance and business strategies. • There are few digital skills within the organization, which is typically unengaged, traditionalist and uncollaborative. • Business focus is not citizen-centric and the approach on customer service is divergent and siloed between areas. • Corporate systems are absent or utilized < 10% leaving siloed areas largely reliant on inefficient manual workflows. • Digital service is hampered by an anti-Cloud position with an overburdened IT acting as an "order taker". • Data is looked at for compliance purposes rather than as an asset that can be leveraged for efficiency and service delivery.
Level 2 – Early Experimenter	• There is some visioning around digital but there are competing views between service areas. • There are small pockets of digitally-skilled, tech-savvy staff, but they are largely unguided and unconnected – digital is explored off the sides of their desks. • Culture is skeptical of change and project management is disconnected from corporate objectives and strategy. • Core business solutions are in place but are outdated; there are some digital tools, but they aren't fully leveraged or integrated as decisions are made by service areas directly. • There are some collaborations between keeners in each area, however, notions of digital differ widely. • There are no corporate standards, practices, or resources in place to support ideation and leverage digital tools already in place.

Level	Levels of Digital Maturity
Level 3 – Digitally Accelerating	• Governance is in place to align digital and business strategies with guidance from corporate policies, standards, and a service inventory. • Recruitment and training efforts have some focus on increasing digital literacy and collaboration is ad hoc but occurring (internally and externally). • Core high-volume, cross-corporate processes are fully digitized end-to-end and if digital tools are not deployed, staff are finding and using their own to make work easier. • Agile approaches are used to support small and niche implementations and key digital platforms are in place but lack integration and consolidated value. • Current technology architecture is mapped but some key systems and infrastructure are delaying growth of digital. • Digital processes and use of agile are designed to be repeatable; slowly scaling out and data analysis is assisting some areas in making better decisions.
Level 4 – Digitally Transforming	• Senior leadership and Council are formally behind digital transformation with alignment to strategies, talent recruitment and training. • Digital is embedded into business planning and service channels are used to index improvement projects delivered through agile delivery and followed up by quality audits. • There is active engagement and collaboration with community and industry partners along with a 360° view of customers with a mission to exceed service standards/expectations. • An architecture function guides evolution of the technology landscape along with data governance and Cloud adoption. • End-to-end processes are fully digitized and core systems are current, well-utilized and managed as products vs. projects. • Customer profiles and predictive service delivery are used through some integration of web, a digital platform, and a Customer Relationship Management (CRM) – not employing all capabilities but priorities are reviewed to support forward momentum.

Level	Levels of Digital Maturity
Level 5 – Digital Leader	• Digital is the mantra of the organization driven by aligned leadership and governance, focusing on the "art of the possible" vs. digital transformation. • Experimentation, collaboration, and coproduction *are* business as usual, and all areas employ a design-thinking approach to meet and optimize service standards. • Digital inclusion opportunities are made available through community partnerships and customers are actively involved in shaping/prioritizing how service is delivered. • Modern, digital, and mobile platforms in place evolve alongside defined architecture and a roadmap that standardizes digital/Cloud/data-first. • Digital service channels are supported by web and CRM which provide predictive service to citizens and are improved using aggregated service data. • Business processes are geo-coded, IoT-based infrastructure is the norm and Machine Learning/AI is employed to make work more efficient.

4.3.3 Renfrew's 40 Factors Scoring

Scoring for Renfrew County on the 40 Factors is outlined below.

Renfrew's score for Overall Average = 1.55.

People Area Average

Factor	Score
Corporate Leadership	3
Digital Vision	2
Digital Strategy	1
Digital Leadership	2
Digital Talent	2
Digital Literacy	2
Digital Governance	1

Factor	Score
Organizational Alignment	2
Workforce Readiness	2
Digital Culture	2
Community Involvement	1
Industry Partners	3
Know Your Customer / User Research	2
Community Digital Inclusion / Literacy	1
People Area Average	**1.84**

Process Area Average

Factor	Score
Service and Process Inventory	1
Service Standards	1
Process Maturity Assessment	2
Process Design Capability	1
Process Digitization	1
Agile Methods and Approaches	1
Technology / Digital Training	1
Change And Adoption Management	1
Modern Procurement	2
Process Area Average	**1.22**

Technology Area Average

Factor	Score
Architecture	2
Applications / Business Solutions	1
Mobile	2
Collaboration	1
Customer Digital Experiences	2
Staff Digital Experiences	2
Web Platform	2
Cloud	2
Social	2
Data	1
Analytics	1
Geo / GIS	2
Connected Things (IoT)	1
Artificial Intelligence/Machine Learning	1
Networks (Private, Public, Community)	2
Technology Area Average	**1.6**

4.4 High-level Summary of the IT and Digital Management State

As part of the consulting team assessment, how the organization approaches information, technology, and digital management was considered.

While there are various positives – including a capable team in IT and a strong and stable network with appropriate security protocols in place – some important issues were identified and are discussed here.

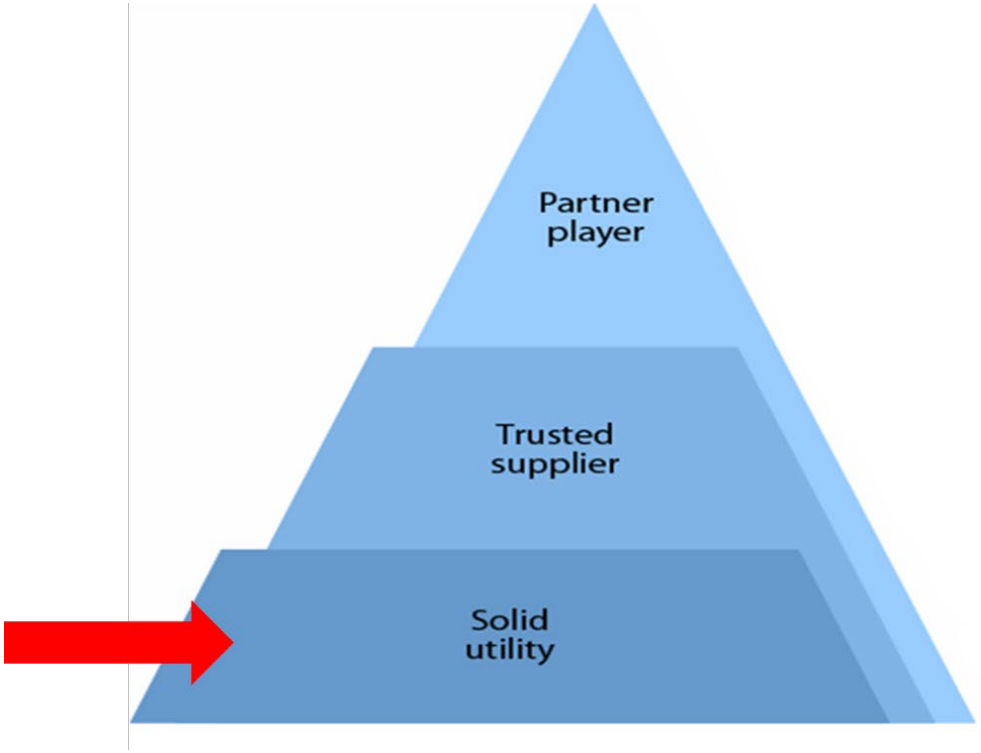
4.4.1 IT Operating Model

The County's IT operating model (how technology is designed, delivered and managed) was focused on network management and device support. Resources and budget were assigned according to this mandate.

In the diagram below, it is clear the County's IT Division is very much in the Solid Utility state. This provides for a stable technology environment but does make it challenging to move forward with the digitization of services and really being able to leverage technology to find efficiencies and improvements.

The main challenge is the others would like to get more support and advice from technology experts, more the role of "Partner Player" as illustrated below.

As a "Partner Player", IT would be integral to how the organization does business, to closely partner with business units to help them identify, plan and deliver transformation initiatives. Many staff, in particular leadership, would like to see IT operate at this level.



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

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

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

Figure 6: Role of IT

This limited mandate for IT has led to an ad hoc and variable approach that is open to interpretation by each team, division and department when acquiring technology or digital solutions. This contributes to a complex and somewhat mixed environment where various teams are pulling in different directions.

In some situations, this means that some departments choose not to work with the IT Division on technology initiatives and projects while, in other situations, the business units do work closely.

It should be noted that the IT Systems Management processes are in decent shape. There is a strong IT Service Desk function with good program management with regards to the network infrastructure and IT Asset Management.

The consulting team notes the following characteristics in the current model:

- The lack of corporate governance for technology has resulted in non-aligned technology investments and strategy.
- Decision-making and prioritization of efforts and initiatives are decentralized, except if they are discussed through budget discussion.
- The County's technology investments and program delivery lack the oversight and coordination necessary to be as effective as possible and to optimize the use of limited funds and efforts.
- There is no central design authority for technical or application architecture.
- Perceived to promote departmental innovation, although capitalization on innovations is rarely scaled to deliver corporate value.
- Defaults to local / non-corporate approach which results in divergence, duplication, overlap, application proliferation and ever-increasing complexity.

The current arrangement has not been consciously designed by the County leadership. It has evolved over time and is sub-optimal, delivering less than satisfactory outcomes.

SLT has recommended that some form of change is necessary.

4.4.2 IT Organization Structure

The consulting team notes that the IT team has some good skills, capabilities, and strengths in the management of the core technology environment and helpdesk services.

As a result, the team is reasonably well-equipped to manage the core, utility IT services, providing core IT infrastructure and IT support. Some small changes in philosophy and approach – with IT functioning more as an enabler, rather than a gatekeeper or controller in these areas – will be key to the organization getting more value from these functions.

There are, however, some important gaps in resourcing, and these gaps correspond to areas where the County has low maturity (as identified in the previous section).

The business solutions space is not resourced in IT and this is the area in which the MTM reveals challenges.

In addition, the following areas also require additional resources, and these correspond to the areas that exhibit low maturity in the IT management practices assessment.

- Governance and project portfolio management.
- Project management.
- Business analysis.
- Data and analytics.
- Digital solutions.

Looking forward, the County will likely need to make investments in these areas to advance its technology and digital capabilities.

4.5 Service Delivery Review Connections

Many of the findings of the consulting team's Digital Strategy Discovery work echoes observations from the corporation's Service Review, completed in 2020.

The Report made several recommendations for technology, with which Perry Group is in full agreement and which many of the recommendations contained within this Digital Strategy are designed to address.

The Report identified the current state/problem as:

"The technological needs of County of Renfrew departments and residents are evolving:

- *Several departments expressed that some processes are paper-based and want to continue to modernize and do more virtually.*
- *A roadmap for digital modernization activities will help County of Renfrew utilize technology to meet the evolving needs of residents and departments.*
- *The roadmap will identify and define organizational business needs and find technological solutions to fulfill these needs."*

The key benefits they identified include a modernized service delivery, streamlined processes and better management information for decision-making.

4.6 Current State Summary

The Current State Assessment confirms that the County of Renfrew has some significant work ahead.

As noted in the 2020 Service Review, there are numerous opportunities across the County to use technology to deliver more effective customer service and to deliver more cost-effective services.

In fact, demand in each of the business units is significant. Meetings with teams from across the County identified a broad variety of possible digital and technology initiatives that the County could pursue that would result in streamlined processes and improved customer experiences.

The County cannot possibly tackle all this work in the short- or even medium-term. It must prioritize the most impactful initiatives that align with strategic objectives and commit resources to implementation.

But, capitalizing on these opportunities will require investment – investment up-front in staffing and resourcing projects, consulting services, software and solutions, training, and education – to save in the long-term on process and automation efficiency, agility and flexibility, policy and cost saving insights.

Local government is at a tipping point – where service is increasingly digital, where leveraging digital technology must become a core capability of any **effective** municipality, and where municipalities move from face-to-face, paper-driven processes, to automated, digitized and self-serve services that are designed for the next quarter century.

The next sections of this Digital Strategy lay out a Vision, identify the priorities, and set out how the County can set itself up for future digital service success.

5.0 Digital Strategy

5.1 Vision

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

In response to the changing expectations of customers and staff, the following section illustrates a more online-enabled set of services that the County could offer.

This Digital Strategy for Renfrew is designed to maximize business benefits of data assets and technology-focused initiatives. The success of this Strategy hinges on the requirement for a cross-functional team and executive leadership. It involves breaking down any silos between the information technology team and those of other customer-facing departments to deliver a consistent digital customer experience.

5.2 Establishing Digital Principles

Supplementing the Vision, Guiding Principles provide a broad philosophy to guide decision-making, help focus efforts and align thinking across the organization as services are redesigned.

The following Guiding Principles are intended to focus on digital service delivery and the technology to support it. The principles should be regarded as a starting point and tested and reviewed through iterative use.

5.2.1 Digital Service Delivery Principles

- **Service First –** Business Needs drive information technology solutions.
- **Self-Service** – In most cases, the customer should be able to self-serve (digitally), meaning the customer should be able to get information and carry out transactions without needing to speak to anyone.
- **Customer First by Design** – Processes and services will be designed to be customer centric with a customer first focus.
- **Easy to Find** – The customer should not need to know about the internal structure and organization of the municipality to access services.

- **Anytime and from Anywhere** – The customer should not need to visit any County facility to access a service unless a physical interaction is central to the delivery of the service.
- **Investment**: we will manage Information Technology as a corporate investment.
- **Infrastructure**: we will provide a solid technology infrastructure as a fundamental building block to support the performance and security of the County's information assets.
- **Frictionless** – The customer should not have to contact the County to check progress and account history in relation to a request.
- **Safe** – The customer should not need to worry about the safety or protection of their personal information.
- **No Barrier** – Barriers shall not prevent customers from accessing services; all customers are entitled to receive eligible services equally.

5.2.2 Digital Technology Principles

- **Collected Once** – Information should be captured and stored once and reused many times to remove the need for asking the customer the same information in different business processes.
- **Has a Purpose** – Information must be business relevant and have value. Only information required to fulfill the service should be requested from the customer.
- **Managed as an Asset** – Information will be treated as an asset and managed accordingly, with clearly-defined ownership, accountability, responsibilities, and a defined lifecycle.
- **Best Managed in Electronic Form** – Information that staff need to serve customers must be held in electronic form as other forms make it too difficult to retrieve the data in a reasonable timeframe.
- **Applications and Platforms are Implemented Around Services** – All efforts are made to automate end-to-end service(s) delivery to customers from a single application or platform.
- **Open** – Open standards and methods should be adopted in preference to proprietary solutions for integrations.
- **Reusable** – Re-use integration patterns, connectors, and out-of-the-box integrations, where possible.
- **Secure** – "Information security" is a paramount consideration in designing technology solutions.
- **Resilient and Available** – Resilience and availability are built into the solutions so that our customers can access services when they need to.

5.3 Getting to Digital Readiness

Digital readiness is defined by the level of readiness of an organization's workforce to transition into digitized workflows that are enabled by software and technology. Implementing a Digital Strategy does not just denote an organization's investment in IT assets – it consists of four critical components: culture, people, process and technology.

5.3.1 Culture

Even with the greatest Digital Strategy, unless the Renfrew workforce is empowered and dedicated to supporting it, efforts will be wasted. The current culture needs to be examined along the journey of digital investment considerations to understand what changes need to occur to ensure staff embrace the values that the Digital Strategy embodies. It is important to note that if the Digital Strategy is misaligned with Renfrew culture, the County could experience slow user adoption and loss of momentum and productivity. We recommend that Renfrew build a culture of transparency, accountability and a willingness to experiment to realize the full business benefits within the Digital Strategy and associated timelines.

5.3.2 People

Involving people early along the journey of implementing Renfrew's Digital Strategy is a critical success factor. Employees have intimate knowledge about what works and doesn't and can advise the County about potential improvements to processes. Also, involving staff in the early stages of projects, generates a sense of ownership and will result in buy-in and sustainability.

5.3.3 Process

Identifying an inventory of prioritized business process candidates and conducting the process optimization exercises also contributes to long-term Digital Strategy adoption. There tend to be three main types of business processes to observe: *operational, managerial, and supporting*. *Operational processes* are core processes that are required to build, develop, and deliver services to customers. *Managerial processes* are systems that track and oversee budgets as well as strategic growth opportunities. *Supporting processes* are the systems that are in place on the back-end of any business, like technical support, office administration, and customer complaints handling. Understanding the relevant type of process for digitization helps determine which stakeholders to involve, what best practices should be reviewed and what benchmarks to use.

5.3.4 Technology

A Technology Needs Assessment has been conducted to inform the prioritized list of projects developed and contained within this Digital Strategy.

5.4 Modernization Goals

The Service Review project identified the need for “modernization.” This word has been used over and over by organizations to enable change for the better.

More recently, organizations are calling this “transformation”. Municipalities are looking closely at their existing processes and they want to identify ways to improve them so significantly that they actually transform the processes into something new and better.

SLT identified the need to move forward and provide more up-to-date technology and tools to help staff to deliver services. A strategic direction set by the leadership is vital to achieving such transformation.

Modernization or transformation is a major undertaking and should be done for the right reasons. There should be no transformations that do not add value to the business you are in. Outlined below are some reasons that the County could use to set the targets for modernization through digital means.

- **Improve Customer Service** – Provide a service online to customers and expand service availability to 24/7, anytime from anywhere. For example, today, a building permit application is available online, however, it must be printed and returned to the municipality. While the permit lifecycle does have some elements online, overall, the process requires the customer to use multiple service channels to complete the transaction. An online portal for permits will allow customers to receive that service, anytime from anywhere.
- **Reduce the Cost-of-Service Delivery** – The cost of a service could be material and staff time. A target to reduce staff time spent on a business process could be a measurement of success for digital transformation projects. For example, let’s say, hypothetically, the current AP process requires 100 hours of manual processing time. A project that reduces this to 10 hours may reduce the cost-of-service delivery by $100,000 / year.
- **Reduce Cycle Times** – The time spent from the time of request to delivery of a service can be measured. Major reductions to the cycle time will improve customer service as well as the efficiency of the service offered. For example, a road service request takes 10 days to complete, on average. An efficient digital scheduling and assignment system may reduce the manual work and bring the average cycle time to 5 days.
- **Generate Revenue** – Any new revenue opportunities or increases to existing revenue streams could also be a target for digital transformation projects.

6.0 Building Digital for Renfrew County – Areas of Focus

The following areas represent the key areas of focus that are aligned with the goals previously identified in this Digital Strategy as well as those noted in the Service Review Report. These areas of focus frame the workplan recommendations.

- Foundational IT Structure.
- Digital Services for Residents and Businesses.
- Digitized End-to-End Business Processes Supported by Fully Utilized Business Solutions.
- A Modern Workplace for a Modern Workforce.

6.1 Foundational IT Structure

Technology infrastructure underpins almost everything that the County does. IT infrastructure includes email, voice, radio and data networks, servers, personal computers, business solutions and online services.

To date, the IT team has done a good job of building and managing this infrastructure, providing good PCs/laptops

, fast network connections for most facilities and reliable email services. The staff survey indicates overall satisfaction with these core IT services, however, feedback also revealed increasing expectations from IT for even more services as well as a requirement for technology and tools that are not currently available at the County (that have been implemented by other municipalities).

The County needs to enhance its overall service delivery before it can deliver truly great end-to-end digital services. Back-office processes must be digitized so that staff can manage workflows digitally.

Today, too many of the County's processes are run using paper and pen or Excel spreadsheets – and not in fully digitized systems (e.g., vacation requests, employment records, manual tracking of building applications). The County provides GIS services to the local municipalities and yet much of the data sharing is through PDF forms or through large file share services such as Dropbox. A more efficient process would be the development of a portal where the staff from the local municipalities can directly access the data and information required.

Many of the County's business solutions require major work (or replacement) if they are to be fully leveraged and utilized to digitize core work processes.

Business solutions are the tools used every day to get the job done, for example, issue permits, issue invoices, pay bills, run payroll, manage community housing. Thus, the County must focus on – as a priority – the end-to-end digitization and systematization of its key processes.

There are several *best of breed* solutions in place so maximizing these existing technologies will be key to fully realizing the benefits.

End-to-end digitized business process work is needed in numerous areas, including:

- HRIS, timesheets and staff scheduling – each are in separate systems with no integration to share data.
- Managing a planning application or building permit from end-to-end.
- Paramedic services that use multiple systems often perform similar tasks.

It is imperative that these foundational systems be updated and fully utilized before moving to more enhanced digital services. Enhanced digital service apps or online services require the back-end solution to be in place to enable proper integration. This will greatly reduce data duplication, redundancies, duplication of effort and data entry.

As the County increasingly digitizes its processes and uses business solutions to manage its workflows and work assignments, it will collect more data about the services it provides, the way staff work, the impact of policy decisions. Thus, Council and staff will use data to make decisions that help optimize resource use and reduce service delivery costs and complexity.

6.2 Digital Customer Services

The County is in the customer service business and its goal as a service provider is to provide easy-to-use, simple services to residents, customers and the local municipal partners.

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

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

- Report a problem/request for service or maintenance and track its resolution (receiving updates along the way).
- Meet with staff to discuss available services (e.g., housing, homelessness).
- Make a purchase (e.g., burn permits, property information requests).
- Make payments and manage accounts (e.g., pay an invoice, set up a direct deposit, review an account).

- Submit applications and drawings and track the application progress (e.g., Development Applications, Permits, etc.).
- Submit forms (e.g., FOI requests, etc.).

Some of these services are available today, such as paying for a ticket, requesting a permit application and streaming of Council meetings. The County is committed to enhancing and expanding these service offerings.

It is reasonable to expect that, increasingly, the community will use digital services as the best and preferred way to interact with the County. This does *not*, however, take away from the important role of the face-to-face and telephone-based services currently offered. The County will continue to offer choices to customers to interact using their channel of choice.

The expansion in digital services reflects the fact that expectations and uses are changing with a growing population who simply prefer to interact using the smartphone or the web.

6.3 Digitizing Business Processes

However, before the County can deliver genuinely great end-to-end digital services, back-office processes must be digitized so that staff are able to manage workflows digitally.

As noted in the Current State Summary, there are examples of data being collected manually and then entered into a business system at a later date, not at the first instance during the business process. This results in data being stored multiple times, in multiple versions by multiple people. This is not a suitable foundation for creating digital services.

It is important not to digitize a bad process. Process digitizing projects should include Business Service Optimization (BSO) embedded as a requirement. Digitizing existing paper-based processes will ignore the inefficiencies built into the process over the years. A BSO exercise will clean up the duplicate and non-value-adding activities in the process while utilizing the digital capabilities to improve efficiencies of the process.

End-to-end digitized business process work is needed in numerous areas, including:

- A review of the Payroll Time Entry systems currently in place.
- A new enterprise HR system.
- End-to-end automation in applications:
  - Processes that start with an online form and end with hard copies.
  - Data copied from systems (such as Great Plains) into Excel.
  - Lack of automation on some more obvious processes (authorizations, vacation requests).

- Issues with applications and applied workarounds becoming accepted long-term solutions by users.
- The multitude of data that is captured on paper first and then entered into a system (e.g., GIS, timesheets, vacation requests, etc.)

Moving forward, the County should expect to:

- Use data, analytics and dashboards to inform decision-making and to help optimize the application of resources.
- Embed GIS / spatial understanding into all of its processes.

6.4 Digital Workforce and Workplace

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

Mobile will be central to the realization of the full benefits of Great Plains, GIS and Microsoft Office products and using mobile technologies (including connectivity and security, devices and business solutions) to access County information while on the go will be key for staff – from Public Works and Paramedics staff to staff who will continue to work from home.

Mobile technologies will allow a customer request (about a downed sign, for instance) to be directed to a field crew almost immediately and then the progress and completion can be tracked by back- and front-office staff.

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

- Increased use of mobile friendly devices – laptops, tablets – and providing individuals and teams with choices of devices that best meet their needs.
- Improved internal online services such as attendance, time management, internal forms, etc.
- Team messaging, chat, and a more robust intranet – helping co-workers connect and interact in real-time.
- Improved document collaboration, versioning, co-editing, and simplified processes to comply with accessibility requirements.
- Increased adoption of remote and flexible working – enabling staff to work from the office, from a partner's office space, from the construction site, from a coffee shop or from home – essentially "work from anywhere."

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

6.5 Benefits and Efficiencies

Investment in technology is typically an investment in staff productivity, community benefit, or improved customer service.

Any investment should be expected to achieve a return on that investment and that return should be measurable. As such, it has been recommended earlier in this Report that the County adopt a business case approach to justifying and evaluating proposed technology investments.

6.5.1 Understanding Benefit Types

It is important to understand that benefits from technology investments typically fall into several categories:

- **Cashable Benefits** – Cashable benefits are changes that result in the municipality having more money to spend, either through savings or through additional revenues.
- **Non-Cashable Benefits** – Non-cashable benefits are changes that do not lead to an immediate cashable benefit, but save money in future budgeting periods, by avoiding adding staff, or avoiding future procurement costs.
- **Wider Economic Benefits** – These improve things for your customers outside your organization and include things like saving users' time or improving their experience and reducing private sector costs (e.g., time costs associated with waiting for a building permit).

Some projects will deliver all three of these benefit types, however, the typical benefit that can be realized with the types of technology proposed in this Strategy will result in a combination of non-cashable savings and wider economic benefits.

This means that the benefits are achieved with staff working less on repetitive activities (that are suited to computers) and more on higher value activities (e.g., inspectors and crews getting more done, applications and licences processed faster, etc.).

The benefits manifest themselves in cost avoidances and higher service delivery standards.

6.5.2 Examples of Potential Benefits

There are numerous examples of municipalities achieving cashable and non-cashable benefits through the implementation of technology, some of which are highlighted in the examples below.

Digital in Action

- The City of Mississauga moved its recreation guide fully online, replacing its paper-based version and saving $230,000 per year in printing and distribution costs.
- The City of London implemented iPads for Fire inspectors. Mobile inspections are now 25% more efficient.
- Similarly, a BC municipality plans to move to a mobile-enabled, paperless process for Fire inspections. It anticipates reduced administrative support needs from 60 days a year to 4 days per year and savings in labour per year across the service of up to $185,000.
- The City of Hamilton saved an estimated $360,000 per year by implementing mobile inspection tools for its 37 building inspectors.
- The City of Mississauga – a BILD-acknowledged leader in online development and planning – has seen a 25% decrease in total review time (elapsed time to review applications) and a 57% decrease in time taken to process site plans through the digitization of the Development Approvals process. Customers are no longer required to submit 30 hard copies of each drawing. Continuous improvements related to digitization and lean process review have resulted in over $1,000,000 in savings.
- The City of Edmonton has trained a Machine Learning model on a decade of data to speed safety inspections. Inspections deemed minimal risk are passed automatically, eliminating unnecessary delays in builder timelines. Since October 2019, the predictive model has reduced the number of eligible inspections by 37%. City inspectors can focus on higher risk and more complicated inspections, which pose greater threat to safety.
- The City of Guelph conducted an efficiency review of its mostly manual time and attendance processes. The process consumed an estimated 54,000 person hours each year at a cost of $2.5 million. Digitization is anticipated to halve the cost of running the process.
- The City of Cambridge has used its Asset and Work Management system to systematically increase the roads rated “good” by 50% over a 3-year period. This is expected to eliminate over $71 million in repair backlogs.

- Implementation of a new digital parking process for paid parking, permits and tickets along with the introduction of Administrative Monetary Penalties has seen one Ontario municipality increase revenues by $400,000 and reduce staff time to administer the program by over 8,000 person hours valued at around $500,000.
- The City of Brampton implemented an online “Request To Park On Street Overnight” permit. The solution handled over 100,000 requests online per year, which equated to a reduction of 2 FTEs taking calls at the contact centre.
- The City of Chatham-Kent implemented a virtualized call/contact centre for the delivery of improved customer service experience and increased resolution of customer inquiries at the first point of contact, realizing annual savings of over $160,000 in service delivery.

In addition to these examples, Perry Group has a team of business process consultants who work with municipalities to optimize processes. The team has been busy with municipal modernization projects funded by the province and, over the last two years, has completed over 200 business process optimization reviews with municipalities across Ontario. In each case, optimization involves streamlining and simplifying processes and applying process digitization and digital service concepts to redesigned services.

Quantifiable efficiencies identified have ranged from $20,000 – $900,000 per year, with an average of $80,000 per high-volume process/service.

Given the low levels of process digitization present at the County today, it should be anticipated that similar savings could be possible across many of the County’s major processes through digitization.

6.5.3 Specific Benefits for Renfrew County of Digitizing Core Processes

This Strategy does not establish a full business case for every project identified. This is not possible at this time because the Strategy has not worked at the detail level needed.

As noted above, the major projects coming forward in future budgets should articulate a clear business case.

To provide more specific details on potential benefits, the following initiatives are provided as examples to illustrate estimated benefits and highlight potential benefits that could be achieved from some of the proposed digitization of core processes.

Initiative	Benefits	Benefit Type	Comments
Accounts Payable Automation	Estimated $120 – $160k benefits in staff time savings per year	Non-cashable	Investment of $320k required with a payback of 2.5 years
Time and Attendance Automation	Estimated $500k benefits per year achieved through timekeeper time savings, reductions in time capture errors (estimated at up to 7%), improved overtime controls, and improved punctuality	Cashable and Non-cashable	Investment of $500k – $750k with a payback of 1.5 years Estimate based on 3,000 employees
Building Permitting Automation	Estimated $200k benefits in staff time savings per year + customer experience improvements and faster permit processing	Non-cashable and Wider Economic Benefits	Investment of $500k required with a payback of 2.5 years Using 1,000 permits and 4,500 inspections as the baseline, and a 4-hour time saving per permit
Water and Tax Billing Automation	A conservative estimate of 1 FTE saving per year through automation + customer experience improvements	Cashable and Wider Economic Benefits	5 FTEs in Finance currently administer water and tax payments, address changes

6.5.4 Benefits Realization

As noted, the benefits of digitization and adoption of a digital approach to service delivery typically materialize in the form of staff time savings and thus are realized in business units, not necessarily in the IT Division that helps to implement the technology.

Often, benefits take the form of cost avoidance, e.g., delaying the need to add new staff to cope with growing demand.

Furthermore, these savings are often incremental and distributed across many staff members. They can manifest as reductions in administrative time tied up with paperwork, an increase in the number of inspections or work orders that a member of staff can complete in a given time, or a reduction in the number of activities taken to complete a task.

Taken individually, these may be small, but collectively they accumulate and can have a large impact as illustrated by the time and attendance initiative in the previous sections.

The County should track and report on its success against achieving goals set out in business cases, and SLT should work with business teams to ensure that savings goals are realized, recovered, and reinvested appropriately.

7.0 Keys to the Successful Implementation of the Workstreams

7.1 IT Governance

Perry Group discovered that there is a lack of IT Governance in the organization.

The following aspects of IT Governance are either weak or missing at the County:

- Framework Definition (goals, authority, framework, and principles).
- Governance Structure (steering committee, terms of reference, reporting).
- Architecture and IT Request Management (system standards and how changes are introduced to systems).
- Project Portfolio Approach (intake, prioritization, capacity, and methodology).
- ITSM (IT Service Management, used to provide a framework to deliver and measure IT services).

IT Governance is intended to aid the organization in aligning IT and digital activities with business and corporate strategy. It is about creating value by actively engaging the business to participate in IT decisions that impact the organization.

The governance model should reinforce principles of collaboration, openness and transparency and collective decision-making by establishing a structure that oversees IT investment, business application needs, IT architecture and infrastructure technology decisions.

In the 2020 Audit Plan Hot Spots Report by Gartner, IT Governance was identified as the top risk for organizations in 2021. *"Abrupt work from home mandates have accelerated digital roadmaps, causing many organizations to vault years forward in the space of a few weeks. This move has spurred the rapid adoption of new technologies both on the employee and customer side, presenting new challenges to productivity, consumer preferences and guarding against security vulnerabilities".*

A formal IT Governance Framework will provide clarity and a mandate for the right people making the right decisions about technology at the County. It should clearly identify the groups and individuals who are involved in technology decision-making and should specify which decisions are the responsibilities of which groups.

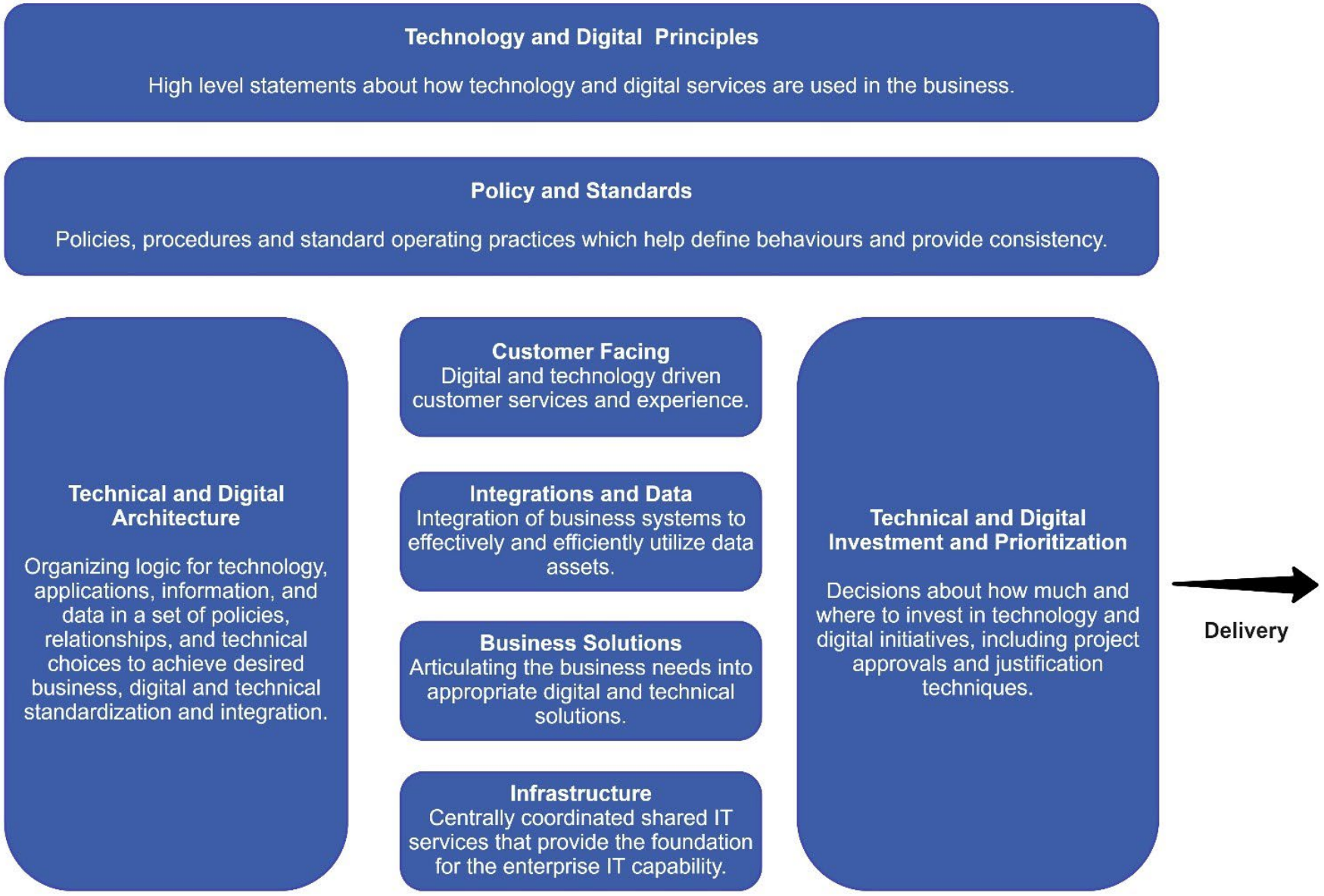


Figure 7: Sample IT Governance Framework

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

Some questions to ask would be:

- How do we want to use technology in our business?
- What technology do we want our people to use and how do we want them to use it?
- How much should we spend on technology?
- Which of our business processes should we direct our IT dollars toward?
- What do we need to tackle first? Should we do this now or later?
- How secure do we want / need to be?
- What should be available first in the event of a data centre outage or a disaster event?

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

There will always be purely technical decisions to be made – where the right technical staff with appropriate expertise will need to be involved – but in most cases, technology experts should be advising business leaders.

Implementing an IT Governance Framework will ensure major IT decisions will be informed by value and risk to the organization. Establishing an IT Governance Framework does not need to be complex to be effective and, over time, the process can be evolved to fit organizational needs. The important thing is to start somewhere.

7.1.1 IT Governance Capabilities

The following table illustrates scalable IT Governance capabilities for a smaller IT organization:

Capabilities	Description
Framework Definition Establish the scope of the Governance Framework, the mandate, goals, authority, and Guiding Principles.	• Document the mandate, goals, authority (scope) and Guiding Principles of the framework. • Framework is scalable; definition complexity increases with size.

Capabilities	Description
Groups, Roles and Structure Define the groups, understand the roles and responsibilities, terms of reference for teams, relationships and supporting structures.	• Small governance team with IT and business representation. • Relationships to executive and business leadership team. • Ad hoc advisory/steering groups. • Technical standards role assigned to individual. • Limited project management governance (no Project Management Office (PMO)).
Operations Put in place the structure to conduct and support the operation of the Governance Framework.	• Routine meeting structure, agendas, schedule. • Operations are scalable; meeting cadence increases with demand.
Architecture Identify what is “just enough” architecture including intake process, artifacts, and technical inventory.	• Technical standards documented. • Basic architecture artifacts (existing state). • Inventory of technical assets (spreadsheet). • Simplified intake process. • Ad hoc architecture review.
Portfolio Approach Define the project portfolio approach that is applicable to the Governance Framework including intake, prioritization, and capacity planning.	• PM methods defined. • Project roles assigned ad hoc. • Simplified intake process. • Prioritization part of corporate process. • Higher levels of priority delegation. • Informal capacity planning.
Measurement Define the measures that will be most important for IT Governance to assist in making informed decisions and demonstrating value.	• Defined metrics and measures. • Limited reporting.

Capabilities	Description
Sustain and Improve Have a plan for how momentum will continue for the governance model including understanding sentiment and continuous improvement.	• Feedback – activity-based and routine check-ins. • Annual review.

7.1.2 IT Steering Committee (ITSC)

The full complement of the County's SLT should also serve as the ITSC.

This will allow for the broadest oversight with respect to technology projects managed in support of organizational priorities. As an ongoing exercise, ITSC should determine other staff (IT + business) who may be required to attend meetings in support of specific agenda items.

The ITSC should meet as a separate and distinct entity to that of SLT to ensure a strict adherence to technology decision-making as well as project portfolio reviews (including pilot initiatives), knowledge and capacity building, operational/service performance reporting, budget/investment analysis, and so on.

7.1.3 Processes and Methods

One of the key areas for operational improvement at the County is in project selection and management.

More deliberately selecting technology projects – based on actual available capacity – will ensure a manageable workload, achievable goals and successful project outcomes.

Project Intake / Selection

Before a project can be approved, due diligence is required. Thus, a project should move through multiple stages before being approved for scheduling and execution.

The three stages of review – **Idea, Concept, Project** – are described in the following sections.

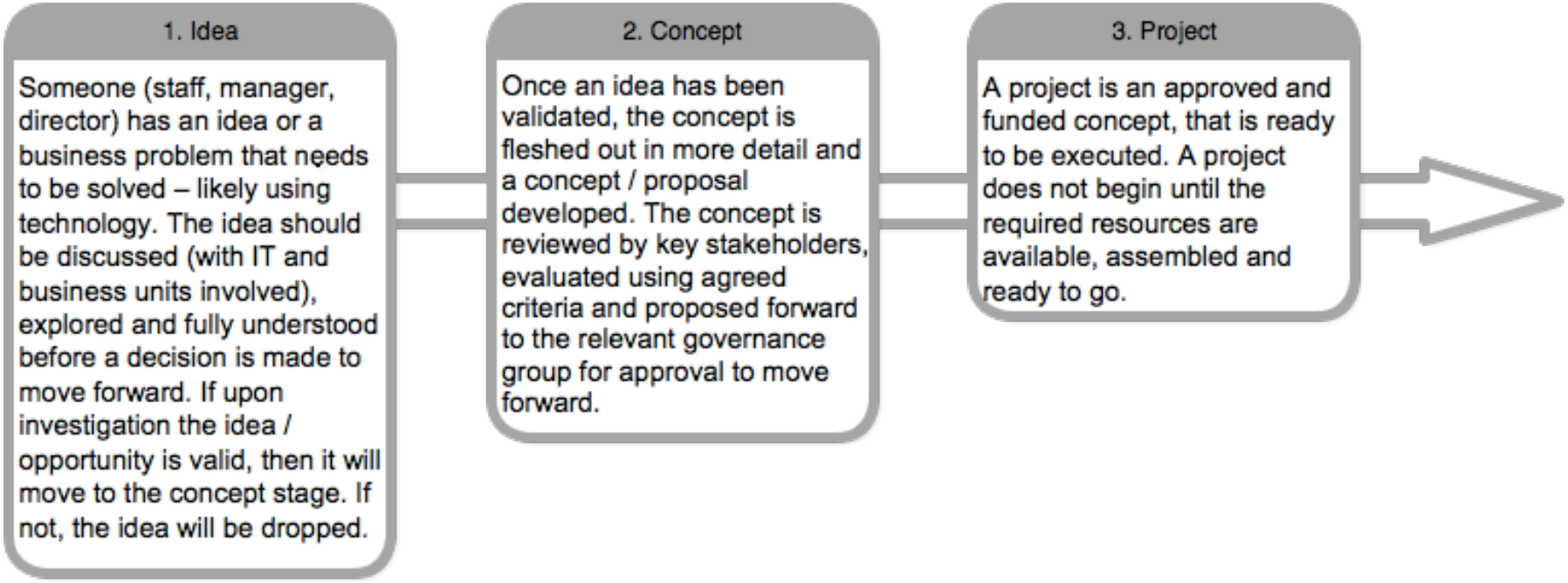


Figure 8: Idea – Concept – Project Process

The Idea Development Stage

The ***Idea*** part of the process is designed to ensure that project ideas are properly thought through before they become fully funded and committed projects.

It is fully intended to slow the Idea process down to ensure an appropriate degree of exploration and development. During this stage, a team of IT and business department staff will consider business needs, determine potential stakeholders, and consider options and implications of implementation.

The Concept Development Stage

If the *Idea* is deemed to be a valid opportunity to pursue, the project team (IT and business department partnership(s)) proceeds to the ***Concept*** stage where a more detailed project proposal is developed.

Further research about approaches, solutions, resource demands and funding needs is conducted. Once the research is complete and the Idea is more completely understood, a project proposal is prepared.

Projects deemed to be large projects will require a business case and resourcing plan to be prepared to accompany the project proposal.

The project team will work with the project sponsor to prepare an evaluation of the project proposal and rank according to the ranking scheme agreed by the IT Steering Committee.

If funding is required as part of the annual capital project request process, all proposals will first need to be evaluated and ranked by the project team. The project team will also conduct a capacity management review (resource availability and/or needs) and make recommendations to the IT Steering Committee on the project priorities.

The Steering Committee will use this information to support its decisions about which proposals should go forward as part of the IT annual capital budget.

The Project Stage

Once a proposal has been approved (funded and resourced), a ***Project*** can be scheduled.

Approval and funding of a project does *not* mean that the project will begin immediately. The project team – working with the IT Steering Committee, the Manager of IT and stakeholders – will schedule projects in consideration of resource availability, dependencies and other factors.

Balancing the Portfolio: Run, Grow, Transform

Just as one balances an investment portfolio, the County should seek to balance its technology investment portfolio. As a guide for making key decisions around budget and project selection, during the intake process, initiatives should be identified using the following categories:

- **Run** – Activities or investments required to keep existing County technology and business services running / operational.
    - If IT budgets need to be trimmed, cuts should not come from Run initiatives.
- **Grow** – Activities or investments that provide for expansion of technology, additions to existing technology capabilities or service capabilities or to accommodate growth of services.
    - Grow initiatives are usually not as mission critical as Run initiatives and often have some time flexibility, which makes them good candidates for starting early when funding is available or deferring when it's not.

- **Transform** – Activities or investments that involve major changes that introduce new organizational capabilities or fundamental changes to business processes and service delivery.
    - When funding is limited, Transform initiatives are typically the first to be cut or deferred unless they are associated with key strategic initiatives. The County should, however, ensure that sufficient funds are allocated to the Transform category as these are the initiatives that will deliver high returns on investment and can significantly propel the organization forward.

Using this categorization as a guide, the IT Steering Committee should establish and monitor target allocation across these investment categories.

7.2 Cloud Technologies

To build a modern, collaborative technology experience in 2021 – one that supports real-time collaboration with the ability to use mobile devices for field staff and remote workers, but also for office staff – is becoming increasingly dependent on Cloud technologies.

Cloud technology is becoming very popular and is used in government at all levels. The Government of Canada has rapidly adopted Cloud technologies, adopting a Cloud-first policy resulting in the ability to close down many of their own data centres.

7.2.1 Benefits of Cloud Technologies

Cloud technologies provide a variety of benefits, including:

- Improvement in operational flexibility by leveraging the economies of scale in resources that Cloud service providers offer rather than building and maintaining relatively smaller scale, in-house resources in a data centre; reduction in the risk to the IT environment by using up-to-date hardware, application and software of the Cloud that ensure platform updates are scheduled and performed based on industry best practices.
- Improved resiliency through distributed processing, higher service availability and disaster recovery.
- Increased scalability to match IT resource capacity with business demand, more flexible solutions to meet changing business requirements; also improved costs associated with technology utilization by only paying for the resources actually used.
- Improvement in agility to rapidly deploy new technology and digital solutions.
- Ability to optimize costs by more easily monitoring Cloud usage and consumptions.

- Fostering a culture of innovated technological solutions (digital transformation) to deliver better business benefits to both internal and external customers.

7.3 Business Service Optimization (BSO)

Business service areas should be reviewed to improve their current processes by eliminating and/or improving certain steps and to identify efficiencies.

The key process improvement opportunities are to:

- Eliminate unnecessary duplicate data entry activities.
- Eliminate the manual activities that could be easily automated, e.g., calculating permit fees.
- Review the end-to-end business processes (it is important to define how various activities are related to form a complete process; optimizing parts of a process may not bring the expected overall efficiencies for the service).
- Look at the business processes from the customer's point of view.
- Embrace paperless processes (when paper-based requirements are incorporated to a process, it means additional duplication of activities).
- Implement standard process review practices and collect the process maps to a corporate repository.
- Conduct, over time, business service optimization work with all services and identify priorities for service enhancement.

7.4 End-to-end Digitization of Services

Preliminary analysis indicates that the County is using their current technology environment to automate some parts of the business processes but not the entire process from start to end.

For example, an online "Report a Concern" form is available for citizens to fill out, but there is no integration with the back-office tracking system. Similarly, there is a back-office tracking system for building permits but no citizen-facing online portal for application intake.

These examples show that there are opportunities to transform the current service delivery methods using the digital channel.

7.4.1 Principles for Designing Good Digital Services

The following principles could help design good digital services:

- Consider the entire process from start to end.
  - Most often, a specific part of a process is automated to tackle a specific challenge. The County should instead concentrate on digitizing entire processes, e.g., digital payments within a manual process is only digitizing the payment intake activity. Instead, the whole application process including payments should be digitized.
- Encourage touchless services.
  - A touchless service takes the request from a customer digitally and provides the service without the need for staff to review, e.g., renewal of an Auctioneer's Licence could be a touchless annual activity.
- Embrace digital approvals within the business process so that the digital chain is not broken.
  - When a physical signature is required within a digital process, the information is printed, signed, and delivered, which is less efficient.

8.0 IT Organization

8.1 A More Effective Delivery Model

First and foremost, the County must establish a better model for delivering technology and technology-enabled business change. The current mandate of providing primarily network services must be expanded to include business solutions and overall data management.

The goal for the County should be to establish an IT function that can perform at a "well-managed" level. As previously noted in the IT Operating Model section, this means that the IT Division must transition from its current role at the periphery as a supporting service focused on providing front line support and on IT infrastructure, to one that is a strong **Partner Player** (as illustrated in the figure below).

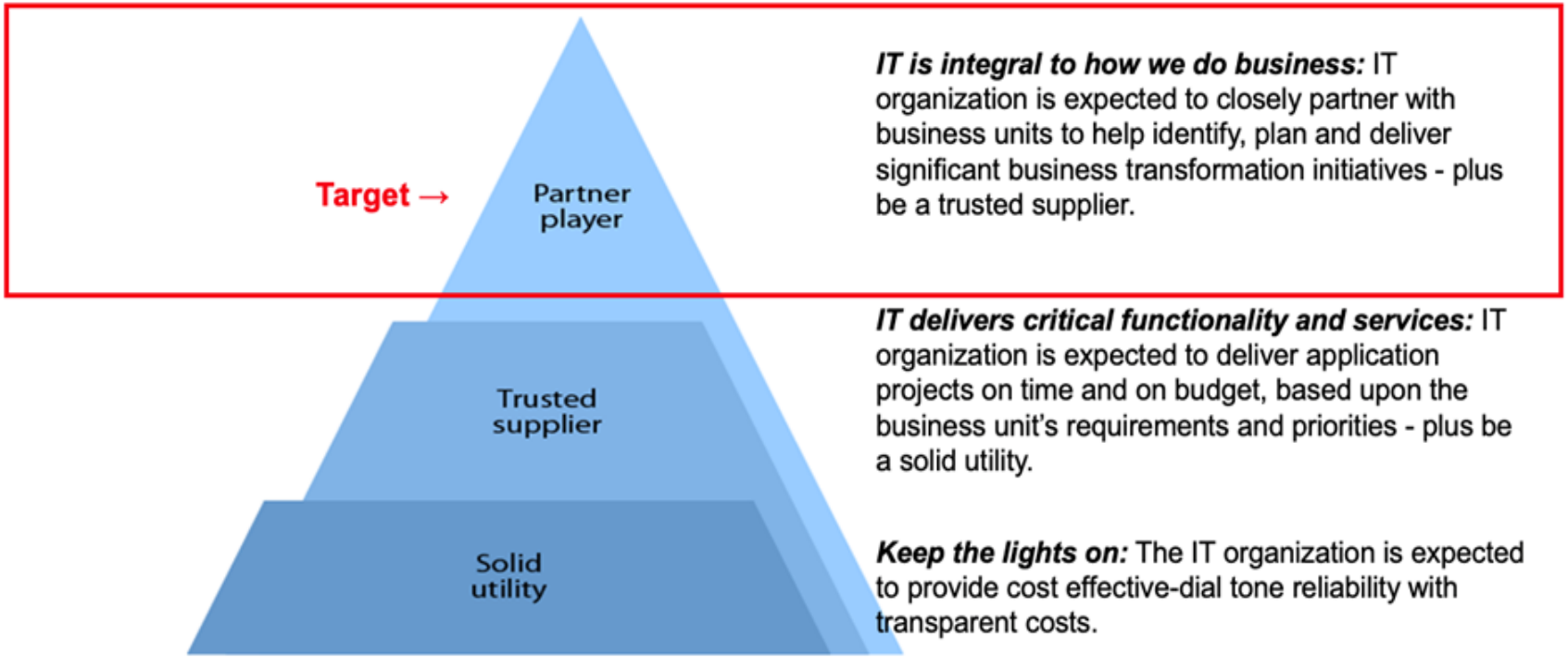


Figure 9: IT Service Delivery Progression

The above diagram depicts the characteristics of the different levels in IT service delivery progression. The progression means that the department must be a “Solid Utility” before it can progress to a “Trusted Supplier” and ultimately a “Partner Player”. The Current State Assessment showed that the County’s IT Division is very clearly a Solid Utility.

Looking to the future, business solutions will be a key area of focus for the County. There is the need for greater up-front analysis of requirements, matching the technology to the business need as well as follow-up support. Resources with expertise in business analysis, relationship building and project management should be added to the IT team to support this expanded responsibility.

In addition, greater attention needs to be given to integration opportunities to make sure the systems are working together, most efficiently. The IT Division must become a group that is actively involved with business units in identifying and implementing ways to improve and transform their services, processes and operations to drive efficiency and customer service improvements.

8.1.1 Business Analysis and Project Management

As noted in the Current State Assessment, the County has no dedicated solutions or business analysts in IT.

There are a number of projects ahead, most of which are in the Business Solutions domain. Each of these projects will require business analysis and application development skills to support systems configuration during the project and for support after solution implementation. A specific resource, such as a Business Analyst / Project Manager, will help the business define requirements, analyze current systems and determine specifications for new systems or improvements.

It is recommended that the County consider an additional full time staff position to take on the role of Business Analyst / Project Manager (BA/PM). The primary role would be to build strong relationships with business units.

In this role, the BA/PM will support departments in identifying business requirements for technology-related projects and lead the implementation of projects.

The current approach has been for the individual departments to research and acquire business solutions and to rely on vendors and suppliers to be involved in the configuration and installation of software and hardware. Moving forward, a more centralized and coordinated approach to business solutions will ensure the ability to properly integrate solutions, building data so there is a single source of accurate, consistent and protected data, and ensuring privacy and security policies are applied consistently.

8.1.2 Hybrid IT Service Operating Model

The reality of modern IT – particularly with small municipal teams – is that it is impractical to try to maintain in-house the necessary skills and capacity to plan, implement and manage all the County's increasingly complex technical environment and burgeoning project demands. To do so would mean hiring an unfeasible number of additional IT staff, far beyond that which is recommended here.

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

Similar to the way the County might approach major engineering capital projects by relying on engineering firms with specific expertise, the emphasis is on "getting projects done", or "project throughput" rather than on IT staff necessarily implementing the technology themselves.

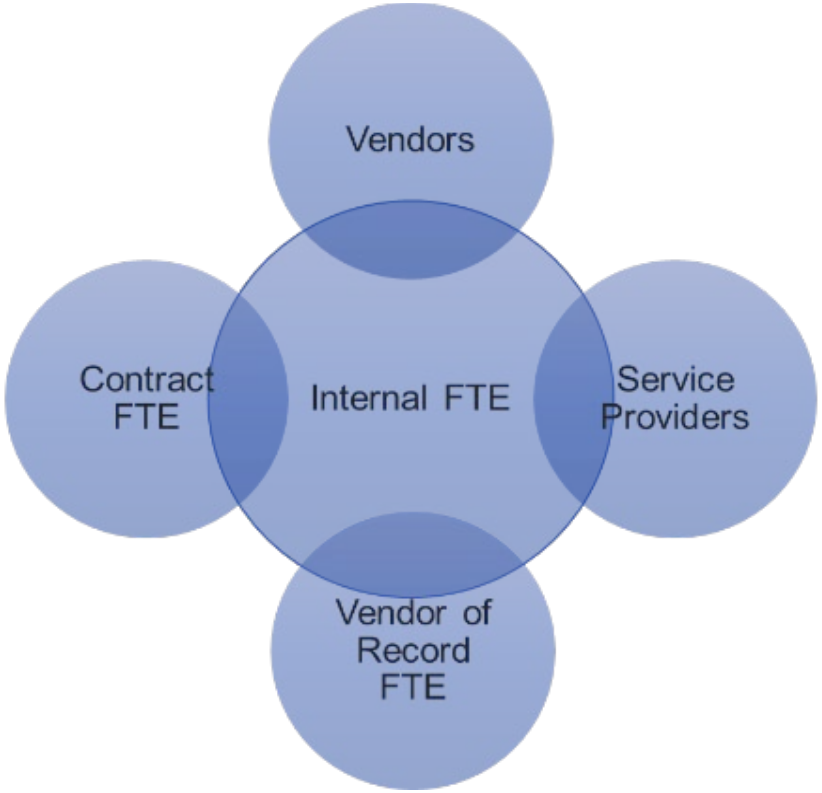


Figure 10: Hybrid IT Model

This is a hybrid model of IT service delivery that combines internal IT and business skills with market-based expertise and services. Ultimately, it means that IT staff begin to work as coordinators or orchestrators of IT service delivery that will be executed by a combination of internal staff and external providers.

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

It is best to carefully consider how to derive the greatest value from limited IT resources – to free up their time and enable them to work on more high-value initiatives that will position the County for the future. Within any organization – municipal or private sector – there are numerous routine activities that are required to be completed but, in many cases, they can be completed more efficiently and at a lower cost by others.

The County needs to determine the activities that it feels should be managed internally, and which activities can be handled by others (e.g., departments, contracted staff, vendors or partners).

Security management is a good example of an opportunity to leverage industry experts. It would be unfeasible to properly resource the internal IT team with the skills and expertise needed to ensure that the County's data and technology ecosystem remains secure 24 hours per day and 365 days per year. With the increase of cyber threats, this is one where the importance of the service cannot be underestimated.

8.1.3 Other Opportunities for Resourcing Strategies

The following are some additional opportunities to consider when looking for alternative resourcing strategies:

- Capital funding contract staff positions.
- Vendor of Record – IT resources on-demand.
- Leverage strategic partnerships.
- Out-task IT services.
- Use external expertise to plan, design and set strategies.

8.1.4 Capital Funding Contract Staff Positions

Projects have proven to be successful when staff can be dedicated to the project – not working off the side of their desk.

To achieve this level of dedicated attention to projects, municipalities commonly use contracting for short-term staff (1- or 2-year contracts). Costs for staffing contracts are "bundled" into the total capital cost of the project so when projects are approved, the appropriate staffing to execute the project is also approved.

Contract staff may be used directly on the project but are more typically hired to backfill IT or subject matter experts in business units, freeing up internal staff to work on projects. This allows the County to retain the accrued project learning and expertise, and to offer development opportunities to internal staff.

It is recommended that the County pursue this Strategy.

8.1.5 Vendor of Record – IT Resources On-Demand

Because of the regular need to bring in additional IT and subject matter business resources to support project activity, many municipalities (e.g., Richmond Hill, Guelph, Mississauga, Halton Hills) have embraced a "Roster" or "Vendor of Record" (VOR) model.

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

Funding for VOR resources is then included as part of a project capital request and this can enable the County to quickly ramp up resources to lead major projects such as a new corporate HR solution, an Asset and Work Management solution or a future customer service system (CRM).

This can be provided as an option to a business unit that wants to accelerate a project and has funding available to leverage external resources to aid this acceleration.

8.1.6 Leverage Strategic Partnerships

Although the IT Division is capable of finding and implementing good solutions, it doesn't always mean that it is always the right approach. Looking forward, strategic decisions are needed regarding whether the County is best suited to build and deliver a solution or whether another partner (in the public or private sector) may be better suited to address a need.

Public Wi-Fi is a good example of this, with different municipalities taking different approaches. Some have built their own public Wi-Fi networks, committing their own resources and time to work. In this area, Burlington has partnered with the local telco – Cogeco – which now provides public Wi-Fi in City facilities and in parks and other civic spaces.

In Burlington, a partnership with an organization with strong expertise has allowed citizens to receive a great service from a provider with deep expertise, while Burlington's IT resources can focus on other areas that are core competencies for them.

Given the ever-increasing pressures on internal IT resources, the County should think strategically about further opportunities for partnership as it considers technology opportunities.

8.1.7 Service Providers: Out-Task Some IT Services

While wholesale IT outsourcing is extremely uncommon in the municipal sector due, in part, to the complexity of municipal business, the County should continue to adopt selective "out-tasking" as a strategy to augment internal resources – reducing the need to add new full-time IT staff – particularly in the infrastructure area where services are more commoditized.

Out-tasking typically refers to hiring external experts to assist with very tactical or specific project-oriented tasks or processes.

The IT Division should be the orchestrator of IT service provision, matching the needs of the organization to service delivery, either provided internally by IT staff or by third-party expertise. Whoever actually provides the service should be transparent to County management and staff.

It has been initially recommended that the County consider adding the “out-tasking” of security operations and potential application integration services.

It is suggested that other options be considered in due course.

8.1.8 Use External Expertise to Plan, Design and Set Strategies

Setting strategies before tackling projects is critically important to successful outcomes (measure twice, cut once).

Fully exploring possibilities before diving in is essential. In this area, there is clear value in engaging experts in the right measure, at the right time.

Consultants with deep domain experience and with experience in developing strategy and implementing solutions can help to guide the County in developing plans that properly leverage systems’ capabilities to address business challenges.

9.0 Workplan

9.1 Determining Priorities and Setting the Project Roadmap

This Report outlines recommendations designed to respond to an imperative to create a more conducive environment in which the County can ensure the investments it makes in new technology can be successfully implemented and supported and that the investments will achieve the expected returns on investment in reasonable timeframes.

The implementation of these recommendations requires active engagement and sponsorship from SLT, support from Council, and active involvement of leaders and staff across the County.

Opportunities have been prioritized according to urgency and impact and to build strong foundational systems that will enable the County to continue to expand its digital service offerings. It is expected that projects will be subject to the annual budget process and approvals as well as the outcomes of formal procurement processes (RFPs).

As part of the Digital Strategy project, a prioritization workshop was held with SLT, the County leadership team.

Priority setting should not be only a one-time exercise, rather it is recommended that project prioritization be held annually to align with budget cycle and work planning.

Project prioritization helps provide an objective approach and the opportunity to engage business units to better understand the IT demands from a corporate perspective. 28 projects were prioritized using 5 criteria – Organizational Risk, Corporate Impact, Departmental Impact, Community Impact and Urgency (projects identified as “non-discretionary” or having “substantial completion” were excluded from the process).

Out of the workshop, the following were identified as the top priority IT initiatives for Renfrew.

1. Cyber Security Program.
2. Business Continuity Plan / Disaster Recovery (BCP/DR).
3. Digital Forms Standardization.
4. Human Resource Information System (HRIS).
5. Paramedics Systems Review.
6. Develop Cloud Strategy and Governance.
7. Digital Authorizations.
8. GIS Strategy.
9. Digital Purchasing Solution.
10. AODA Compliance Plan.

9.1.1 Project Categories for Expanding Digital Service Offerings

The projects identified – and outlined in detail below – are grouped into five categories:

- Governance.
- Infrastructure.
- Business Solutions.
- Data and Integrations.
- Customer-Facing.

These categories align to the layers from the MTM and the foundational model within the proposed Governance Framework.

9.2 Governance Projects

The Governance projects will help to provide the necessary strategy and direction for much of the IT work plan.

9.2.1 Current Governance Initiatives

- Organizational Review.
- IT Service Delivery Review.
- Rural Broadband Task Force/Advisory Committee.

9.2.2 New Governance Initiatives

IT Governance Framework (2022)

As identified throughout the document and in the IT Governance section, establishing an IT Governance Framework will be a fundamental component to structuring IT moving forward. The components identified in IT Governance provide the foundational components to IT service delivery.

Cloud Strategy (2022)

The County has a Cloud policy in place, however, there needs to be a greater understanding of what this means across the organization. Developing a Cloud Strategy will govern the use and appropriateness of Cloud services.

As identified in the Cloud Technologies section, Cloud technologies are becoming more prevalent in IT both to support back-end infrastructure and to provide business and customer-facing solutions.

For all the advantages Cloud can bring, making informed decisions and having appropriate policy in place is important to avoid potential risks, shortfalls and cost implications that can be associated with Cloud.

The organization is already using some Cloud technologies (such as eSolutions for CMS) and many of the projects on the roadmap could use Cloud for future solutions (including M365).

AODA Compliance Policy

Compliance with the Provincial AODA requirements can be very complex and cumbersome. Municipalities need to determine how they can best comply and ensure corporate policy and procedures are in place. An accessibility policy including a sustainable process should be developed. There are a variety of tools available that may be considered if it is determined to be appropriate for the organization. A policy, with accompanying guidelines and procedures will assist with compliance and ensuring staff have the appropriate training and procedures will assist in this regard.

9.3 Infrastructure Projects

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

9.3.1 Current Infrastructure Projects

The majority of the infrastructure projects are recurring tasks that must be considered as part of the annual workplan for the IT Division and include:

- Cloud backup solution.
- Ongoing security enhancements.
- Migrate POA ICON server to VM Ware environment.
- Annual hardware refresh/upgrade projects.

9.3.2 New Infrastructure Projects

Business Continuity / Disaster Recovery Plan (2022)

Implementation of a Business Continuity / Disaster Recovery Plan mitigates organizational IT infrastructure risk exposure.

This process should start with corporate-wide Business Impact Analysis and Risk Assessments that identify threats and vulnerabilities and development of a Crisis Management Plan.

The outputs from these activities will include Recovery Time Objectives for all business services and the technologies on which they depend.

A detailed Project Sheet can be found in Appendix 1 – BCP/DR.

Cyber Security Program

The County has a Cyber Security program in place and this should continue and be further enhanced. Having a detailed Cyber Security program that includes annual assessments, testing as well as training for staff is becoming a pre-requisite for cyber insurance. As the County continues to evolve its program, consideration should be given to ensuring an annual assessment is in place. The assessment will provide the County with a repeatable and measurable process to inform management of risks and cybersecurity preparedness.

The assessment should consist of 4 Functions:

1. **Identify** – Assists in developing an organizational understanding to managing cybersecurity risk to systems, people, assets, data and capabilities. Understanding the business context, the resources that support critical functions and the related cybersecurity risks enables an organization to focus and prioritize its efforts, consistent with its risk management strategy and business needs.
2. **Protect** – Outlines appropriate safeguards to ensure delivery of critical infrastructure services. The Protect Function supports the ability to limit or contain the impact of a potential cybersecurity event.
3. **Detect** – Defines the appropriate activities to identify the occurrence of a cybersecurity event. The Detect Function enables timely discovery of cybersecurity events.
4. **Respond** – Includes appropriate activities to take action regarding a detected cybersecurity incident. The Respond Function supports the ability to contain the impact of a potential cybersecurity incident.

Enhance Mobile / Field / Vehicle Technology (2022)

Remote work has become a very common situation over the past year, but beyond “work from home”, there are many staff who work in the field.

This has been started on an ad hoc basis, but as services become more digital, there will be greater opportunities for information to be captured and entered in the field instead of being brought back to the office for data entry.

In the quest to provide a flexible working environment that meets the needs of staff and management, the County should conduct a review of the devices that it provides and determine the most effective options – for smartphones, tablets, laptops, and desktops. Consideration should be given to the need for specialized devices that are well-suite for Emergency Services and in the Long-Term Care homes.

Many municipalities have moved to a primarily laptop fleet and/or offered managers and staff choices of the devices that they can use – this is known as the Choose Your Own Device (CYOD) model.

The County needs to evaluate its options and determine what approaches it will use.

Public Works Systems Review (2023)

Currently, the GPS (AVL) units have been added to the operations fleet, equipment and light duty trucks in Public Works. Additional units are included in the annual budget each year until all are equipped.

Consideration is being given to implementing the Road Patrol module available that will assist with managing work orders, fleet maintenance and inspection reports.

A needs analysis and business case should be developed to fully identify requirements as well as integration points into other systems such as Finance and GIS. This solution could be a starting point for an Asset and Work Management solution.

M365 Assessment – Staff Collaboration and Productivity Tools (2022)

There is currently limited use of the M365 Office Suite at the County. There is a great deal of functionality with Microsoft's M365 Cloud-based product suite – including Office, Exchange, OneDrive, SharePoint, and Teams – which collectively provide solutions to collaboration, intranet, email, and document management.

With functionality, however, comes a cautionary note – the cost. The County needs to get estimates to establish total cost of ownership associated with implementation of M365. This should drive decisions that will inform future opportunities for document and information management, staff intranet and internal collaboration tools.

A detailed Project Sheet can be found in Appendix 1 – M365 Review and Program.

9.4 Business Systems Projects

Business Systems are the solutions that support the organization to complete day-to-day activities.

Human Resource Information System (2022)

One of the County's most important assets is its people; they also represent one of the largest costs, so it is critical to effectively manage the workforce from onboarding to retirement using digital processes rather than paper-based employee files.

The County's current employee records are largely paper-based or tracked in numerous spreadsheets.

Human Resource (HR) processes such as recruitment and training tracking must be modernized. Existing process management is extremely time-consuming, inefficient and prone to error and the management of data related to processes consumes much HR staff time.

It is important to note that this is a drag on the whole organization – it inhibits organizational flexibility and agility and doesn't provide management with the insights that a more comprehensive and effective HR solution could.

A comprehensive HR management system is a corporate-wide solution, not simply a "system for HR", and thus must meet the needs of the whole organization (leadership, management, staff (part-time, full-time)).

A new HR management system is required.

Implementation of such a solution will likely address the following needs and capabilities:

- Position management.
- Employee records.
- People metrics and analytics.
- License and training tracking.
- Time and attendance.
- Shift scheduling.
- Applicant tracking and online recruiting.
- Learning management.
- Succession planning.
- Performance management.
- Absence management.
- Employee self-service.
- Health and safety.

It is recommended that consideration also be given to historic data digitization and the need to load prior employment history and records into the system, prior to go-live.

A detailed Project Sheet can be found in Appendix 1 – HRIS.

Payroll (2022)

Similar to the HR system, the current payroll system is largely paper-based.

There are several different timesheet solutions used across the County resulting in much manual work to enter data into the Great Plains payroll system. Authorizations are also all paper-based.

This is an area where a business process or service review should be conducted to identify opportunities for improvement and efficiencies. Payroll could be considered as part of the search for a new HR system or it could be part of the overall review of the Financial Information System (FIS) solution.

Document and Records Management Strategy (2023)

Developing an Enterprise Document Management (EDM) and Records Management Strategy is about understanding where all content and information (both structured and unstructured) resides in the organization, how it is stored, accessed and retained. The County by-law references only paper records and this must be updated to include electronic or digital records.

The plan should identify how documents – paper and digital – are retained, archived, deleted and made accessible. Documents are key assets of the organization and are needed often by staff. The opportunity is to reduce the amount of time it takes to search for information as well as to reduce the risk of the organization by better understanding where documents and information are stored. Efficiencies can be realized by building workflows into potential solutions that should reduce overall costs and accessibility. It is also the opportunity to train staff in the most appropriate procedures for document retention and access, including privacy and security protocols.

This project should also include the acquisition of a new solution to digitize Council Agendas and Minutes.

A detailed Project Sheet can be found in Appendix 1 – Document and Records Management.

Financial Software Fit / Gap Analysis (2023)

The current financial system, Great Plains, has been used by the County for a number of years. It has served well and staff have a comfort level with it.

We found, however, that it is not being leveraged to its fullest and many staff use Excel spreadsheets as workarounds when they find the core system cannot meet their needs. This is also true within Finance. There was often the request for more reports to be made available as well as online access to view account status and activity.

Replacement of a financial system is a major undertaking, but one that needs to be considered. The current system is contributing to many of the paper-based processes currently in place for financial and HR transactions.

It is recommended to review business processes first and develop clear business requirements, then evaluate solutions. This project will be a significant effort for the organization and will require dedicated resources.

A municipal Enterprise Resource Planning (ERP) system is a business system that incorporates multiple external and internal municipal services into a single system. The ideal solution would have built-in integration between modules so that there is seamless data transfer between services.

Traditional ERP systems are built to enable Finance and HR services. A modern municipal ERP could include most of the following modules:

- **Finance services** – General Ledger, Accounts Payable, Accounts Receivable, Purchasing, etc.
- **HR services** – Recruitment, performance management, succession planning, benefits, payroll, etc.
- **Property-based services** – Planning, Permitting, Licensing, By-law Enforcement, etc.
- **Asset and Work Management** – Work orders, asset inventory, asset management, inspections, maintenance, etc.

The ideal system would also have the following features:

- **Online portal and online services** – Ability to create a single account with multiple online service options.
- **Mobile computing** – Ability for internal staff to use mobile applications to perform field work such as inspections.
- **Integrated** – All modules integrate seamlessly.

The County has been using the Great Plains solution for many years now. In some respects, it works very well, but it appears to be significantly lacking in others.

It is recommended that the County conduct a requirements review and market scan and decide whether to upgrade the existing solution and leverage it more fully or perhaps select a new solution.

It is important to note that one of the key decisions in selection of an ERP will be to determine *which modules are most appropriate and fit the requirements of the organization*.

A detailed Project Sheet can be found in Appendix 1 – Municipal ERP – Fit / Gap Analysis.

Paramedics Systems Review (2023)

There has been a lot of change in technology and solutions made available to Paramedics over the last few years. The pandemic has certainly created a focus on the need for digital solutions.

Currently, the County of Renfrew Paramedics are leveraging technology wherever possible. They are seen as being very innovative in their use of technology and yet they struggle with the multitude of different solutions in place and the lack of integration between the systems as well as the lack of integration with partner systems.

It is recommended a fulsome review be conducted of the different solutions in use with a goal of rationalizing the systems into a more cohesive and clear set of tools that provide the benefits expected.

This review should include key points of integration as well as leveraging other opportunities (e.g., GIS), into the overall solutions available to this critical service.

A detailed Project Sheet can be found in Appendix 1 – Paramedic Services.

Asset Management and Work Order Solution (2023)

This assessment could be included in the review of the Financial Information System if it is determined to move toward a fully functional municipal ERP solution.

The County's Asset and Work Management systems go-forward strategy and path is unclear today. There are different systems in use today including Great Plains and Excel spreadsheets.

The County should:

- Conduct a review of its Asset and Work Management systems.
- Establish a fulsome understanding of needs.
- Define a target architecture, and
- Determine a suitable path forward to establish a robust, integrated, and comprehensive set of solutions that leverage GIS, back-office process automation and mobile capabilities.

This solution would then be used corporate-wide for all asset management.

Customer Service Request Tracking (2023)

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

A CRM solution will:

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

Currently, the County has only manual processes, utilizing Excel and Word for Work Order Management. Currently, on renfrew.ca, a "Report a Concern" form is available for customers to submit online requests or issues.

A better understanding of customer service requirements is required prior to consideration of a full-featured CRM.

Staff should review the potential solutions and determine where the customer record will reside.

Land and Property Management (2024)

Managing the development that is taking place in the County is important for both the County and the local municipalities.

Planning services are provided to some of the local municipalities but there is no real business solution in place. A solution that not only allows for efficient tracking and review of applications would be beneficial.

The new solution should also provide online access to customers (residents and developers) so they can submit their applications and track application status online. Online access should also be available to the local municipal partners making it easier for them to manage their development but also to interact with the County.

A detailed business review is recommended to fully understand the requirements but, at minimum, should include:

- Digitizing back-office processes and enabling digital plans review.
- Enabling online interactions with customers allowing them to apply and pay for services online, book an inspection or report a problem, and
- Equipping mobile staff with technology that is connected to back-office systems so that they can conduct and record inspections in real-time on their mobile devices while in the field.

A detailed Project Sheet can be found in Appendix 1 – Land and Property Management Plan.

Customer Portal (2024)

Customers should be able to get all their information in one place. This can be as simple as providing a landing page similar to the “Report a Concern” page on countyofrenfrew.on.ca, however, the real benefit in having a customer portal is the ability for customers to get access to personalized services and transaction history.

As such, it is recommended that the County look at customer portals with the following features:

- Single sign on capability to log into various applications with one ID and password.
- Transaction history and status for service requests and submitted forms.
- Personalization features such as location-based services (e.g., “what’s near me?”).
- Subscription and notification management.

As more services are delivered digitally, additional features can be added to the portal.

Note: Portal solutions can be associated with several technology platforms, including the ERP, or CRM, or with the web Content Management solution. For example, eSolutions has a citizen portal solution and, subject to review of the requirements, could be a quick win prior to launch of an ERP or future CRM solution as eSolutions is a current vendor/partner with the County.

IT Business Solution Training (Ongoing)

One of the repeated themes throughout the Discovery phase was identification of the need for additional business system training for staff to better utilize the technology they have been provided.

IT needs to work with HR in establishing an IT training program for staff. This initiative will develop into an ongoing program and it can be anticipated that, at a later time, tracking and capturing of training results will be required by HR.

A detailed Project Sheet can be found in Appendix 1 – IT Training Program.

9.5 Integration and Data Projects

Integration and data determine how the information in the organization is exchanged and maintained. Data is a critical asset of the organization and must be treated accordingly.

NextGen-911 Planning (2022)

Next Generation 911 planning is being addressed by every community as technology changes the way 911 operates.

911 dispatch is managed through the Ministry of Health for the County, however, it's still important that the County understand the changes that will be made.

The purpose of this project is to evaluate the County's current state of 911-related data, processes, governance, and technology to identify areas of improvement to meet future NG911 requirements and how it might impact County service delivery.

A detailed Project Sheet can be found in Appendix 1 – NG911 Readiness Assessment.

GIS Strategy (2023)

Corporate GIS services are provided through the Development and Property Department.

GIS is one of the County's major enterprise platforms and one of the most developed data resources. The County provides GIS services to some of the local municipalities as well to internal staff.

As the County moves toward a more centralized approach to business solutions and data management, it will become more critical for strong interactions and integration with GIS. Further exploitation of GIS represents a huge opportunity to become more data driven.

It is recommended that a fulsome GIS Strategy be developed to identify priorities, to clarify roles and responsibilities (particularly with regard to data) and to identify projects that will support other corporate digital initiatives such as asset management.

A detailed Project Sheet can be found in Appendix 1 – GIS Strategy.

Integration and Data Management Plan (2023)

To achieve end-to-end digital services, having integrated core systems is essential.

Wherever practical, the County should work on integrating systems and sharing the relevant data across the systems. Getting an ERP or financial system that can integrate with online services is crucial for success.

The County should develop an Integration and Data Management Plan that includes:

- Defined integration standards and methodology.
- Illustration of integration and data flow.
- Defined data standards and classification.
- Master data sources for property, staff, and customers.

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

A detailed Project Sheet can be found in Appendix 1 – Integration and Data Management Plan.

Analytics

Central to the concept of digital is the value of the data and information produced. The County should:

- Utilize analytics to better understand customer preferences and influence priorities for digitization.
- Expand the use of analytics to improve service delivery and understand customer behaviours.
- Make Search Engine Optimization (SEO) part of a regular review for both internal and external engines.
- Capture metrics and statistics of social media interactions tracked and reported.

- Bring all usage data together to build the customer profile.

9.6 Customer-Facing Projects

Customer-facing projects deliver services to the public, usually through online and self-service channels.

Digital Forms Transformation (2023)

The County offers several forms online in a variety of formats – online fillable eForms (Report a Concern, Tourism Sign Permit Applications), non-fillable PDFs (Application for a Permit to Construct or Demolish), or fillable PDFs (Adopt a Road Program, Oversize/Overweight Permit Applications) in addition to paper-based forms.

Form layouts and styles are not entirely consistent. Currently, the greatest challenge to online forms is limited back-end solutions for form repositories – processes aren't digital end-to-end.

The suggested approach is to:

- Utilize the service inventory, catalogue all forms, and rationalize and prioritize for online delivery (taking into account form lifecycle and value).
- Develop a consistent and standard style and presentation for forms (including field order).
- Identify a back-end system where the form will reside (wherever possible). Forms serve a purpose, so where no back-end system exists, determine whether or not a system is required or if the form could be identified as a service request/work order and reside within the CRM.
- Provide the customer with an acknowledgement of submission and what should be expected as a response (forms should provide feedback whenever submitted).

Intranet Adoption (2023)

For the internal customer, i.e., staff, intranets can be effective tools for organizations to communicate information, collaborate and provide staff self-service.

This initiative is a small project to drive intranet adoption by staff through minor enhancements including single sign on (SSO) and setting staff browser pages as default.

Uptake will only happen if it is easy and has value to staff, so making the site convenient will start adoption. This could be a deliverable from the M365 solution if it is determined to move toward the full implementation of M365 tools such as SharePoint.

9.7 Key Projects – By Year

The following table identifies specific initiatives with their related cost estimates and a brief summary of the benefits.

The SLT Priority column indicates the priority set by Senior Leadership Team at the County. Other projects are included based on municipal best practices. The proposed IT Steering Committee (or SLT?) may re-prioritize the work plan, if required.

- Green / G – Governance
- Yellow / B – Business Solutions
- Blue / S – Infrastructure
- Orange / C – Customer-Facing
- Grey / I – Integration

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
2022				
G	Establish IT Governance Committee	N/A	N/A	Gives oversight of all IT activities ensuring alignment to corporate objectives.
G	IT Project and Portfolio Intake and Management Process	N/A	N/A	Allows the County to take on projects based on organizational value.
G	IT Organization Changes	TBD	TBD	Aligns resources to opportunities and projects that align with Corporate goals.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
S-1	Cyber Security Program			Enhancing the existing program will help to mitigate the risk of personal actions causing a security incident.
S-2	Business Continuity / Disaster Recovery Plan	$50k	TBD	Reduces costs associated with IT service disruptions and allows for the continuity of core municipal services.
G-6	Cloud Governance and Policy	N/A	N/A	Facilitates a decision-making process about whether or not solutions can be moved to the Cloud. Also ensures the whole organization understands what is and is not permissible. Data protection is key.
S	Annual Hardware Refresh / Upgrades	As per budget	As per budget	The technology infrastructure must be maintained and renewed on a regular basis to ensure a strong foundation for solutions and future deliverables.
S	Ongoing Security Enhancements	TBD	TBD	Addresses all gaps and vulnerabilities identified in security assessments.
S	Review / Upgrade Internet Connectivity Contract	As per budget	As per budget	Approved project.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
S	Enhance Mobile / Field / Vehicle Technology	N/A	$15k	Expand current policy to allow for greater access to mobile tools, including specialized devices suited for Emergency Services and in the LTC facilities. Should also include a Mobile Device Management (MDM) solution to enable the County to manage mobile devices such as erasing them if lost or stolen.
S	M365 Assessment	TBD	TBD	Enhanced collaboration capabilities, potential more effective use of online tools to offset costs for other solutions.
S	Next Gen 911 Readiness Assessment	TBD	TBD	To identify the scope and scale of requirements necessary to meet the National Emergency Number Association (NENA) standard.
B-4	Implement HR Solution	$150 – 200k	$30 – 60k annually	Improved business processes and better integration of different department functions and data. Reduced HR Staff workload by adding self-service capabilities. Improved decision-making by making key data more available.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
B	Payroll Solution	TBD	TBD	Efficiency improvements and improved data reliability and accessibility.
B	Digital Agendas and Minutes	TBD	TBD	A solution that enables the easier creation of digital agendas and minutes should be reviewed. These solutions provide not only a digital version but have workflows built in to provide a more streamlined process.
B-7	Digital Authorizations	N/A	TBD	Establish Digital Approvals and Signatures Policy / practice and rapidly expand use of digital signatures.
G-10	AODA Compliance Policy & Procedures	TBD	TBD	An Accessibility Policy including clear processes and procedures should be developed. This will assist with ensuring the appropriate level of effort required for compliance. This policy could be developed as part of the Document & Records Management Plan.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
C-3	Establish a program for digital forms and online requests	TBD	TBD	The County should work on converting all its forms into eForms, starting first with the highest volume forms that will have the largest impact to customers. While building online forms is not the answer to complete services and full end-to-end digitization, it is a suitable interim step that provides improved services to customers at a relatively low cost. Note the current website provider offers a good eForms solution.
2023				
G	Begin to develop Business Solution Roadmaps	N/A	N/A	Develop multi-year Business Solutions roadmaps in partnership with the governance team to determine lifecycles, upgrades, expansion opportunities, etc.
G	IT Service Catalogue	N/A	N/A	The development of an IT Service Catalogue will serve as a single source of information for all the IT services provided.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
G	User Training Program	TBD	TBD	Better utilization of technical assets and increased technical literacy and understanding of staff.
S	Annual Hardware Refresh / Upgrades	As per budget	As per budget	The technology infrastructure must be maintained and renewed on a regular basis to ensure a strong foundation for solutions and future deliverables.
S	Ongoing Security Enhancements	As per budget	As per budget	Addresses all gaps and vulnerabilities identified in security assessments.
B	Document and Records Management Plan	$30k	TBD	Overall improvement of service delivery, reduce costs and realize efficiencies through digitization opportunities and electronic records accessibility. Reduce the effort required to locate documents/files and reduce the physical file storage space. Improve access to key documents as part of a Business Continuity Plan. Funding requirement is for external consulting assistance.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
B-5	Paramedic Systems Review	$20k	N/A	Planned and prepared approach to understand business needs relative to available technology. Funding requirement is for external consulting assistance.
B	Asset Management and Work Order Solution	$100k – 250k	$50-80k	The County's Asset and Work Management systems need a clear strategy for growth. The recommendation is to implement a series of short-term or interim solutions to support its immediate needs as well as develop a longer-term roadmap.
B	Public Works Systems Review	N/A	N/A	A review of the different systems currently in use should be done to reduce the number of systems and workarounds but also to leverage the tools available.
B	Review Yardi	N/A	N/A	The Yardi system is primarily supported by the vendor but is reaching end-of-life. There is the need for IT expertise to help find a replacement and to work with other municipalities to define options.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
B	Fit/Gap Analysis of Great Plains financial system	$50k	N/A	The financial system has additional functionality available and should be more fully integrated for greatest efficiency and effectiveness. Staff may be able to be more efficient with automated processes and expanded GP functionality. A more integrated solution will provide better data to improve overall decision-making and insights. Funding requirement is for external consulting assistance.
I-8	GIS Strategy	$75 – 100k	N/A	Develop a plan or roadmap to establish a foundation that can be leveraged across the County to share GIS resources and educational materials.
I	Integration Tool	TBD	TBD	Could be part of the larger Integration and Data Management Plan or an interim solution and procedure be implemented.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
C	CRM Solution	TBD	$15k annual fee	Implement a 'lite' CRM tool, (Customer Relationship Management) solution to provide a centralized location to manage customer relations for improved service delivery.
C	Online Facility / Meeting Room Booking Solution			A solution to help facilitate online booking of meeting rooms, facility space.
C	Intranet	TBD	TBD	An intranet can serve as a key communications and information sharing tool. Should be easy-to-use, include single sign on (SSO) and be convenient. May be an outcome of the M365 implementation.
2024				
S	Ongoing Hardware Refresh / Upgrades	As per budget	As per budget	The technology infrastructure must be maintained and renewed on a regular basis to ensure a strong foundation for solutions and future deliverables.
S	Ongoing Security Enhancements	As per budget	As per budget	Addresses all gaps and vulnerabilities identified in security assessments.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
B	Land and Property Management Solution	$100 – 150k	$30 – 50k	Automation and efficiency opportunities when using a full-service solution. Municipalities are implementing this type of system to enable modernizing of all components of Planning and Development services. Also provides for integration of data into GIS.
B-9	Digital Purchasing Solution	TBD	TBD	Several departments noted the need for digital purchase orders, as well as tracking and status updates. May be an outcome of the analysis of the FIS project.
I	Integration and Data Management Strategy	$25k	TBD	Develop an Integration and Data Management Plan that includes defined integration standards, data standards and classification, and sources of “master” data. Funding is required for external consulting assistance.
C	Review Community Engagement Tools	TBD	TBD	Digital tool that makes it easier to digitally engage with the community on particular topics, projects or to get feedback.

SLT Priority	Opportunity	Capital Impact	Operating Impact	Summary of Benefits
C	Community Emergency Notification System	TBD	TBD	A digital solution that makes it quick and easy to push out notifications to the community.
C	Mobile County App	TBD	TBD	A mobile app that provides easy access through a smartphone to the customer portal and other online applications.
2025				
S	Annual Hardware Refresh / Upgrade	As per budget	As per budget	The technology infrastructure must be maintained and renewed on a regular basis to ensure a strong foundation for solutions and future deliverables.
S	Ongoing Security Enhancements	As per budget	As per budget	Addresses all gaps and vulnerabilities identified in security assessments.
C	Ongoing additions to Online Services through the Customer Portal	TBD	TBD	Continue to grow the online opportunities to increase the number of digital services offered to customers. Improve staff efficiency with more fully automated processes.

Appendix 1 – Detailed Project Sheets

The following project sheets outline the results of detailed concept cases for the prioritized projects and key opportunities. They are designed as mini project analysis summaries and can be used as a starting point for a full business case or analysis.

The Business Continuity Plan / Disaster Recovery

Project Description

- Develop a disaster recovery and corporate Business Continuity Plan.
- Implementation of a Disaster Recovery/Business Continuity Plan (DR/BCP) helps mitigate organizational IT infrastructure risk exposure and ensures a plan for business continuity should systems go down or become unavailable.

Objectives

- To provide resiliency for core municipal services.
- Mitigate risk of extended disruptions in service.
- Ensure the County meets cyber insurance requirements.

Deliverables

- Business Impact Analysis – define Recovery Time Objectives for all core services.
- Perform an IT Risk Assessment.
- Develop departmental Business Continuity Plans.
- Implement a DR solution based on the BIA outcomes.

Assumptions

- The County will initiate a format BCP/DR program with an annual budget.

Resources Required

- IT Manager.
- Departmental leads.

Estimated Duration

- 2-3 months

Alignment / Benefits

- Reduce costs associated with IT service disruptions and allow for the continuity of core municipal services.

Risks

- Annual budget availability to support the BCP/DR program.

Prioritization Assessment

- Ranked 2 of 28 in initial prioritization.
- Portfolio = Run.

Estimated Cost

- $50K for an external consultant to develop the BPC/DR plan.

Project Description:	Develop a disaster recovery and corporate business continuity plan. Implementation of a Disaster Recovery/Business Continuity Plan (DR/BCP) helps mitigate organizational IT infrastructure risk exposure and (as the name implies) ensures a plan for business continuity in the event that systems go down or are unavailable.		
Objectives:	• To provide resiliency for core municipal services. • Mitigate the risk of extended disruptions in service • Ensure the County meets all cyber insurance requirements	**Alignment / Benefits:**	• Reduce costs associated with IT service disruptions and allow for the continuity of core municipal services
Deliverables:	• Business Impact Analysis – define recovery time objectives for all core services • Perform an IT risk assessment • Develop departmental business continuity plans • Implement a DR solution based on the (BIA) outcomes		
Assumptions:	• The County will initiate a formal BCP/DR program with an annual budget	**Risks:**	• Annual budget to support the BCP/DR program
Resources Required:	• Manager of IT • Departmental Leads	**Prioritization Assessment:**	• Ranked 2 of 28 in initial prioritization • Portfolio: Run
Estimated Duration:	2-3 months	**Estimated Cost:**	$50,000.00 (for external consultant to develop BCP/DR Plan)

Figure 11: Business Continuity / Disaster Recovery Plan

M365 Review and Program

Project Description

- Develop a business case and plan including TCO (total cost of ownership) for migration and timing to shift to the M365 platform.
- Currently, all email is through M365 but only approximately 50 users have a full M365 license. Decisions need to be made to move everyone to this platform providing opportunities for further collaboration related to Outlook, SharePoint, OneDrive, Office, Teams, and Active Directory.
- This is a longer-term plan that will identify a sequence of activities over a series of years.

Objectives

- To have substantiated decisions on implement of M365 components.
- Timely transition of email, intranet, and productivity suite to Cloud-based model.
- To have a planned approach to manage potential subscription services, costing, sequencing, timing.

Deliverables

- Select M365 Enterprise plan and timing.
- Migrate from on-premise Exchange Server to M365.
- SharePoint update to SharePoint Online or on-premise.
- Decision and/or timing to implement OneDrive.
- Decision and/or timing to implement Teams.
- Timing to implement M365 Office.
- Training on new technology suite.

Assumptions

- Decision on Outlook/Exchange required prior to replacement of current Exchange Service.
- Decision on SharePoint prior to upgrade of intranet.

- Assessment and transition of data and documents related to Document and Information Management Strategy.

Resources Required

- Review – IT Manager and MS Reseller.
- Program – project lead and IT resources for implementation and support.

Estimated Duration

- 1 month for review.
- Approximately 2 years for implementation of the service (depending on options selected).

Alignment / Benefits

- Effective use of financial resources and identified budgeting relative to the solution set.
- Opportunity to reduce support requirements for release and product management.
- Enhanced collaboration capabilities.

Risks

- Outlook/Exchange and SharePoint environments currently require attention.
- Risk of inaction (future) with unsupported services as Microsoft reduces on-prem solutions.
- Cloud-based services.

Prioritization Assessment

- High – despite being ranked 12 of 28 in initial prioritization, this is an important activity to drive future initiatives.
- Portfolio = Run.

Estimated Cost

- M365 bundles $11-30/pp/mo, depends on who gets them and what options for packages you have plus consideration for vendors for implementations.

Project Description:	Develop a business case and plan including TCO (total cost of ownership) for migration and timing to shift to the M365 platform. Currently all email is through M365 but only approximately 50 users have a full 365 license. Decisions need to be made to move everyone to this platform providing opportunities for further collaboration related to Outlook, SharePoint, OneDrive, Office, Teams, and Active Directory. This is a longer-term plan that will identify a sequence of activities over a series of years.		
Objectives:	• To have a plan with substantiated decisions on implementation of M365 components • Timely transition of email, intranet, and productivity suite to cloud-based model • To have a planned approach to manage potential subscription services, costing, define sequencing and timing	**Alignment / Benefits:**	• Effective use of financial resources and identified budgeting relative to the solution set • Opportunity to reduce support requirements for release and product management • Enhanced collaboration capabilities
Deliverables:	• Select M365 Enterprise plan and timing • Migrate from on premise Exchange Server to M365 • SharePoint update to SharePoint Online or on-premise • Decision and or timing to implement OneDrive • Decision and or timing to implement Teams • Timing to implement M365Office • Training on new technology suite		
Assumptions:	• Decision on Outlook/Exchange required prior to replacement of current Exchange Server • Decision on SharePoint prior to upgrade of intranet • Assessment and transition of data and documents related to Document and Information management strategy	**Risks:**	• Outlook/Exchange and Sharepoint environments currently require attention. • Risk of inaction (future)– with unsupported services as Microsoft reduces on-premise solutions • Cloud based services
Resources Required:	• Review- Manager of IT and MS Reseller • Program- project lead, IT Resources for implementation and support	**Prioritization Assessment:**	• High – despite being ranked 12 of 28 in initial prioritization, this is an important activity to drive a series of future initiatives. • Portfolio: Run
Estimated Duration:	1 Month for review, approx. 2 yrs implementation of service (depending on options)	**Estimated Cost:**	(M365 Bundles $11-30/pp/mo) depends on who gets them and what options for packages you have, + consideration for vendors for implementations.

Figure 12: M365 Review and Program

Human Resource Information System (HRIS)

Project Description

- Human Resource Management Systems (HRIS) are used by municipalities to manage the lifecycle of an employee. Everything from recruitment, time, and attendance tracking, learning management, performance reviews, education and license requirements, tracking and the overall employee record.
- Existing processes are manual-based with many paper forms in the process.
- It is recognized the different employee groups have different requirements, for example Community Services staff, Paramedics and Public Works staff all have slightly different requirements than staff working in the main municipal administration building.

Objectives

- To implement a technology solution for managing employee records as well as time and attendance, shift scheduling processes.
- Time management functionality fully automated and integrated with Great Plains for Payroll.
- Paperless process for staff time entry, workflows for approval and automation to payroll system.

Deliverables

- Identify requirements and review processes.
- Select solution.
- Implement and configure solution.
- Roll out solution (including training).

Assumptions

- Processes and requirements will be reviewed prior to selection of a solution.

Resources Required

- Vendor – implementation team.
- IT Business/Solutions Analyst.
- Manager of HR (SME).
- Key staff from business departments to provide input into processes and requirements.

Estimated Duration

- Approximately 6 months to 1 year (depending on scope of work).

Alignment / Benefits

- Currently, there are multiple processes that can be time-consuming and prone to errors.
- Automation and efficiency opportunities.
- Integration with Payroll to streamline processes and share critical data.
- Time Management – reduced manual time entry and paper-based processes.
- Automated workflows for approvals and to time and attendance data.
- Time savings for staff throughout the County.

Risks

- Lack of requirements prior to selection of a product.
- Different departments have different requirements (will require clarity).

Prioritization Assessment

- Ranked 4 of 28 in initial prioritization.
- Portfolio = Transform.

Estimated Cost

- $150,000 – $200,000 capital.
- $30,000 – $60,000 annual operating.

Project Description:	Human Resource Management systems (HRIS) are used by municipalities to manage the lifecycle of an employee. Everything from recruitment, time and attendance tracking, learning management, performance reviews, education and license requirements, tracking and the overall employee record. Existing processes are manual based with many paper forms in the process. It is recognized the different employee groups have different requirements, for example Community Services staff, Paramedics and Public Works staff all have slightly different requirements than staff working in the main municipal administration building.		
Objectives:	• To implement a technology solution for managing employee records as well as time and attendance, shift scheduling processes. • Time management functionality fully automated and integrated with Great Plains for Payroll • Paperless process for staff time entry, workflows for approval, and automation to payroll system.	**Alignment / Benefits:**	• Currently there are multiple processes that can be time-consuming and prone to errors • Automation and efficiency opportunities • Integration with Payroll to streamline process and share critical data • Time Management- reduced manual time entry and paper-based processes. Automated workflows for approvals and to time and attendance data. Time savings for staff throughout county.
Deliverables:	• Identify requirements and review processes • Select solution • Implement and configure solution • Roll out solution – (including training)		
Assumptions:	• Processes and requirements reviewed prior selection of a solution	**Risks:**	• Lack of requirements prior to selection of a product • Different departments have different requirements – will require clarity
Resources Required:	• Vendor –implementation team • IT Business/Solutions Analyst • Manager of HR – SME • Key staff from business departments to provide input into processes and requirements	**Prioritization Assessment:**	• Ranked 4 of 28 in initial prioritization • Portfolio: Transform
Estimated Duration:	Approx. 6months to 1 year (depending on scope of work)	**Estimated Cost:**	$150,000 – $200,000 capital $30,000 – $60,000 annual operating

Figure 13: Human Resource Information System

Document and Information/Records Management Plan

Project Description

- Develop a corporate Document and Information/Records Management Plan which identifies how the documents and information the County uses through the course of conducting business are managed through a full lifecycle.
- A Document and Information Management Plan is about understanding where all content and information (both structured and unstructured) resides in the organization, how it is stored, accessed, and retained.
- Developing the Plan will identify requirements for future projects and help inform decisions as the organization moves toward greater potential for Cloud-based solutions.
- Once developed, the Plan will be updated as solutions change.

Objectives

- To undertake a comprehensive assessment of the current state of the County's physical and electronic records, email, data, and information, including policies, procedures, and general practices as they relate to the storage, security, retention, destruction and archiving, of corporate records, data and information.

Deliverables

- Conventions for document storage.
- Catalogue of defined document and information content types, formats, acceptable uses, how they are accessed and who can access.
- Develop appropriate procedures associated with information management and documentation in the various formats.
- Staff training on document and information management.
- This project could also include the acquisition of a new solution to digitize Council Agendas and Minutes (ranked 16 of 28 in initial prioritization).

Assumptions

- Distinct from Integration and Management Plan (more technical), this is focused on the artifacts (documents, PDFs, forms, emails, etc.).

Resources Required

- IT Business/Solutions Analyst.
- Deputy Clerk and key department staff.
- Optional – external vendor to create plan.

Estimated Duration

- 3 months (initial).

Alignment / Benefits

- Reduces organizational risk by understanding where documents and information are stored.
- Reduced search time for information.
- Improved service delivery, reduced costs, and realization of efficiencies through digitization opportunities and electronic records accessibility.

Risks

- Excess documents, paper and digital create problems for accessibility, storage, and compliance.
- Clarity of roles and responsibilities for document management is needed.

Prioritization Assessment

- Ranked 11 of 28 in initial prioritization.
- Portfolio = Grow.

Estimated Cost

- $30,000 for external consultant (if used).

Project Description:	Develop a corporate Document and Information Management plan which identifies how the documents and information the County uses through course of conducting business are managed through a full lifecycle. A Document and Information Management Plan is about understanding where all content and information (both structured and unstructured) resides in the organization, how it is stored, accessed and retained. Developing the plan will identify requirements for future projects and help inform decisions as the organization moves towards greater potential for cloud-based solutions. Once developed, the plan will be updated as solutions change.		
Objectives:	• To undertake a comprehensive assessment of the current state of the County's physical and electronic records, email, data and information, including policies, procedures and general practices as they relate to the storage, security, retention, destruction and archiving, of corporate records, data and information.	**Alignment / Benefits:**	• Reduces organizational risk by understanding where documents and information are stored • Reduced search time for information • improving service delivery, reduce costs and realize efficiencies through digitization opportunities and electronic records accessibility.
Deliverables:	• Conventions for document storage • Catalogue of defined document and information content types, formats, acceptable uses, how they are accessed and who can access. • Develop appropriate procedures associated with information management and documentation in the various formats. • Staff training on document and information management • This project could also include the acquisition of a new solution to digitize Council Agendas and Minutes (ranked 16 of 28 in initial prioritization).		
Assumptions:	• Distinct from Integration and Management plan (more technical), this is focused on the artifacts (documents, pdfs, forms, emails, etc).	**Risks:**	• Excess documents, paper and digital create problems for accessibility, storage and compliance. • Clarity of roles and responsibilities for document management is needed.
Resources Required:	• IT Business/Solutions Analyst • Deputy Clerk and key department staff • Optional – external vendor to create plan	**Prioritization Assessment:**	• Ranked 11 of 28 in initial prioritization • Portfolio: Grow
Estimated Duration:	3 months (initial)	**Estimated Cost:**	$30,000 for external consultant (if used)

Figure 14: Document and Information Management Plan

Municipal ERP – Fit / Gap Analysis

Project Description

A municipal ERP (Enterprise Resource Planning) system is a business system that incorporates multiple external and internal municipal services into a single system – sometimes including Financials, HR, and potentially other municipal services including property-based services, asset and work management.

Currently using Great Plains for core financials but there are opportunities to leverage more completely.

During the Discovery phase, it was found that many staff use workaround solutions such as Excel or Word docs to manage their own department data. This results in duplication of data and increases the risk of errors.

Objectives

- Detailed review of the existing financial system and its suitability to current requirements.
- Identification of opportunities for expansion of the solution to meet other requirements such as the HRIS, updating of Payroll and Asset and Work Management solutions.

Deliverables

- Gather requirements and conduct fit/gap to existing solutions.
- Replace/renew decision.
- Implementation of new solution/upgrade of existing solutions.

Assumptions

- Replace/renew decision in multiple steps – individually for Financials then together for other modules.
- Systems are capable of advertised functionality and integration.

Resources Required

- External resource to conduct detailed analysis.
- IT Business/Solutions Analyst.
- Staff / department SMEs.

Estimated Duration

- 1 year+ (various components).

Alignment / Benefits

- The financial system has additional available functionality available and should be more fully integrated for greatest efficiency and effectiveness.
- As part of the product lifecycle, reviewing opportunities of both systems provides greater functionality and automation.

Risks

- Risk that integrations don't work as planned.
- Projects require significant staff resource and effort to complete, and resources may not be available.

Prioritization Assessment

- High – despite being ranked 23 of 28 in initial prioritization, this is an important activity to drive a series of future initiatives.
- Portfolio = Run / Grow.

Estimated Cost

- Fit / Gap Analysis and Process Review – $50,000.

Project Description:	A municipal ERP (Enterprise Resource Planning) system is a business system that incorporates multiple external and internal municipal services into a single system – sometimes including Financials, HR, and potentially other municipal services including property-based services, asset and work management. Currently using Great Plains for core financials but there are opportunities to leverage more completely. During the Discovery Phase, it was found that many staff use workaround solutions such as Excel or Word docs to manage their own department data. This results in duplication of data and increases the risk of errors.		
Objectives:	• Detailed review of the existing Financial system and its suitability to current requirements. • Identification of opportunities for expansion of the solution to meet other requirements such as the HRIS, updating of Payroll and Asset and Work Management solutions.	**Alignment / Benefits:**	• The Financial system has additional available functionality available and should be more fully integrated for greatest efficiency and effectiveness. As part of product lifecycle, reviewing opportunities of both systems provide greater functionality and automation.
Deliverables:	• Gather requirements and conduct fit gap to existing solutions. • Replace/renew decision • Implementation of new solution/ upgrade of existing solutions.		
Assumptions:	• Replace/renew decision in multiple steps – individually for Financials, then together for other modules. • Systems are capable of advertised functionality and integration.	**Risks:**	• Risk that integrations don't work as planned • Projects require significant staff resource and effort to complete, and resources may not be available
Resources Required:	• External resource to conduct detailed analysis • IT Business/Solutions Analyst • Staff- department SMEs	**Prioritization Assessment:**	• High – despite being ranked 23 of 28 in initial prioritization, this is an important activity to drive a series of future initiatives. • Portfolio: Run / Grow
Estimated Duration:	1 Year+ (various components)	**Estimated Cost:**	Fit / Gap Analysis and Process Review - $50,000

Figure 15: Municipal ERP - Fit/Gap Analysis

Paramedic Services Technology Plan

Project Description

- Develop a technology plan to identify current technology and requirements to manage future trends.
- Many new technologies are being introduced for Paramedic Services and patient care is often driven by the Province and industry trends, including IoT, business intelligence, advanced interconnectivity, and communication features.

Objectives

- Identify technology requirements to manage Paramedic Services.
- Review and rationalize the different systems currently in place with a goal to streamline solutions.
- Identified technical capabilities to support service delivery.

Deliverables

- Business and technical architectures.
- Business requirements.
- Inventory of current technologies.
- Planned list of future technologies.
- Technology roadmap.

Assumptions

- Point-in-time assessment based on current available and potential technologies.

Resources Required

- Consultant – Paramedic Services technical expertise.
- Paramedic Services SME/Chief.
- IT Business/Solutions Analyst and Manager IT.

Estimated Duration

- 2 months.

Business Outcomes

- Planned and prepared approach to understand business needs relative to available technology.
- Cohesive solution used by all members of Paramedic Services enabling collaboration and information sharing.
- Focus on leveraging the tools to the best ability rather than always acquiring another solution for every task.

Risks

- Multiple systems doing similar tasks results in duplication of effort, duplication of data and inefficiencies.
- Potential additional costs by paying for multiple solutions.
- Lack clarity on most accurate source of data.

Prioritization Assessment

- Ranked 5 of 28 in initial prioritization.
- Portfolio = Transform.

Estimated Cost

- $20,000.

Opportunity:	Develop a technology plan to identify current technology and requirements to manage future trends. Many new technologies are being introduced for Paramedic services and patient care often driven by the province and industry trends. Including IoT, business intelligence, advanced interconnectivity, and communication features		
Objectives:	• Identify technology requirements to manage Paramedic Services • Review and rationalize the different systems currently in place with a goal to streamline solutions • Identified technical capabilities to support service delivery	**Business Outcomes:**	• Planned and prepared approach to understand business needs relative to available technology • Cohesive solution used by all members of Paramedic Services enabling collaboration and information sharing • Focus on leveraging the tools to the best ability rather thank always acquiring another solution for every task
Deliverables:	• Business and technical architectures • Business requirements • Inventory of current technologies • Planned list of future technologies • Technology roadmap		
Assumptions:	• Point in time assessment based on current available and potential technologies	**Risks:**	• Multiple systems doing similar tasks results in duplication of effort, duplication of data and inefficiencies • Additional costs potentially by paying for multiple solutions • Lack clarity on most accurate source of data
Resources Required:	• Consultant – Paramedic Services technical expertise • Paramedic Services SME/Chief • IT Business/Solutions Analyst and Manager IT	**Prioritization Assessment:**	• Ranked 5 of 28 in initial prioritization • Portfolio: Transform
Estimated Duration:	2 months	**Estimated Cost:**	$20,000

Figure 16: Paramedic Services Technology Plan

IT Governance

Project Description

- Establish an IT Steering Committee to serve as IT Governance is intended to aid the organization in aligning IT and digital activities with business and corporate strategy.
- It is about creating value by actively engaging the business to participate in IT decisions that impact the organization.
- Initial implementation to include basic framework, status updates, intake process, and capacity planning.

Objectives

- To establish a sustainable governance model and engage the business in IT decision-making.
- To establish an intake and control process for IT projects to better manage priorities and workload.
- Enablement of IT project and capacity management.
- Establish a corporate Cloud Policy and decision framework.

Deliverables

- Implement initial Governance Framework model including Terms of Reference and structures.
- Create GIS coordinating committee (report into IT Governance).
- Implementation of a project intake process.
- Development of a Cloud Policy and guidelines for acquisition, implementation, and data management.
- Implementation of an IT architecture and solution review mechanism.

Assumptions

- SLT will initially serve as IT Governance team.
- Governance model will expand over time.

Resources Required

- SLT participation as governance members.
- Manager of IT as chair/lead of Governance Framework.
- IT staff as required.

Estimated Duration

- Ongoing – start bi-monthly.

Alignment / Benefits

- Improve IT understanding in organization.
- Business engagement into IT decision-making.
- Improve planning, resourcing, and control of IT initiatives.
- Could establish subgroup for GIS Governance.

Risks

- Sustainment of governance.

Prioritization Assessment

- Ranked 6 of 28 in initial prioritization.
- Portfolio = Transform.

Estimated Cost

- Staff time – no external cost.

Project Description:	Establish IT Steering committee to serve as IT Governance group. IT Governance is intended to aid the organization in aligning IT and digital activities with business and corporate strategy. It is about creating value by actively engaging the business to participate in IT decisions that impact the organization. Initial implementation to include basic framework, status updates, intake process, and capacity planning.		
Objectives:	• To establish a sustainable governance model and engage the business in IT decision making • To establish an intake and control process for IT projects to better manage priorities and workload. • Enablement of IT project and capacity management • Establish a corporate Cloud Policy and decision framework.	**Alignment / Benefits:**	• Improve IT understanding in organization • Business engagement into IT decision making • Improve planning, resourcing and control of IT initiatives • Could establish sub-group for GIS Governance
Deliverables:	• Implement initial governance framework model including Terms of Reference and structures • Create GIS coordinating committee (reporting into IT governance) • Implementation of a project intake process • Development of a Cloud Policy and guidelines for acquisition, implementation and data management • Implementation of an IT architecture and solution review mechanism.		
Assumptions:	• SLT will initially serve as IT governance team • Governance model will expand over time.	**Risks:**	• Sustainment of governance
Resources Required:	• SLT participation as governance members • Manager of IT as chair/lead of governance framework • IT staff as required	**Prioritization Assessment:**	• Ranked 6 of 28 in initial prioritization • Portfolio: Transform
Estimated Duration:	Ongoing – start bi-monthly	**Estimated Cost:**	Staff time – no external cost

Figure 17: IT Governance

Land and Property Management System

Project Description

- Land and Property Management Systems (LPMS) are used by municipalities to manage both Building permitting and Planning and Development processes digitally.
- Currently, the Planning and Development department does not have a dedicated system for management of Planning and Development Applications.

Objectives

- To implement a technology solution for Planning and Development applications and related processes.

Deliverables

- Identify requirements and review processes.
- Select solution.
- Implement and configure solution.
- Roll out solution (including training).

Assumptions

- Processes and requirements reviewed and prior selection of a solution.

Resources Required

- Vendor – implementation team.
- IT Business/Solutions Analyst.
- Planning and Development SMEs.
- Potential – lower tier municipalities (connectivity of services).

Estimated Duration

- Approximately 6mos to 1 year (depending on scope of work).

Alignment / Benefits

- Currently, not having a system provides the opportunity to “start fresh”.
- Automation and efficiency opportunities.
- Trend in municipalities for modernizing Planning and Development services.
- Integration with GIS.
- Potential online collaboration with lower tiers.

Risks

- Lack of requirements prior to selection of a product.

Prioritization Assessment

- Ranked 13 of 28 in initial prioritization.
- Portfolio = Transform.

Estimated Cost

- $150,000 to $200,000 capital.
- $30,000 to $60,000 annual operating.

Project Description:	Land and Property Management systems (LPMS) are used by municipalities to manage both Building permitting and Planning and Development processes digitally. Currently the Planning and Development department does not have a dedicated system for management of Planning and Development Applications.		
Objectives:	• To implement a technology solution for Planning and development applications and related processes.	**Alignment / Benefits:**	• Currently not having a system provides the opportunity to 'start fresh' • Automation and efficiency opportunities • Trend in municipalities for modernizing planning and development services • Integration with GIS • Potential online collaboration with lower tiers
Deliverables:	• Identify requirements and review processes • Select solution • Implement and configure solution • Roll out solution – (including training)		
Assumptions:	• Processes and requirements reviewed prior selection of a solution	**Risks:**	• Lack of requirements prior to selection of a product
Resources Required:	• Vendor –implementation team • IT Business/Solutions Analyst • Planning and Development – SMEs • Potential – lower tier municipalities (connectivity of services)	**Prioritization Assessment:**	• Ranked 13 of 28 in initial prioritization • Portfolio: Transform
Estimated Duration:	Approx. 6months to 1 year (depending on scope of work)	**Estimated Cost:**	$150,000 – $200,000 capital $30,000 – $60,000 annual operating

Figure 18: Land and Property Management System

IT Training Program

Project Description

- In association with HR, develop a formalized IT training and capabilities plan including application training and incorporating IT and digital capabilities into job descriptions.

Objectives

- To develop a training program informed by corporate training requirements reflecting the delivery preferences of staff.
- To build staff capacity for technology and digital enablement.

Deliverables

- Identification of corporate technology training requirements.
- Corporate training standard – productivity suite.
- Business systems training program.
- IT training package for onboarding new staff.
- Incorporate technology and digital capabilities into job descriptions.
- Identified training channels.

Assumptions

- Build on any existing programs and tools for training and learning program delivery.

Resources Required

- Vendors – material provisioning.
- HR and IT – program creation.
- County staff – program participation.

Estimated Duration

- Initiation: 3 months, then ongoing.

Alignment / Benefits

- Better utilization of technical assets.
- Increased technical sophistication of staff.
- Business driven technology requirement understanding.
- Shift support requirement and increased self-service.

Risks

- Increased technology understanding can increase technology demand, require greater technology controls.

Prioritization Assessment

- High – despite being ranked 24 of 28 in initial prioritization, this is an important activity to drive a series of future initiatives and build overall digital literacy.
- Portfolio = Grow.

Estimated Cost

- Potential cost for training development or out-sourcing.

Project Description:	In association with HR develop a formalized IT training and capabilities plan including application training and incorporating IT and digital capabilities into job descriptions.		
Objectives:	• To develop a training program informed by corporate training requirements reflecting the delivery preferences of staff • To build staff capacity for technology and digital enablement.	**Alignment / Benefits:**	• Better utilization of technical assets. • Increased technical sophistication of staff • Business driven technology requirement understanding • Shift support requirement and increased self-service.
Deliverables:	• Identification of corporate technology training requirements • Corporate training standard – productivity suite • Business systems training program • IT training package for onboarding new staff • Incorporate technology and digital capabilities into job descriptions. • Identified training channels		
Assumptions:	• Build on any existing programs and tools for training and learning program delivery	**Risks:**	• Increased technology understanding can increase technology demand, require greater technology controls
Resources Required:	• Vendors – material provisioning • HR and IT – program creation • County staff – program participation	**Prioritization Assessment:**	• High - despite being ranked 24 of 28 in initial prioritization, this is an important activity to drive a series of future initiatives and build overall digital literacy • Portfolio: Grow
Estimated Duration:	Initiation: 3 months, then ongoing	**Estimated Cost:**	potential cost for training development or out-sourcing

Figure 19: IT Training Program

Next Generation 911 Readiness Assessment

Project Description

- The purpose of this project is to evaluate the County's current state of 911-related data, processes, governance, and technology to identify areas of improvement in order to meet future NG911 requirements.
- The final deliverable is a comprehensive report that outlines a current state findings and set of recommendations to address areas of concern.

Objectives

- To compare the County's GIS databases to the data model described in the National Emergency Number Association (NENA) standard.
- To review 911 service-related data and data model with the data specifications in the NENA.
- To evaluate the information management processes employed to manage the GIS data used for 911 purposes.

Deliverables

- Kick-off presentation, deploy questionnaire to participating departments and facilitate workshops.
- Review the current state of 911-related data, processes, governance, and technology; analyze results using a grading system and scorecard.
- Prepare a summary of findings and recommendations.

Assumptions

- The data models to be assessed are limited to the NENA-required layers and the corresponding County layers currently used for 911 service.
- The County will be responsible for implementing any governance practices or policy requirements.

Resources Required

- Project Manager, Sr Consultant (PSAP expertise), GIS consultant.
- County Project Coordinator, 911 SME, County Emergency Services staff.

- GIS Manager / GIS Technician.
- Manager of IT.

Estimated Duration

- TBD.

Alignment / Benefits

- To identify the scope and scale of requirements necessary to meet the National Emergency Number Association (NENA) standard.
- To gain detailed insight into the degree of alignment and compliance with the NG911 data model through a formal assessment (comparison is a field-by-field comparison to the NENA data model).
- To evaluate the degree of coverage or missing data.

Risks

- Failure to coordinate the required data between sections.
- Lack of engagement from appropriate business SMEs.
- Poorly defined or understood requirements.
- Assessment to be completed in time to inform future budgeting.

Prioritization Assessment

- Ranked 14 of 28 in initial prioritization.
- Portfolio = Run.

Estimated Cost

- TBD.

Project Description:	**Next Generation 911 Readiness Assessment** The purpose of this project is to evaluate the County's current state of 911 related data, processes, governance and technology to identify areas of improvement in order to meet future NG911 requirements. The final deliverable is a comprehensive report which outlines current state findings and a set of recommendations to address areas of concern.		
Objectives:	• To compare the County's GIS databases to the data model described in the National Emergency Number Association (NENA) standard. • To review 911 service-related data and data model with the data specifications in the NENA. • To evaluate the information management processes employed to manage the GIS data used for 911 purposes	**Alignment / Benefits:**	• To identify the scope and scale of requirements necessary to meet the National Emergency Number Association (NENA) standard. • To gain detailed insight into the degree of alignment and compliance with the NG911 data model through a formal assessment (comparison is a field-by-field comparison to the NENA data model) • To evaluate the degree of coverage or missing Data
Deliverables:	• Kick-off presentation, deploy questionnaire to participating departments & facilitate workshops • Review the current state of 911 related data, processes, governance and technology. Analysis results using a grading system and scorecard • Prepare a summary of findings and recommendations		
Assumptions:	• The data models to be assessed are limited to the NENA Required layers and the corresponding County layers currently used for 911 service. • The County will be responsible for implementing any governance practices or policy requirements.	**Risks:**	• Failure to coordinate the required data between sections • Lack of engagement from appropriate business SMEs • Poorly defined or understood requirements • Assessment to be completed in time to inform future budgeting
Resources Required:	• Project Manager, Sr Consultant (PSAP expertise), GIS consultant • County Project coordinator, 911 SME, County Emergency Services Staff • GIS Manager / GIS Technician • Manager of IT	**Prioritization Assessment:**	• Ranked 14 of 28 in initial prioritization • Portfolio: Run
Estimated Duration:	TBD	**Estimated Cost:**	TBD

Figure 20: Next Generation 911 Readiness Assessment

GIS Strategy

Project Description

- The purpose of this project is to develop a GIS Strategic Plan for the County.
- The County currently provides GIS services to the local municipalities as well as to internal staff.
- A GIS Strategy should be developed and managed to consider the organization as a whole and identify products or services that can be leveraged by multiple areas within the County and determine which have the greatest impact to customers and local municipal partners.
- GIS is a key integration platform as well that could be better leveraged.

Objectives

- The Strategy should be supported with an annual work plan in which the IT Governance Committee can make decisions to ensure funding is approved for work that will have the highest impact and meet corporate strategic goals.
- A corporate GIS Strategy would define how the County can leverage the power of GIS to create efficiencies and lower operational costs.
- A fully implemented and operationalized GIS ecosystem will equip staff with the tools to manage spatial data efficiently and effectively, generating operational efficiencies and potential lower operational costs.
- Provide critical GIS training for staff, local partners, and customers to fully leverage GIS tools.

Deliverables

- A review should be undertaken to determine the cost/benefits to move toward an enterprise license agreement (ELA). Having an ELA in place enables the staff to access and use a broad range of ESRI products that can assist in creating operational efficiencies.
- Active corporate leadership over GIS (and data) is necessary to coordinate resources and projects.
- Establish an Advisory Sub-Group of local partners to develop and deliver the work plan.

Assumptions

- The deliverable is a documented Strategy with clearly defined roles, responsibilities, and a roadmap.

Resources Required

- GIS Program Leader / Manager.
- IT resource (Analyst / DBA).
- IT Governance team and GIS Advisory Group.

Estimated Duration

- TBD.

Alignment / Benefits

- The County has used the ESRI ArcGIS platforms to delivery GIS products and services to staff and the community. Although there are some resources dedicated to the program, they are decentralized (outside of IT) and largely work without an active corporate focus to continue to evolve the program and fully leverage its overall usefulness.
- Establish a foundation that can be leveraged across the County to share GIS resources and educational materials.
- Opportunity to establish a data platform to support our data, analytics, and Machine Learning aspirations.
- The focus is on GIS services to date, but most GIS programs are moving toward the broader data management and analytics. The data space is a new area to tackle; without a corporate focus or appropriate resources, it will be challenging to drive forward effectively.

Risks

- The lack of adoption of GIS standards, key process, and technology.
- Limited training path coordination and guidance.

Prioritization Assessment

- Ranked 8 of 28 in initial prioritization.
- Portfolio = Grow.

Estimated Cost

- $75,000 to $100,000.

Project Description:	The purpose of this project is to develop a GIS Strategic Plan for the County. The County currently provides GIS services to the local municipalities as well as to internal staff. A a GIS Strategy should be developed and managed to consider the organization as a whole and identify products or services that can be leveraged by multiple areas within the County and determine which have the greatest impact to customers and local municipal partners. GIS is a key integration platform as well that could be better leveraged.		
Objectives:	• The Strategy should be supported with an annual workplan in which the IT Governance Committee can make decisions to ensure funding is approved for work that will have the highest impact and meet corporate strategic goals. • A Corporate GIS Strategy would define how the County can leverage the power of GIS to create efficiencies and lower operational costs. • A fully implemented and operationalized GIS ecosystem will equip staff with the tools to manage spatial data efficiently and effectively, generating operational efficiencies and potential lower operational costs. • Provide critical GIS training for staff, local partners and customers to fully leverage GIS tools.	**Alignment / Benefits:**	• The County has used the ESRI ArcGIS platform es to deliver GIS products and services to staff and the community. Although there are some resources dedicated to the program, they are decentralized (outside of IT) and largely work without an active corporate focus to continue to evolve the program and fully leverage its overall usefulness. • Establish a foundation that can be leveraged across the County to share GIS resources and educational materials. • Opportunity to establish a data platform to support our data, analytics and machine learning aspirations. • The focus is on GIS services to date but most GIS programs are moving towards the broader data management and analytics. The Data space is a new area to tackle; without a corporate focus or appropriate resourcing, it will be challenging to drive forward effectively.
Deliverables:	• A review should be undertaken to determine the cost/benefits to move towards an enterprise license agreement (ELA). Having an ELA in place enables the staff to access and use a broad range of Esri products that can assist in creating operational efficiencies. • Active corporate leadership over GIS (and data) is necessary to coordinate resources and projects. • Establish an Advisory Sub-group of local partners to develop and deliver the work plan.		
Assumptions:	• The deliverable is a documented strategy with clearly defined roles, responsibilities and a roadmap.	**Risks:**	• The lack of adoption of GIS standards, key process and technology • Limited training path coordination and guidance
Resources Required:	• GIS Program Leader / Manager • IT resource (Analyst, DBA) • IT Governance team and GIS Advisory Group	**Prioritization Assessment:**	• Ranked 8 of 28 in initial prioritization • Portfolio: Grow
Estimated Duration:	TBD	**Estimated Cost:**	$75,000 - $100,000

Figure 21: GIS Strategy

Integration and Data Management Plan

Project Description

- Integration and data determine how information in the organization is exchanged and maintained.
- Data is an asset of the organization and must be treated accordingly.
- Develop an Integration and Data Management Plan that includes defined integration standards, data standards and classification, and sources of “master” data.

Objectives

- To develop an Integration and Data Management Plan that includes defined integration standards, data standards and classification and sources of “master” data.
- To identify opportunities to share data across corporate applications.

Deliverables

- Defined data standards and classification for core business solutions.
- Identify data sources.
- Establish data ownership and responsibility.
- Establish integration standards.

Assumptions

- Differentiated from the Document and Information Management Plan, this Plan is focused on the technical standards for data and integrations.

Resources Required

- Manager of IT.
- GIS Manager.
- IT resource – TBD.

- Business SMEs and data owners (to be defined).

Estimated Duration

- 2 months (for plan creation).

Alignment / Benefits

- Leads to single sources of data, utilized across systems. Reduced data and information duplication, e.g., entry of customer names, addresses into multiple systems.
- Reduced data footprint will lead to reduced storage costs (particularly important for Cloud storage).
- Understanding data ownership provides more accurate and timely data.
- Having integrated core systems provide more opportunities for end-to-end digital services and automation.

Risks

- Data ownership requires greater business ownership in maintaining data.
- Establishing appropriate permissions and audit controls required.

Prioritization Assessment

- Ranked 21 of 28 in initial prioritization.
- Portfolio = Grow.

Estimated Cost

- $25,000 for external consultant (if used).

Project Description:	Integration and data determine how information in the organization is exchanged and maintained. Data is an asset of the organization and must be treated accordingly. Develop an integration and data management plan that includes defined integration standards, data standards and classification, and sources of 'master' data.		
Objectives:	• To develop an integration and data management plan that includes defined integration standards, data standards and classification, and sources of 'master' data. • To identify opportunities to share data across corporate applications.	**Alignment / Benefits:**	• Leads to single sources of data, utilized across systems. Reduced data and information duplication. Eg – entry of customer names, addresses into multiple systems. • Reduced data footprint will lead to reduced storage costs (particularly important for cloud storage) • Understanding data ownership provides more accurate and timely data • Having integrated core systems provide more opportunities for end-to-end digital services and automation • Recognition of data as an organizational asset
Deliverables:	• Defined data standards and classification for core business solutions. • Identify data sources. • Establish data ownership and responsibility • Establish integration standards		
Assumptions:	• Differentiated from the Document and Information Management plan. This plan is focused on the technical standards for data and integrations	**Risks:**	• Data ownership requires greater business ownership in maintaining data. Establishing appropriate permissions and audit controls required.
Resources Required:	• Manager of IT • GIS Manager • IT resource - tbd • Business SMEs and data owners (to be defined)	**Prioritization Assessment:**	• Ranked 21 of 28 in initial prioritization • Portfolio: Grow
Estimated Duration:	2 months (for plan creation)	**Estimated Cost:**	$25,000 for external consultant (if used)

Figure 22: Integration and Data Management Plan

Implement a CRM Solution

Project Description

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

Objectives

- To implement a public-facing CRM solution to maintain a single source for customer service requests.
- To standardize the customer record across County services.
- To automate the service request lifecycle.

Deliverables

- Identify requirements and scope of included services.
- Solution selection and procurement.
- Configure solution – case definition, automated workflows, reporting, etc.
- Roll out solution (including training).

Assumptions

- Depends on understanding customer service requirements usually gained through a customer service review or strategy.
- Different from the Service Desk solution.
- Requires understanding of service processes.

Resources Required

- Vendor – implementation.
- IT Business/Solutions Analyst – implementation, project coordination, business analysis.
- Departments – SMEs, testing, business ownership.

Estimated Duration

- 6 months to 1 year (initial).

Alignment / Benefits

- Improved customer service delivery.
- Capture and reporting on-demand for service.
- Potential for automation and greater self-service.
- Development of a common customer record.

Risks

- Increases expectation for service delivery.
- Identification of roles and responsibilities in a decentralized customer service model.
- Ensuring privacy and security of information.

Prioritization Assessment

- Ranked 18 of 28 in initial prioritization.
- Portfolio = Transform.

Estimated Cost

- Approximately $15k up, plus annual subscriptions.

Project Description:	Implement a 'lite' CRM tool. A CRM (Customer Relationship Management) solution provides a centralized location to manage customer relations (as the name implies). Significant features can be incorporated into the CRM but at its core, it is about maintaining a customer record and managing service requests, case management, and client interactions.		
Objectives:	• To implement a public facing, CRM solution to maintain a single source for customer service requests. • To standardize the customer record across county services. • To automate the service request lifecycle	**Alignment / Benefits:**	• Improved customer service delivery • Capture and reporting on demand for service. • Potential for automation and greater self-service • Development of a common customer record
Deliverables:	• Identify requirements and scope of included services • Solution selection and procurement • Configure solution –case definition, automated workflows, reporting, etc. • Roll out solution – (including training)		
Assumptions:	• Dependency on understanding customer service requirements usually gained through a customer service review or strategy • Not the same as the Service Desk solution • Requires understanding of service processes	**Risks:**	• Increases expectation for service delivery • Identification of roles and responsibilities in a decentralized customer service model • Ensuring privacy and security of information
Resources Required:	• Vendor – implementation • IT Business/Solutions Analyst – implementation, project coordination, business analysis • Departments – SMEs, testing, business ownership	**Prioritization Assessment:**	• Ranked 18 of 28 in initial prioritization • Portfolio: Transform
Estimated Duration:	6 months – 1 year (initial).	**Estimated Cost:**	Approx. $15k up plus annual subscriptions

Figure 23: Implement a CRM Solution

Appendix 2 – Glossary of Terms

Term	Explanation
Agile	An iterative approach to project management and solution development
AI	Artificial Intelligence – A systems capability to learn and react to data inputs based on algorithms and Machine Learning
AMS	Asset Management System – A corporate system that is used to manage a Municipality's assets
AODA	Accessibility for Ontarians with Disabilities Act – A law that sets out a process for developing and enforcing accessibility standards.
AP	Accounts Payable – Invoice processing and payment
API	Application Programming Interface – A software intermediary that allows two applications to talk to each other
AR	Accounts Receivable – Invoice issuance and payment processing
AR	Augmented Reality – Technology for overlaying data onto a visual display to augment information in the user's field of vision – for instance, to show underground infrastructure
ArcGIS	A family of client software, server software and online geographic information system (GIS) services developed and maintained by ESRI, used to make maps, analyze data, and share and collaborate.
AV	Anti-Virus – Software to protect from virus infection
AVL	Automated Vehicle Location – GPS-based tracking of vehicles
AWS	Amazon Web Services – Cloud computing services

Term	Explanation
BA	Business Analyst – A person who analyzes and documents the market environment or business processes or systems
Back-office	An office or department where work is carried out to support the business of an organization, rather than being customer-facing
BCP	Business Continuity Plan – A document that outlines how a business will continue operating during an unplanned disruption in service
BI	Business Intelligence – Refers to technologies, applications and practices for the collection, integration, analysis and reporting of business information, and is designed to support better business decision-making
BRM	Business Relationship – Manager Serve as translators for IT work and gather valuable intelligence that can improve how decisions are made regarding investments, resource allocation and strategic alignment
BYOD	Bring Your Own Device – A move toward staff using their own devices in place of City-provided devices
Cloud	A term used for IT infrastructure and services located outside of the corporate network and accessed over the Internet
CMMS	Computerized Maintenance Management System – Work Management System
CMS	Content Management System – A Content Management system supports personalization, manifests the user experience, handles management of web content, and provides search and site navigation features.
CoP	Community of Practice – A group of people who share a common concern, a set of problems, or an interest in a topic and who come together to fulfill both individual and group goals
COTS	Commercial Off-the-Shelf – A product that is used “as-is”; designed to be easily installed and to interoperate with existing system components

Term	Explanation
CRM	Customer Relationship Management – A generic system for case management that can be used for handling customer enquiries. *Note that the C in CRM is used differently in many municipalities – Citizen, Client, Customer, and Constituent*
Customer	Refers to users of the municipality's technology and digital services, including residents, businesses, visitors, Mayor and Council, the workforce and our partners
CYOD	Choose Your Own Device
Data	Information in an electronic form that can be stored and used by a compute, typically collected to be examined and considered and used to inform and help decision-making
DCMS	Document and Content Management System – Used to classify, retain, and protect electronic information and supports versioning, collaboration and workflows
Digital	Refers to a mindset, mode of operating, and delivery of services that takes advantage of modern technologies (web, app, social, mobile, data). These deliver improved experiences, business efficiencies and insights
Digitized	The automation of manual and paper-based processes, enabled by the digitization of information and workflows, moving from an analog (often paper-based) process to a computerized process
DR	Disaster Recovery – A set of policies, procedures and practices that are designed to assist an organization recover from a significant IT failure
ECM	Enterprise Content Management – A system designed to provide enterprise-wide document and records management capabilities
ERP	Enterprise Resource Planning – A system that is designed to address business requirements across the whole organization
ESB	Enterprise Service Hub – An integration hub to automate and monitor integrations between systems

Term	Explanation
Experience	Refers to the overall experience of a person using a service, especially how easy or pleasing it is to use
FOI	Freedom of Information – Freedom of a person or people to publish and consume information. Access to information is the ability for an individual to seek, receive and impart information effectively
GDPR	General Data Protection Regulation – A legal framework that sets guidelines for the collection and processing of personal information from individuals who live in the European Union
GIS	Geographical Information Systems – Systems designed to capture and report on all types of geographical data, including spatial data
GM	General Manager
GPS	Global Position System – System for locating and tracking locations of things (vehicles, people, devices)
HR	Human Resources
HRIS	Human Resource Information System – Corporate-wide system for managing the human resource management processes such as employee records, training certifications, etc.
IoT	Internet of Things – Broad term used to describe internet (or network) connected devices, sensors, and controls
IPS	Intrusion Prevention Systems – Technology to monitor networks for suspicious activity
IT	Information Technology
IT Service Catalogue	A comprehensive list of IT services that an organization offers to its employees and/or customers

Term	Explanation
ITIL	Information Technology Infrastructure Library – A set of detailed practices for delivering IT services
ITSM	Information Technology Service Management – The standards and processes used to define how IT delivers services
KB	Knowledge Base – A repository of knowledge articles that can have various staff and public audiences (multi-partition capabilities) based on criteria
KPI	Key Performance Indicator
LAN	Local Area Network – Internal private connectivity between municipal facilities and devices
LDC	Local Distribution Company
LMS	Learning Management System – A digital learning environment that manages all aspects of a company's various training efforts
LPMS	Land and Property Management System – A land, planning, permitting, and licensing system (e.g., CityView)
M365 (formerly Office 365 or O365)	Microsoft Cloud-based office productivity suite which includes email and calendar, messaging, collaboration, and office suite
MDM	Master Data Management – A technology-enabled discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, consistency, and accountability of an organization's official shared master data assets
MOSA	Municipal Online Services Assessment – Perry Group's generalized assessment to articulate a target state for the digital experiences that municipalities could, and arguably should, deliver to citizens based on industry best practices
MSP	Managed Service Provider – IT outsource provider

Term	Explanation
MTM	Municipal Technology Model – Perry Group's generalized architecture used for assessing municipal technology environments
NG-911	Next Generation 911 – Modernized networks and capabilities for Canada's 911 systems
PaaS	Platform as a Service – A complete development and deployment environment in the Cloud, with resources that enable you to deliver everything from simple Cloud-based apps to sophisticated, Cloud-enabled enterprise applications
PIA	Privacy Impact Assessment – A decision tool used to identify and mitigate privacy risks that notifies the public about what personal information is being collected, why and how it will be used, accessed, shared, safeguarded, and stored
PIPEDA	Personal Information Protection and Electronic Documents Act – Sets out ground rules for how private sector organizations may collect, use, or disclose personal information in the course of commercial activities.
PM	Project Manager – Someone who has responsibility for planning, procuring and executing a project, in any undertaking that has a defined scope, defined start and defined finish
PMO	Project Management Office – A group that defines and maintains project management standards for an organization (PMO-Lite is a less onerous version that still allows standards but is not as formal)
POS	Point of Sale systems
PPM	Project Portfolio Management – The centralized management of all projects, potential and existing, to facilitate resource management, project delivery and status reporting
PSAB	Public Sector Accounting Board
PSW	Personal Support Worker

Term	Explanation
RA	Risk Assessment – To identify and analyze potential events that may have adverse impacts and to determine ways to eliminate the event or control the risk where the event cannot be avoided
RFP	Request for Proposal – A business document that announces a project, describes it and solicits bids from qualified contractors to complete it
Risk Register	Used to identify, log, and track potential risks, the nature of each risk and measures that would mitigate the risk
ROI	Return on Investment – A performance measure used to evaluate the efficiency or profitability of an investment
RPO	Recovery Point Objective – Refers to the amount of data at risk (that could be lost) after a failure or disaster occurs; the maximum amount of lost data – measured in time – from a failure occurrence to the last valid backup
RTO	Recovery Time Objective – The maximum tolerable length of time that a computer, system, network, or application can be down after a failure or disaster occurs (i.e., how long it takes to restore to normal operations)
SaaS	Software as a Service – A way of delivering applications over the Internet – as a service, instead of installing and maintaining software
SAN	Storage Area Network – A dedicated high-speed device that interconnects and presents shared pools of storage devices to multiple servers
SCOR	Perry Group's version of SWOT – Strengths, Challenges, Opportunities, Risks
Scorecard	A statistical method of measuring achievement or progress toward a particular goal
SLA	Service Level Agreement – Documented target levels of service (e.g., response and resolution timelines for incidents)
SMS	Short Messaging System – Cell-phone-based text messaging

Term	Explanation
SOP	Standard Operating Procedure – Guidelines as to how to complete a procedure
SSO	Single Sign On – A session and user authentication service that permits a user to use one set of login credentials
SWOT	Strengths, Weaknesses, Opportunities, Threats – A common assessment tool for reviewing a situation
Technology	A short form for Information Technology (IT), it is the use of computers and computing systems to store, retrieve, transmit, process and manipulate data or information
TCO	Total Cost of Ownership
UC	Unified Communication – Integration of enterprise communication services
UX	User Experience – Encompasses all aspects of the end user's interaction with the company, its services, and its products
UXD	User Experience Design – A design process whose sole objective is to design a system that offers a great experience to its users
VOIP	Voice Over Internet Protocol – Modern telephony systems sharing computer networks
VoR	Vendor of Record – A procurement arrangement, typically established through an RFP, which authorizes one or more qualified vendors to provide goods/services to one or more organizations for a defined period on terms and conditions, including pricing, as set out in the VOR agreement
VPN	Virtual Private Network – A secure method for connecting remotely to City technology resources; used by remote workers and partners
WAN	Wide Area Network – A collection of local area networks (LANs) or other networks that communicate with one another. A WAN is essentially a network of networks, with the Internet the world’s largest WAN

Produced by

Perry Group Consulting Ltd.

www.perrygroupconsulting.ca