Information Technology Strategic Plan

Final Report

January 17, 2022

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Introduction

1.0 Introduction

1.1. 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 130 municipalities across Canada on technology strategy and planning work, business process optimization and solutions implementation.

Perry Group was hired by the Township of Scugog (the "Township"), to assist in the development of an Information Technology Strategic Plan (ITSP).

The project, which began in August 2021, was sponsored by the Township's Chief Administrative Officer, the Director Corporate Services and the Administrative Assistant to the Mayor & CAO.

The consulting team spent a considerable amount of time meeting with representatives from all departments (including the Region of Durham as well as the Mayor and Council) to fully understand the current situation and goals.

1.2. Purpose of this Report

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 good position to move forward, as well as areas that require further attention.

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

1.3. Developing the ITSP

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

The project was essentially developed in two phases:

Discovery: A current state assessment was conducted by the consulting team, which involved input from all staff via an online survey, assessments of current technologies and systems management practices against municipal standards, interviews with the Manager of IT/GIS, as well as virtual meetings with the Mayor and Council. The team also met with representatives from all departments. Discussions were also held with the Region of Durham IT staff as they are currently providing helpdesk services to the Township.

Valuable input was also received from the community. Community input was received through the “myscugog.ca” engagement portal as well as through an online survey. An Open House was also held for further discussions with members of the community. At the Open House, more detailed information and more suggestions were identified and discussed.

The focus for this phase was not only to develop a “SWOT” (Strengths, Weaknesses, Opportunities, Threats) assessment of current conditions, but also to curate information that could help focus future efforts in response to corporate needs and objectives. At the conclusion of this phase, a current state summary was compiled and reviewed with the leadership team.

Strategic Directions and Plan: The consulting team worked with the project team to prioritize opportunities for digitization and to develop a series of recommendations, an implementation plan and to prepare this final written ITSP.

1.4. Acknowledgements

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

Setting Strategic Directions

2.0 Setting Strategic Directions

2.1. 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. Scugog, like so many other municipalities, faced unprecedented similar challenges when the pandemic hit, resulting in significant changes to service delivery and interactions with residents and businesses.

Even before Covid-19 and the execution of technology-enabled business continuity measures, the Township was already heavily dependent upon technology. It is central to the Township's ability to deliver services as diverse as collecting taxes, animal licensing, volunteer firefighter management, handling customer inquiries and managing recreation program registrations.

All of these services today rely on technology to operate effectively and efficiently and would be significantly more costly to deliver without technology.

Along with the private sector, municipalities were also forced to move their businesses online with many staff working remotely. Technology was expected to quickly solve these challenges and some municipalities were better positioned than others to move quickly. Even simple remote access to email was a challenge for some. Scugog was no different.

As illustrated in the figure below, common technology systems also play a major role in efficiently connecting important parts of the organization such as Council and management, field staff, customer service agents, back-office staff, app/social media customers, phone customers, face-to-face customers and online customers – whether across departments, or among front-counter, back-office or field staff (like Roads and Parks crews).

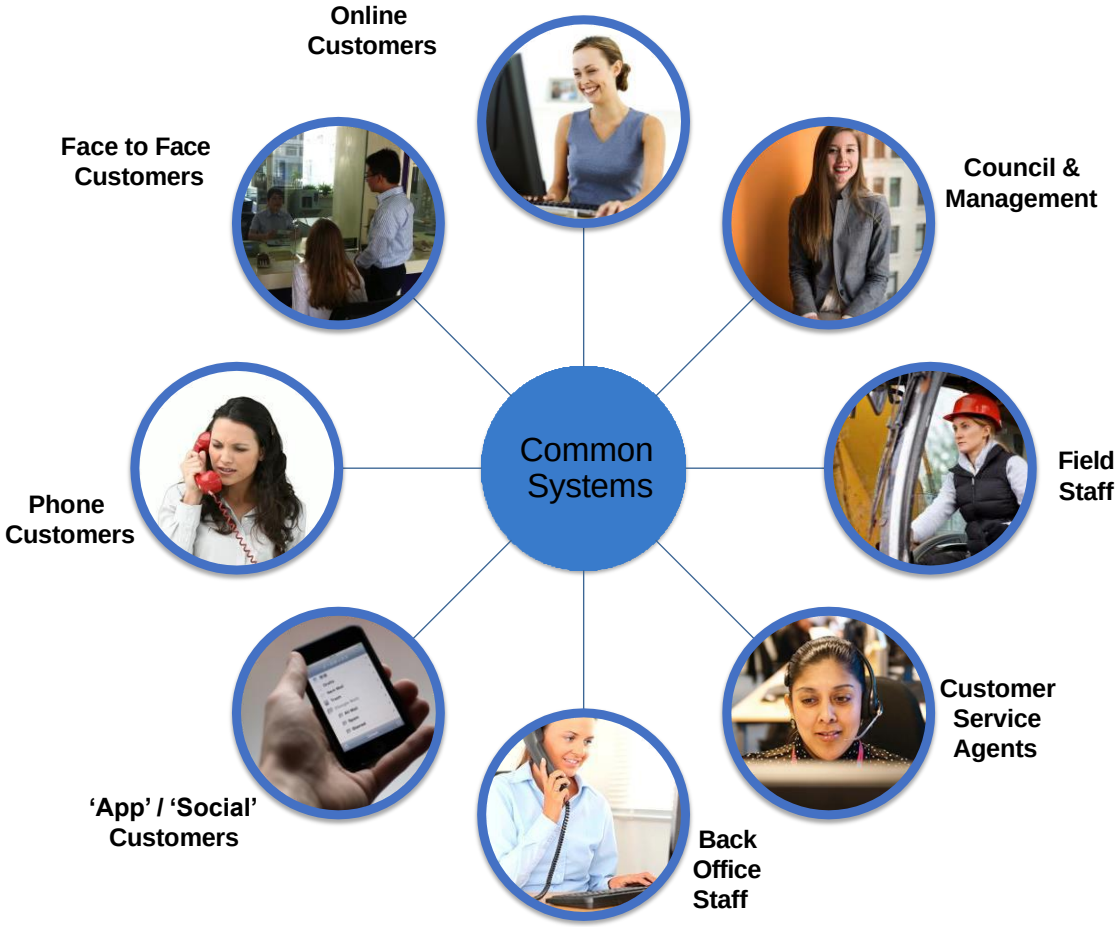

Figure 1: Connecting People Through Common Technology Systems

2.2. Pressure on Core Services

The Township's many manual processes inhibit the 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 organization 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 are seeing positive results.

Effective municipalities rely on the combination of people, processes and technology working together in a synchronized way to deliver services to customers. Collectively, the digitized platform is the set of processes and technologies that work together to enable customers to interact with the Township, and to enable Township staff (customer-facing staff, back-office staff or field crews) to manage processes and deliver Township services to customers.

The term "digitized" represents a move away from paper-based processes to electronic, online, workflow-managed, real-time processes. The term "platform" represents a common set of shared tools and technologies that connect customers and staff, and link together staff who support different parts of processes.

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 their municipality through online services. This means the Township must change the way it is delivering service to meet the needs of its residents who, especially now, use online services as part of their day-to-day routine.
- 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 Township would see increased productivity of inspectors. Other municipalities have seen cost savings each year by enabling mobility in areas such as Building, Fire 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 garbage collection 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. Scugog provided this online streaming service originally through its YouTube channel and then early in 2021 transitioned to a more streamlined process with the use of a business solution (eScribe) that posts video as well as the agenda and minutes to the Township website. 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 evermore cost-effective services, is advantageous. Adaptation should become a core competency for any high-functioning municipal organization.

2.3. Responding to Changed Customer Expectations

Many municipalities are rightly considering moving services online because customer expectations have changed. Not only has COVID reduced the desire for personal interactions and shown how offering services digitally can work, but the reality is also that many citizens today rely on their devices as a way of life.

We have all moved from the situation 25 years ago – where booking a flight was so complex, you needed a travel agent to do it for you – to a world in which you can book your own flight with a few taps on your smartphone from anywhere and at any time.

Think of all the service industries and about how technology/digital has changed them:

- Finance – Online and smartphone banking, online trading.
- Media – Netflix, YouTube, Disney+, Prime, CBC Gem, online news.
- Retail – Amazon, Indigo, beer and wine direct, Skip the Dishes.

- Transportation – Uber, Lyft.
- Insurance – Compare and buy insurance online, report a claim online.
- Exercise – Online classes.
- Education – Online school, remote tutoring.
- Health – Telehealth, virtual medical appointments, online therapies.

Unquestionably, we are in the *smartphone and internet era* and this has changed customers' expectations about what service looks like today. Delivering online has become *the way* that services are delivered in the 21st century.

A common sight at sports fields is many hockey/soccer parents sitting on the sidelines, registering for programs, booking appointments and hotels and ordering dinner, plus responding to several emails, all while their children are involved in a 45-minute practice – a very efficient way of getting things done!

Governments too are responding to these changed expectations and are rapidly moving services online. Think about the online services that ServiceOntario offers – for example, allowing customers to renew health cards or driver's licenses, get their vehicle sticker or fishing license, all while in your PJs using a tablet on the sofa on a Saturday night.

Today, over 92% of Ontarians have access to the internet at home, 88% of Canadians bank online, 76% have smartphones. So, introducing online services is not for the minority – it is for the majority.

It is important to note that, even when the Township does introduce online services, this does not mean it should stop offering services via existing methods or channels. Customers should still be able to call or drop into municipal offices to carry out a transaction, to seek advice, submit an application or pay a bill in person or over the phone. The introduction of digital services can be offered as an additional option that customers can choose – and one we are certain many will choose because of its convenience and ease of use.

The Township will, of course, continue to offer services across many channels (web, phone, face-to-face) to meet the needs and expectations of its citizens.

The Township will continue to support customers' preferred modes of interaction ensuring that no one is left behind. If a customer wants to raise a complaint about a pothole face-to-face at a local Township facility, great! If a different customer wants to raise a similar complaint via a smartphone app and follow up on its status by calling into the Township, that's great too!

Digital platforms must support the ability to deliver across *all* channels.

2.4. A Vision for Online Services

In response to these changed expectations, the following section illustrates a more online-enabled set of services that the Township could offer.

In order to embrace the online opportunities, interacting with the Township needs to be easy, simple, straightforward, and designed around convenience – for customers and staff alike.

On her way to work, Mary witnesses a minor car accident. A stop sign has been knocked over.

Mary pulls out her smartphone, takes a photo of the scene and uses an app to notify the Township of the problem. The request is received, automatically categorized, located and recorded in the Township's Work Management System.

The Work Management System automatically dispatches the request to a crew in the area. The crew receives the request on a laptop in their vehicle. They proceed to the site and repair the stop sign. They track the time taken to fix the problem and input the labour, equipment and inventory used to carry out the repair and close the work order.

Mary immediately receives a notification on her smartphone that the issue has been resolved. On the way home from work, as she passes the scene of the morning's accident, Mary feels reassured that the Township is working hard and smart to keep citizens safe.

In the background, integrated technologies such as telecommunications, networks, mobile devices and business solutions (e.g., Service Request software, Work Management, GIS, and Finance systems) are working in concert to allow the Township to offer simple access to services, and to alert and provide field staff with the information (asset records, maps and drawings) they need to fulfill the work order. Processes are designed to make the end-to-end process simple to interact with for customers and easy for staff to administer.

Today, at Scugog, field staff manually record information and go back to the office and pass it off to administrative staff to enter into a system, spreadsheet or a file folder. The introduction of mobile devices connected with systems used by office and customer service staff would eliminate this manual work and reduce delays caused by hand-offs. It would also reduce data entry errors and provide up-to-date information for managers and supervisors.

Jane has just moved into a new home in the Township of Scugog. She calls to inquire about setting up her tax payments via pre-authorized payment.

The staff member directs Jane to the sign-up available on the Township's website, shows her other services that she can access online, and asks "Is there anything else I can help you with?" Jane proceeds to book her youngest child, Rachel, into dance lessons, finds out when her garbage collection day is and where she can pick up a new recycling bin, and arranges for a burn permit for her family (who are visiting from out of town to help with the move) – all in the one call.

Enabling staff to handle multiple transactions from different departments, reducing the number of times Jane has to call the Township and saving staff time, does not happen by accident. It must be planned, processes must be designed, and systems

implemented and integrated to allow agents to provide answers to commonly asked questions and to route requests to the appropriate back-office team, as needed.

Marsha lives in Toronto and is building a new home in Scugog.

It's difficult for her to get up to the municipal office, so she submits her permit application online, pays her fees and submits the drawings. A few adjustments are required by the CBO and Marsha has her architect make the changes and submit the revised documents online.

With some key work done on site, Marsha books an inspection of the work. The building inspector visits the site and uses their tablet to record the results of the inspection. The inspection passes, Marsha and her contractor are notified by email of the outcome of the inspection and work on site continues.

With each interaction, customers are offered choices about how to interact with the Township. Each interaction leaves a lasting impression of how effective the organization really is.

These are not "dreaming of a sci-fi movie" future.

Real municipalities are delivering their services *in this way today*, and the municipality doesn't need to be large to do so.

For instance, citizens in Grey Highlands, North Middlesex, and St. Mary's can today submit and track building permits and drawings online. Building inspectors in those communities use mobile technology to help them complete their inspections.

In some municipalities, people can report a sign down or pothole via smartphone, can search and review planning applications and associated drawings, can generate their own tax certificate online, or get a marriage license.

Communities throughout Ontario are increasingly using technology in varied ways to make customer service simple and cost-effective – and small municipalities, nimble as they are, can often implement these solutions much faster than their larger counterparts.

Research suggests that common Canadian municipal practices see municipalities offering the following:

- A clear website that is easy to use, navigate and search.
- Social media presence (Twitter, Facebook, YouTube).
- Online Bids and Tenders.
- Online payments (taxes, parking tickets, fire/burn permits, animal registrations).
- Elections (online voting).
- Online maps.
- Online permitting and licensing services that allow users to submit, pay, track and manage applications online.

- Online submission, tracking and management of service requests.
- Online bookings for facilities, equipment, appointments.
- Online eForms (and online processes) in place of paper forms.

2.5. Service Delivery in Multiple Ways – Encouraging Digital Adoption

The Township should continue to offer all services across all channels – face-to-face, phone and digital – so those who don't wish to use digital channels, won't be forced to.

Nonetheless, it is worth noting that the most recent information available from Statistics Canada for internet penetration in Ontario (from 2018) identified that 92% of households in Ontario had access to the internet. 71% of seniors were using the internet in 2018 compared to 48% in 2012.

It is reasonable to assume that today, in 2021-2022, these numbers are higher. In addition to home-based internet (according to the Canadian Radio and Telecommunications Committee, CRTC) over 73% of Canadians had a smartphone in 2015. According to a Media Technology Monitor Report in 2016, "74 per cent of people aged 65 and older were using the internet regularly". So, the vast majority of citizens have access, and likely a willingness, to use digital channels offered by a municipality.

For Scugog, there is a real cost imperative to encouraging the adoption of digital channels. Although there has been limited research in this area in Canada, some studies have examined municipal transaction costs across the primary customer service channels.

The table below indicates average costs of local government service delivery modes taken from research in the UK, Norway and Canada.

Channel	Cost per Transaction
Web / Online	**$0.10**
Phone	**$4.00**
Face-to-Face	**$6.50**

Figure 2: Transaction Cost Comparison Across Service Channels

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

The results are consistent in their message: online transactions cost a fraction of phone or face-to-face transactions. Notably, from one study in the UK, postal-based transactions (that the Township uses for some of its services) are the most expensive transactions.

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

2.6. Strategic Directions

The discussions through the Discovery phase indicated a strong interest in opportunities to significantly improve customer experiences through the implementation of digital technologies.

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

The project identified several key outcomes for the IT Strategic Plan, namely, to:

- Digitize manual processes, where possible, to improve customer service and streamline accessibility.
- Optimize operational efficiencies by minimizing data entry, process duplication and hard copy documentation.
- Identify and address hardware, software and data-sharing gaps by implementing realistic and best practice solutions.
- Identify and implement security measures to protect data, technology infrastructure and business continuity; and
- Maintain long-term cost sustainability.

The RFP stated that "customer service is of the outmost importance to the Township and it is important that our advancements in technology benefit the front-end users (customers) and integrate with our back-end processes." This IT Strategic Plan is about delivering exceptional customer service and digital experiences for the Township's customers, Council and staff.

2.7. Linkages to Council's Strategic Priorities

Scugog's Strategic Plan sets out seven directions that provide guidance toward planned projects and initiatives. They are:

1. Roads and Municipal Infrastructure.
2. Financial Sustainability.
3. Economic Development and Tourism.
4. Municipal Services.
5. Natural Environment.
6. Community Engagement.
7. Complete Community.

The Strategic Plan has several specific links to technology enabling or supporting the priorities. The Status Report provided to Council in June 2021 identified a few specific projects that have been completed including:

- The Township website was refreshed.
- A new engagement platform, myscugog.ca was launched.
- Communications through social media were increased.
- System upgrades were made as an investment in infrastructure.
- Council meetings were held virtually and streamed.
- An Online Payment Program was implemented.
- An IT Strategy was developed as an update to the previous plan from 2017.

Current State Summary

3.0 Current State Findings

All good Strategies start with a good understanding of where you currently stand. It is important to understand the current state before determining where you want to go, to identify gaps, and to help determine what it will take to achieve the desired future state.

In the Discovery phase of the project, the consulting team conducted a detailed assessment of the current technology and digital environment and the management of these environments. Findings were compiled and then shared and validated by the Project Steering Committee and the Senior Management Team.

What follows is a summary of the consulting teams' key observations and findings.

3.1. Key Positives – What's Working Well?

3.1.1. Doing Well with the Available Budget

The Township's IT budget is comparatively low balanced against other similar organizations.

Scugog has implemented a reasonable IT environment with the low budget, therefore, they are receiving the value for the current IT investment. This is a positive situation; however, this approach is not sustainable to meet future goals.

3.1.2. Website

The Township has recently refreshed the website to make it more accessible with compliance to the AODA regulations. The modern look and feel and the ability to provide more online services such as e-commerce and online forms is enabled through this refresh.

Several new online services have been added in the past year including online burn permits, a community events calendar and the online engagement platform "myscugog.ca".

The current website is provided by a reputed municipal web service provider. The platform is rich with features that can help move the municipal services to the customer for self-service.

3.1.3. Partnerships

The Township has recently agreed to purchase and implement a new solution for managing land development including tracking building permits. This new solution also has an "e-permitting" module enabling easier access for customers. Scugog has acquired this solution in partnership with Brock and Uxbridge providing valuable opportunities for knowledge sharing, training and support.

Scugog has also contracted with the Region of Durham to provide assistance with IT services including helpdesk support and network management. This is a key opportunity for a smaller municipality to optimize its own limited resources and leverage the expertise of others.

3.1.4. Foundational IT Structure

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

To date, the Manager, IT/GIS has done a reasonable job of building and managing this infrastructure, providing decent PCs, fast network connections, reliable email services, etc. The staff survey indicates broad 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 Township (that have been implemented by other municipalities).

Support provided by just one person has proven to be unsustainable. As such, the Township has recently augmented the team with a student as well some part-time assistance from the Region of Durham's IT team.

3.2. Introducing the Municipal Technology Model

Perry Group's standardized Municipal Technology Model (MTM), shown below, was the basis for evaluating the Township'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. The MTM introduces several key concepts that are important for the Township at this time.

Each layer of the MTM is described in detail below.

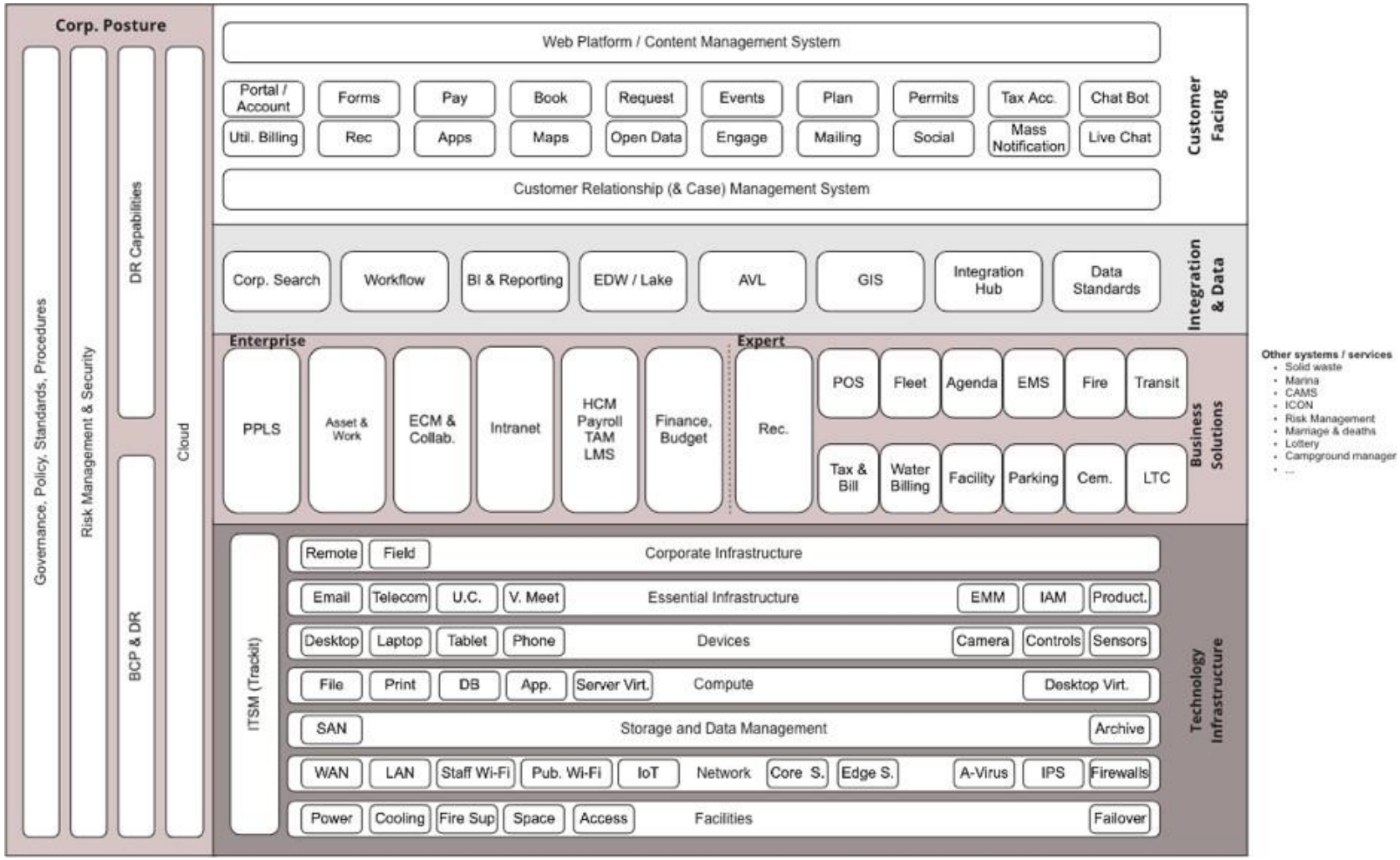

Figure 3: Municipal Technology Model

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 Township 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.

3.2.1. Assessing the Township's Technology Against the MTM

The figure below illustrates the results of the consultant's assessment of Scugog's technology environment against the MTM.

The traffic light colour coding highlights where the Township 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).

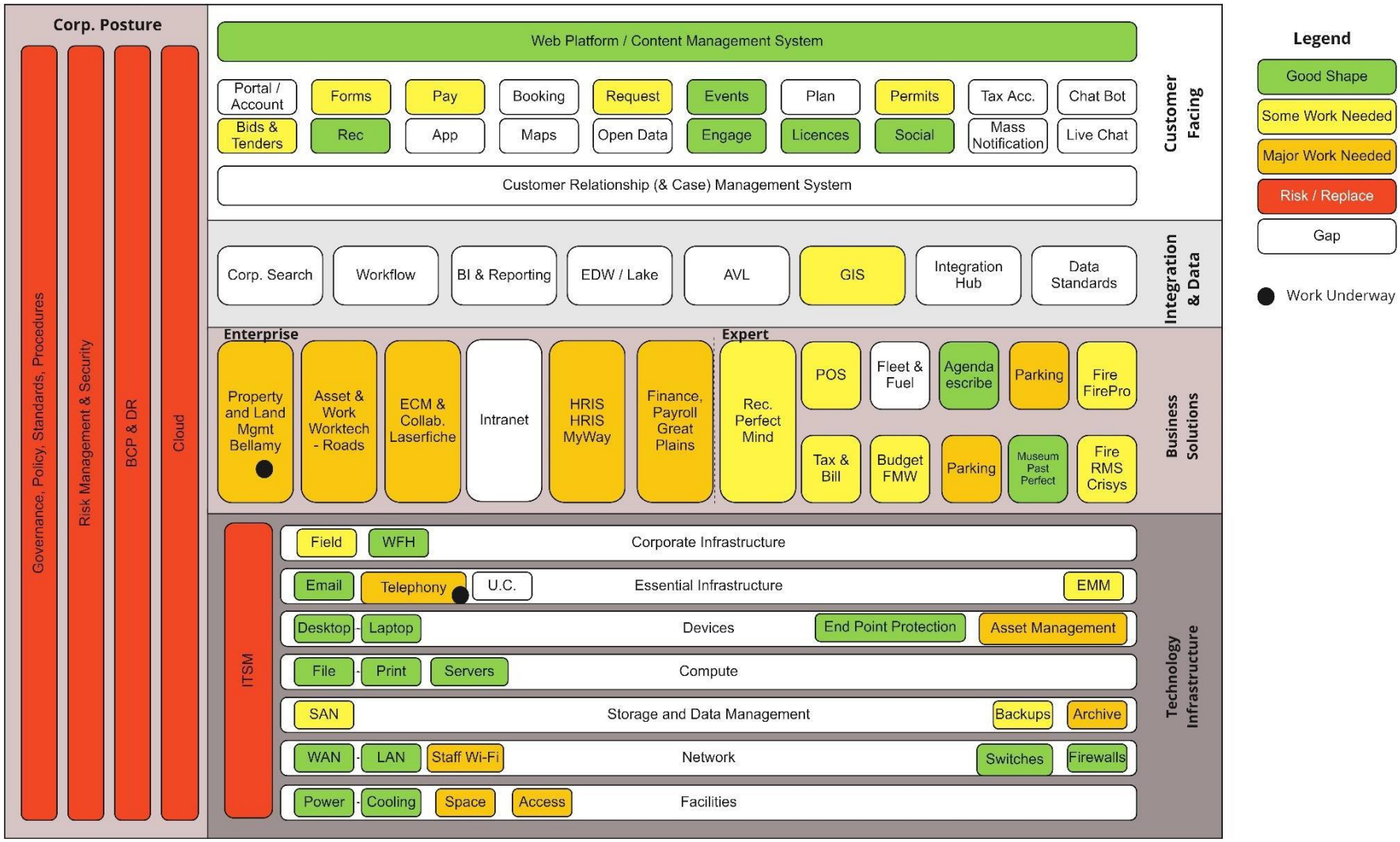

Figure 4: Scugog Completed Municipal Technology Model

Presented in the table below is a summary of observations related to the technology environment with a grade rating (A, B, C, D, U) of the resulting assessment where A=Good, B=Improve, C=Weak, D=Risk, U=unclassified, DNE=Does Not Exist.

Strong	Ok	Weak	DNE

Layer	Comments	Grade
Customer-Facing	• Some positive web foundations. • Online program registration is available. • New focus on community engagement – “myscugog.ca”. • Lacks a Customer Service Strategy or solution. • Some fillable forms online. • Limited number of self-service opportunities.	**B-**
Integration	• Limited work in this space. • Systems have been added randomly and reactively. • GIS through shared service with the Region.	**D**
Business Solutions	• Some expert systems seem to meet department needs well. • Missing some core business systems. • Some business systems are outdated. • Many shadow, parallel systems. • No strategic oversight for direction on key platforms.	**C-**
Infrastructure	• Reasonably stable, reliable infrastructure. • Network connectivity needs attention and investment. • Lacking Cloud posture and policy. • Need to improve Business Continuity Program. • Lacking solid and repeatable systems management procedures. • No Disaster Recovery procedure.	**C**

As the Township grows, “systems” are required to ensure that it is operating effectively. The focus of the Township should be ensuring that its business process and technology foundations are well established. Building these efficient business processes and supporting systems now, will ensure that the Township can contain its costs as it grows because it can minimize the number of staff it needs to hire to support these business functions.

Systems in use should be common and shared across departments / business units so that tasks initiated by one department can be allocated to other departments, such as a change in a permit application status (in Building) triggering the processing of a pre-approved payment (in Finance).

It is the full digitization of processes that is critical to becoming an efficient Township that can deliver end-to-end customer-centered digital services.

The Township intends to enhance its overall service delivery, however, 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 Township’s processes are run using paper and pen or Excel spreadsheets and not in fully digitized systems (for example, timesheets are filled on paper, permit applicants come into the municipal office, other licenses and permits require applicants to download a paper form, fill in the details, scan and then email the form and send the payment to the Township, etc.). These multiple points of data entry and information storage provide for inefficient workflows and an increased chance for error. Today, technology is a basic tool for business and having these efficient, digitized programs is expected by customers and residents in today’s workplace.

There has been significant work completed the last couple of years with enhancements made to the network infrastructure as well as adding new online forms, the Recreation Program Registration System (PerfectMind), the online Council meeting management solution (eScribe) and the very recent acquisition of the land management solution (CloudPermit). Still, many of the Township’s business solutions require major work (or replacement) if they are to be fully leveraged and utilized to digitize core work processes. There are several key business solutions that are outdated and behind in versions such as Bellamy and Laserfiche. Getting too far behind in versions can prove to be costly and complex to upgrade.

Business Solutions are the tools used every day to get the job done, for example, issue tax bills or permits, issue invoices, pay bills, run payroll, manage recreation programs. Thus, the Township 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.

- Financial systems including optimizing the use of the digital tools to replace manual processes (Accounts Payable and Purchasing).

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 amount of data entry and data entry errors.

As the Township 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.

3.3. High-Level Summary of the IT Management Practices

As part of the consulting team assessment, we also reviewed the way the organization approaches information, technology, and systems management.

While there are various positives – including implementation of the recommendations from the 2017 IT Strategy, some good progress on the Township's website, the online recreation services, movement toward more Cloud services, partnerships with neighbouring municipalities – some important issues were identified and are reviewed here.

3.3.1. IT Operating Model

The IT Division consists of just one full-time position – Manager, IT/GIS. With the increased workload during the pandemic, the Township realized the need for additional resources and has hired a part-time student as well as out-sourced some tasks to the Region of Durham for assistance. These additional resources were approved for only 2021 so consideration needs to be given to extending both of these on a more permanent basis.

There are still concerns about workload capacity and the ability to do more than provide support and management of the network. This means departments have had to do much of their own research and acquisition of technology solutions leading to a more fragmented approach to systems architecture. It has also meant some staff do not reach out to IT for help because they know how busy they are.

This has resulted in decentralized decision-making and prioritization of efforts and initiatives. With no central authority, projects start and stop depending on availability of resources. There is a lack of clarity about deliverables and timelines with a tendency to over-commit and under-deliver. This makes it challenging to achieve corporate-wide consensus and success on new projects and setting directions.

3.3.2. Current Governance

The consulting team's assessment of the current governance model suggests that there are key gaps in the Township's technology governance approach.

This means that the 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.

The table below shows the consulting team's evaluation of key governance functions that should be in place.

Strong	Ok	Weak	DNE

Typical Structures and Processes	High Performing	Scugog
Executive IT Steering Committee	Yes	DNE
Clear and consistent IT investment process, including project prioritization	Yes	DNE
Project portfolio management	Yes	DNE
Consistent / repeatable project delivery process	Yes	DNE
Corporate IT policies	Yes	Weak
Corporate IT standards	Yes	Weak

Figure 5: Governance Functions

The assessment indicates that Scugog is missing many of the structures or processes that relate to an Executive IT Steering Committee, programs and systems working groups, an IT intake and investment process, project portfolio and project delivery, corporate IT policies and corporate IT architecture and standards.

3.3.3. IT Management Best Practices

It is also noted there are important gaps in the Township's maturity in terms of key functions that should be in place to deliver technology and digital solutions effectively.

The following table illustrates the results of our findings. This table lists the key capabilities that we believe a municipal organization should have in place to operate its IT function effectively and appropriately.

- The IT Service Desk (helpdesk) is noted as "weak" as there has only recently been the addition of new staff resources as well as a new system for tracking helpdesk tickets. It is expected that both of these will help to improve the overall reliability and availability of the Service Desk.
- Processes / procedures relating to IT Financial Management, IT Organization, Business Systems, IT Procurement, Technology Training, IT Change and Service Management and IT Security are also considered "weak" at this time.
- Scugog's Technology Infrastructure is in a good state with good hardware and current version levels.
- Several other key processes – such as IT Governance, Architecture and Roadmaps, Project and Program Management, Data Management and BCP/DR – are not addressed at this time as they currently do not exist.

Strong	Ok	Weak	DNE

IT Service Desk	Weak
IT Governance *	DNE
IT Financial Management	Weak
Architecture and Roadmaps *	DNE
IT Organization	Weak
Project and Program Management *	DNE
Business Systems	Weak
Technology Infrastructure	OK
Data Management	DNE
BCP & IT DR Plan	DNE
IT Procurement	Weak
Technology Training	Weak
IT Change and Service Management	Weak
IT Security	Weak

Figure 6: IT Service Management

3.4. Infrastructure Layer Review

Although the core infrastructure is in reasonable shape, there are several fundamental elements within this layer of the MTM that require attention:

- **IT Service Management (ITSM)** – In the era of digital services, ITSM serves as the vehicle that will deliver value to an organization. ITSM isn't simply a "tool for IT" – as digitization spreads across the Township, it will serve the needs of all departments. Service management has expanded to represent new ways of thinking about how IT services can be provisioned and made available to support the growing demands of the business. The Township lacks a formalized approach to ITSM, including the tools to support a "best practices" approach to service management.
- **Cloud** – The Cloud provides the capability to innovate, reduce capital and operating costs, scale and respond to the evolving growth and demands of the citizens and staff which is challenged via an on-premises environment, however, the Township has not yet developed a Cloud Computing Framework or Strategy as an enabler to the oversight of an enterprise-wide adoption of on-demand Cloud services for Software as a Service (SaaS) , Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) through governance, compliance and security.
- **BCP/DR** – The Township does not have a Business Continuity Plan or Disaster Recovery Strategy in place that supports defined recovery time objectives (RTO) and recovery point objectives (RPO) of the business. These Strategies are a collaborative approach between the "business" and IT and have been flagged as a key gap in this engagement.
  Note: Many cyber insurance firms will not provide coverage to organizations without updated BCP/DR plans.
- **IT Risk Management and Security** – Every organization needs to continue to focus attention on their Risk Management and Security Program. The Township should continue to follow industry leading frameworks such as: NIST (National Institute of Standards and Technology), ISACA (Risk IT), or ISO (27001).
- **IT Governance** – Closely related to IT Risk and Security, a sound IT Governance Framework has not been defined to determine who makes technology decisions and how these decisions are made. There is no clarity around the identification of groups and individuals involved in IT decision-making, and which decisions are the responsibilities of which groups, etc.

3.4.1. Benchmarking Results Re Investment in IT

In the context of organizational needs, when benchmarked against other Ontario municipalities, Scugog's investment in IT staff is significantly lower than comparable peers.

As illustrated in the summary slides below, for IT Staffing (percentage of total), Perry Group's suggested range is from 2.5% to 5%. Scugog sits at 1.19%.

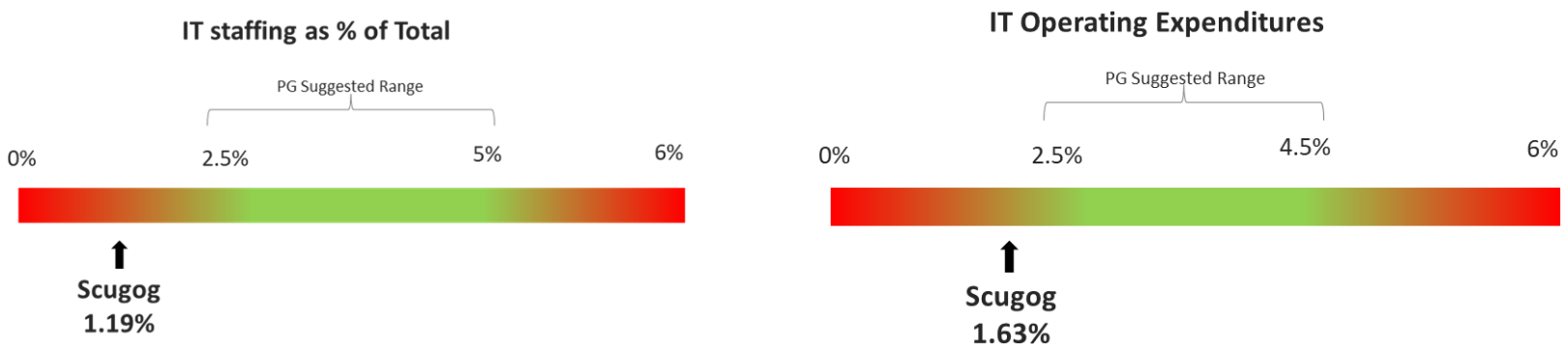

Figure 7: Scugog Comparator Metrics

The IT Operating budget is also significantly below the recommended range with just 1.63% of operating dollars contributing to technology. Scugog's expenditures are below peers and the median rates flagged by the Municipal Benchmarking Network (MBN) benchmarking.

The Township operates well below the Perry Group recommended ranges for IT staffing and below the operating expenditures which suggests that municipalities should target at minimum 3% of staffing and budgets toward technology.

Gartner and other IT industry benchmarking sources suggest much higher levels of IT investment.

3.5. The Municipal Online Services Assessment (MOSA)

When considering which services to offer online, comparing Scugog's online services with other Canadian municipalities is a useful benchmark.

Perry Group has prepared a list of *standard* online services that municipalities across Canada typically offer to their citizens. Not every municipality offers every one of these services – but these are the most commonly offered.

Perry Group's Municipal Online Services Assessment (MOSA) tool articulates a target state for the digital experiences that municipalities could, and arguably should, deliver to citizens based on industry best practices.

3.5.1. MOSA Scorecard

The simplicity of the MOSA tool allows for a quick assessment that generates a scored value that can then be used to track your organization's progress as more online services become available or to compare yourself with other municipalities that have been assessed.

The Rating IDs and Scores are explained in the table below.

Rating ID	Rating Score	Explanation
N	**0**	Not provided at all.
Partial	**1**	Provided to some extent (e.g., may offer a fillable PDF form that must be emailed or a form that must be downloaded, completed and scanned for email). While these are "online", they are not truly an online service because they are not integrated into the appropriate back-office solution(s).
Y	**3**	Full online capability is provided (e.g., customer submits an online form that is received in the back-office and processed electronically via an integrated system).
N/A	**N/A**	This service is not applicable to the municipality.

Figure 8: MOSA Rating System

3.5.2. Scugog Township's MOSA Assessment

Perry Group consultants conducted the assessment by visiting the Township's website and then attempted to find and or complete the 45 customer experiences.

Where we were unable to find the service, we reviewed with Township staff to confirm that those service offerings are, indeed, not available.

The results of the assessment are shown in below.

Customer/Experiences	
Easy to use website	Y
Mobile website	Y
Personalization	N
Single Account	N
Submit a service request	Y
Track a service request	N
Municipal App	N
Customer knowledge base	N
Online chat with CSR	N
Tweet for help	N
Online bid management	Y
Pay Taxes Online	Partial
Pay an invoice	N
Parking / infraction ticket payment	N
Parking permits / exemptions	N
Recreation program online booking	Y
Rent a facility	N
eForms	Partial
Open Data	N
Transit planning	N
Tax account management	N
Tax certificates	N

Customer/Experiences	
Building permit application	Y
Book a building inspection	N
Submit digital plans	N
Submit development application	N
Track development application	N
Employment search and applications	Partial
Sign permits	Y
Fire / Fireworks permit/Open Air	Y
Pet licence	Y
Theatre Tickets	N
Road closures	Y
Snow clearance status	N
Events calendar	Y
Filming permits	Y
Business licences	Y
Council / committee web streaming	Y
Online Agendas / Minutes	Y
Grants programs	Y
Council delegation request	Y
Site suitability / selector / vacant land	N
Marriage Licence	Y
Digital Signatures	N

Figure 9: Results of Scugog's Municipal Online Services Assessment

Overall, the website offers a good level of service and many of the applications are in place to increase online service delivery.

A number of these online services have been added in just the past year, including Burn Permits, Freedom of Information (FOI) Requests and Payment, and online Marriage Licences. It must also be noted that some of the services currently not available

are already being planned for, and if the Digital Strategy Initiative is initiated, greater improvements could be anticipated for online service delivery.

The community engagement solution, Bang the Table, has proven to be an effective way to provide information to the community but also to get their feedback on several Township programs and projects. Responses to this engagement tool proves the community is interested and engaged through this digital opportunity.

Comparative assessments of the availability of online services were also performed on Brock, Orillia, Tecumseh, Halton Hills, and Oshawa with Scugog's results. Scugog offers a number of online services as noted in Figure 9. With that assessment, a quantitative score is added. It should be noted that many of Scugog's apparent online services are fillable forms that do not have a back-office process in place to support them. Note also that when benchmarking against online service leaders in Canada, US, and UK, results were much lower.

The following chart shows the results of the quantitative scores across several comparator municipalities. This highlights that Scugog is doing reasonably well but that there are further opportunities for more online service programs.

Municipality	Scoring Value	Potential Score	Overall Score as a Percentage
Scugog	56	132	42.4%
Average	**54**	**121**	**45.6%**
Brock	62	130	48%
Orillia	50	138	36.2%
Tecumseh	48	117	41%
Halton Hills	65	126	52%
Oshawa	76	141	53.9%
LEADERS			
Calgary, AB	90	114	78.95
Boston MA, US	82	114	71.9%
Birmingham UK	76	105	72.4%

Figure 10: Comparative Municipal Online Services Assessments

3.6. Community Engagement

In addition to engaging with staff from all departments through an online survey as well as in-depth interviews, Perry Group consulted with the Mayor and Council to gain both an understanding of their vision for a digital Scugog as well as their requirements.

As digital services should really be designed with the customer in mind, the project team also consulted with the community through various means. Engagement through the “myscugog.ca” portal invited participants to share their thoughts or ideas as well as to participate in an online survey.

Over 184 responses were received from both residents and local businesses. A virtual Open House was held where the project team was able to focus in on some of the ideas to gain an even better perspective of the community requirements for digital services.

Figure 11: Portal Image of myscugog.ca

3.7. Current State Summary

The current state assessment confirms that the Township of Scugog has some significant work ahead.

Demand in each of the business units is significant. Meetings with teams from across the organization as well as with the community identified over 30 possible digital and technology initiatives that the Township could pursue that would result in streamlined processes and improved customer experiences. Some of these projects are relatively small and easy to deliver whereas others are much more complex and will result in significant change to existing processes.

The Township cannot possibly tackle all this work in the short- or even medium-term. It is important to prioritize the most impactful initiatives that align with strategic objectives and commit resources to implementation. It is also important to continue to build on the foundational components in order to continue to have a strong basis of both hardware and software solutions to build on and to deliver future initiatives.

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.

A classic “invest-to-save” equation.

We believe that 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 Strategy identify the priorities and set out how Scugog can set itself up for future digital service success.

Building the Framework for Success

4.0 Building the Framework for Success

4.1. Modernization Goals

Scugog identified the goal to “focus on providing modern customer service, both internally and externally to our residents” by ensuring they have the “required people, processes and technology to support the Township’s business objectives” and to “maximize value from technology investments.”

We believe a strategic direction set by the leadership is vital to achieving such a goal. 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.

There are many reasons to modernize but generally, the following targets for modernization through digital means are identified.

- **Improve Customer Service** – Provide a service online to customers and expand the service availability 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** – Reduce the cost of a service; the cost 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, hypothetically, the current AP process requires 100 hours/year of manual processing time. A project that reduces this to 10 hours/year, may reduce the cost-of-service delivery by $100,000/year.
- **Reduce Cycle Times** – Reduce the cycle time of service delivery. The time it takes from the point of request to delivery of service can be measured. Major reductions to the cycle time will improve customer service as well as efficiency of the service offering. For example, a Roads 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** – Target new revenue opportunities and/or increases to existing revenue streams for digital transformation projects.

The Strategic Plan sets out several specific projects and initiatives to be undertaken. In order to ensure their success, there are several important changes that are required in order to move forward and begin the change.

4.2. Repositioning IT

The role of technology in 2021 is very different to that of the past. Information, data, technology and digital should underpin everything the Township does going forward.

Thus, being effective at identifying, implementing, and embracing digital capabilities must become a strategic, core competency that the Township must cultivate and develop.

As a result, it is not acceptable for service owners, managers, and staff to profess an ignorance or a disinterest in technology. Technology will increasingly become how services are delivered, and with a preference for digital delivery at Scugog, it is no longer optional to digitize services – *it is a requirement*.

To be successful, a partnership between the business departments and IT specialists is necessary to achieve the goals.

As an organization, the Township 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.

4.2.1. Partnerships Between IT and Departments

IT is often treated as a back-office, reactive, support function – a utility provider charged with keeping the lights on, or a supplier delivering widgets (in the form of projects handed to them) – essentially a cost centre that too often has increasing budget requirements every year.

A utility or supplier type relationship misses opportunities for both sides to learn from each other, to achieve the type of transformation envisaged, and to advance strategically.

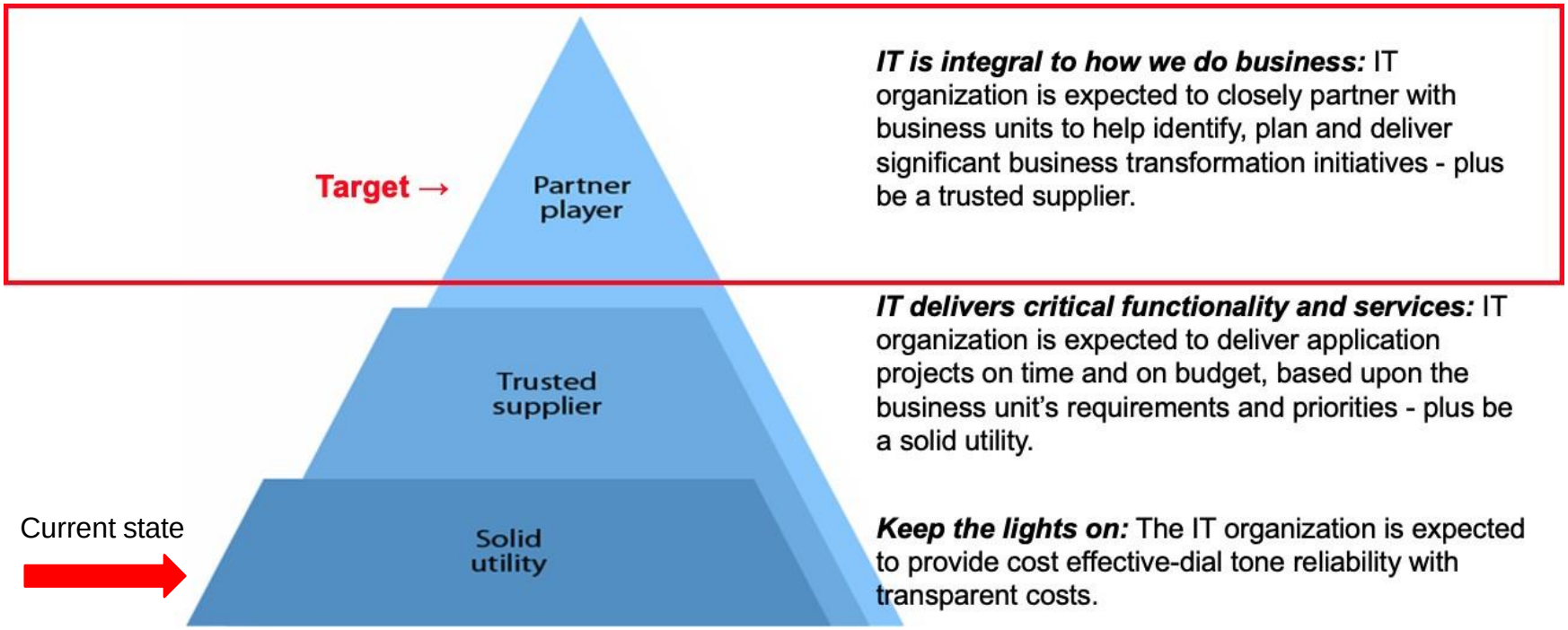

Figure 12: Elevating the Role of IT

A more modern approach to the role of IT is to focus on building strong partnerships between IT and business departments; where IT works hand in hand with business units to define and build modernized business processes and services, and where the IT specialists and the application of technology becomes an engine of change and transformation.

To build an effective partnership, IT and business departments must both be at the table together in a collaborative mode with a clear understanding of roles and responsibilities. IT should be a partner in advising departments on technology strategy, helping to realize ideas and opportunities; departments should partner with IT by consulting and taking input and advice.

IT and departments should actively work on strengthening their relationships so that IT better understands the business and vice versa. Of course, partnerships are built on trust so IT must continue to deliver high-quality core IT services and business units must consult with IT.

4.3. Internal IT Staff

Scugog is not able to optimize technology due to a lack of support for investment in business systems and process automation.

Even with the current additional part-time resources, IT resources are currently under-staffed (for example, there are gaps in the business solutions support) or under-skilled (for example, in data and business analysis) to support the program of work that is underway and planned. The focus is on “keeping the lights on” and dealing with day-to-day operational and support issues. There is no formal defined model for centralized or de-centralized IT, however, decision-making seems to be a combination of both. There are no defined IT experts in the business departments but, as noted, the departments are often the ones who have to acquire solutions and become the in-house experts for that system.

Looking to the future, business solutions will be the key area of focus for the Township. To date, IT has limited involvement in this space. As the Township’s reliance on technology grows, IT resources must become a group that is actively involved with business departments in identifying and implementing ways to improve and transform their services, processes and operations to drive efficiency and customer service improvements.

At the centre of the changes recommended within this Strategy, is that IT should be revitalized with a broader mandate. The Township should reposition the “IT Division” to become more actively involved in the selection of business solutions, and their implementation, evolution and support. Resources with expertise in business analysis, relationship building and project management should be added to the IT team to support this expanded responsibility.

Typically, in Ontario municipalities, IT staff make up between 1-4% of total staffing. Those that invest more in technology tend to be more advanced in their utilization of technology. Municipalities such as Burlington and Kitchener (and Calgary as a larger example) devote a higher proportion of staff to technology and are further ahead with their efforts.

Scugog currently allocates 1.19% of total staffing to IT. As previously noted, this is below the Perry Group recommended range which is between 2.5 and 5.0%. A reasonable future target for the Township should be 3-4% or approximately three IT staff.

Currently, the Township hires a student to assist with the helpdesk and other support functions. This practice should continue until such time a full-time Helpdesk Technician role can be added.

The Township also has contracted with the Region of Durham for support assistance on a part-time basis. This practice should also continue with perhaps more emphasis on higher-level support, network management and security. As the Township’s reliance on technology grows, further services from the Region should be considered.

It is important to note that the number of IT staff should be proportional to the number of total staff – as the number of staff grows, the demands for support increase. Thus, as the organization grows, the Township should expect and plan for the IT Division to grow in proportion with the organization.

4.3.1. Three Functions in IT

In supporting the Senior Management Team and the recommended broader mandate for the IT Division, it is recommended that the IT team establish a three-function focus.

The proposed three functions within the future IT Division are:

1. **IT Project Services** – Focused on helping business units consider and evaluate opportunities for technology-driven business improvement, the development of business cases and the project management of business technology opportunities and supporting governance and the active management of the technology project portfolio. Primary functions include:
    - Project management.
    - IT project portfolio management.
    - Business analysis.
    - PM standards and templates.
    - Resource management.
    - Capacity management.
    - Portfolio reporting.
2. **Business Solutions, GIS and Data** – Focused on evolving and leveraging business solutions (e.g., Great Plains PerfectMind, CloudPermit), GIS (ESRI) and data services in an integrated way to improve service delivery and drive business efficiencies. The primary functions include:
    - Business solutions (enterprise and SaaS) planning and support.
    - Business solutions administration and application development support.
    - Applications security.
    - GIS solutions development and support.
    - GIS data analytics (partnering with the Region).
    - Open Data / Open Government Program.
    - Web/digital/app architecture.
    - Web and digital solution development (in partnership with Communications).
    - Database management.

- Data standards and quality.

3. **Infrastructure and Helpdesk** – Focused on helpdesk / support services and technology infrastructure (e.g., network, security, storage, devices) operations and maintenance. Functions include:
   - Helpdesk – 1st level technical support.
   - User account management (AD, systems).
   - Productivity software support.
   - Device management and support.
   - Asset management and inventory.
   - License management.
   - Audio visual support.
   - Network (wide area networks (WAN), local area networks (LAN), Wi-Fi) maintenance and support.
   - Telephony, mail, messaging, unified communications.
   - File and print infrastructure.
   - Info security operations (firewall, IPS, AV, malware, spam).
   - Backup and restore management.
   - Service / performance monitoring.
   - Windows deployment service (packaging for deployment).

New bleeding edge and emerging technologies such as Augmented Reality (AR), Artificial Intelligence (AI) or Blockchain should, at this time, be avoided. Instead, the Township should focus on getting the foundations in place – on getting the basics right – which means getting the right infrastructure, business solutions, mobile and digital capabilities.

Many roles with new skill sets could bring additional value, but these are likely better suited to be facilitated through third parties and managed service agreements. Examples would include: security services, network support, Cloud brokers, and disaster recovery vendors.

4.3.2. Fill Resource Gap in IT

As noted in the Current State Findings, the Township has no dedicated solutions or business analysts in IT. As well, business departments would like more assistance from an IT resource to:

- Help them make decisions about technology solutions.
- Assist with research into possible solutions, and
- Translate their business requirements into technical specifications.

There are a number of projects ahead, most of which are in the business solutions domain. Each of these projects will require solutions analyst and application development skills to support systems configuration during the project, and for support after solution implementation.

The addition of a Project Manager / Business Analyst or Solutions Analyst complement should be considered. This will allow the Township to manage business solutions effectively and provide support for new features, reporting and other capabilities. Note that this will bring the "IT Support to Full-Time Staff" ratio to just 2.38%, still slightly below the recommended range.

The primary role of the Analyst would be to build strong relationships with business units. In this role, the Analyst will support departments in identifying business requirements for technology-related projects and lead the implementation of projects.

The new Analyst's primary role is to effectively support business systems and the integrations that the Township plans to implement and responsibilities would include:

- Implementing and supporting new business solutions or enhancing existing business solutions.
- Investigating and resolving business solutions issues and problems.
- Implementing upgrades and resolving conflicts and errors in the applications.
- Supporting departments in identifying business requirements for technology-related projects (this would be fulfilled by applying the principles of business analysis in the requirements gathering, planning and re-engineering of business processes and practices and converting these requirements into technology specifications).
- Implementing new project governance processes that will increase the successes of IT projects.

A draft Analyst job description for consideration can be found in Appendix 1 – Project Manager / Business Analyst Job Description.

The current approach to IT has relied upon vendors and suppliers to be involved in the configuration and installation of software and hardware. The team should continue to utilize and expand its use of third parties and contracted resources to ensure that it can deliver services that meet the needs of the Township.

4.4. Alternative IT Resourcing Strategies

Ramping up capacity to deliver digital transformation will be critical, however, permanent internal staffing is only one part of the story.

Several approaches are common in municipalities for augmenting internal IT resources. Some of these same approaches can also be applied to filling resource gaps in business units.

4.4.1. Hybrid IT Service Operating Model

The reality of modern IT – particularly in municipalities – is that it is simply impractical to maintain in-house all the skills and capacity needed to plan, implement and manage the increasingly complex technical environment and burgeoning project demands. To maintain such an in-house IT team would be unaffordable or, in the case of a short-term need, a bad business decision and 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 small team of in-house IT staff (with strong internal connections and understanding of the organization's business needs) who, in turn, work with a network of trusted partners, vendors and solution and service providers to deliver the required services.

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 the Manager, IT/GIS works more as a coordinator or orchestrator of IT service delivery that will be executed by a combination of internal 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.

Similar to the way the Township 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 hiring IT resources specifically for the task at hand.

The following image depicts how all the different resourcing strategies should fit together to provide overall service.

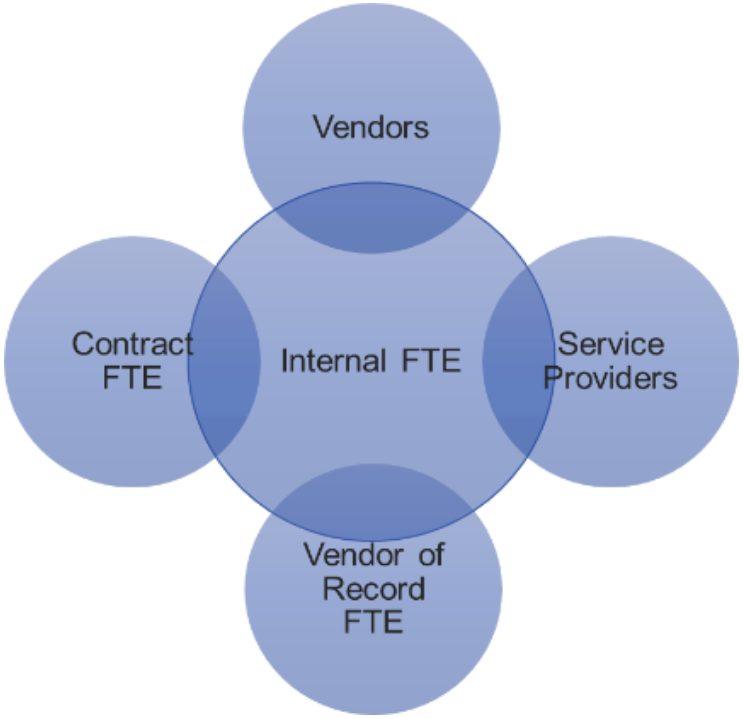

Figure 13: Hybrid IT Model

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 higher-value initiatives that will position the Township 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. Scugog 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 IT team with the skills and expertise needed to ensure that the Township'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.

4.4.2. Capital Funding Contract Staff Positions

Projects are 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 (1-2-year contracts). Costs for staffing contracts are “bundled” into the total capital cost of the project. Thus, 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 Township to retain the accrued project learning and expertise, and to offer development opportunities to internal staff.

4.4.3. 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 Township 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 Township, 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 Township to quickly ramp up resources to lead major projects such as a new corporate financial solution (FIS and Payroll), the Asset and Work Management project or the 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.

4.4.4. Leverage Strategic Partnerships

Currently, finding new solutions is left to the business department. They are required to do the research, analyze their current business requirements, and develop the RFP to acquire a new solution.

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 the 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.

Scugog has already leveraged its partners for several initiatives including helpdesk services and in acquiring the new building permit solution.

The Township has a strong partnership with the Region of Durham and this should be further pursued. The Region was able to quickly step in and help out when the Township found they needed help due to a staffing situation. The Region also offers other services that should be considered. In addition, the Region has offered a sharing opportunity with their new Customer Service / 311 solution enabling the local municipalities to piggy-back on the purchase or even become a full partner in the opportunity. These options should always be considered and evaluated to determine if they are in Scugog's best interest to pursue further.

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

The regional IT leaders meet on a regular basis to share ideas, solutions, and challenges, presenting an opportunity to leverage each other's expertise. Participation in this forum is key to building relationships and understanding what solutions have been used successfully elsewhere.

4.4.5. 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 Township 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 Manager, IT/GIS should be the orchestrator of IT service provision, matching the needs of the organization to service delivery – either provided internally by IT or by third-party expertise. Who actually provides the service should be transparent to Township management and staff.

It has been initially recommended that the Township consider adding the "out-tasking" of security operations and potential application integration services. It is suggested that other options be considered in due course.

4.5. A New IT Governance Model

Perry Group identified a lack of IT Governance in the organization.

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

- 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 Governance Framework will provide clarity and a mandate for the right people making the right decisions about technology at the Township. 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.

A sample IT Governance Framework:

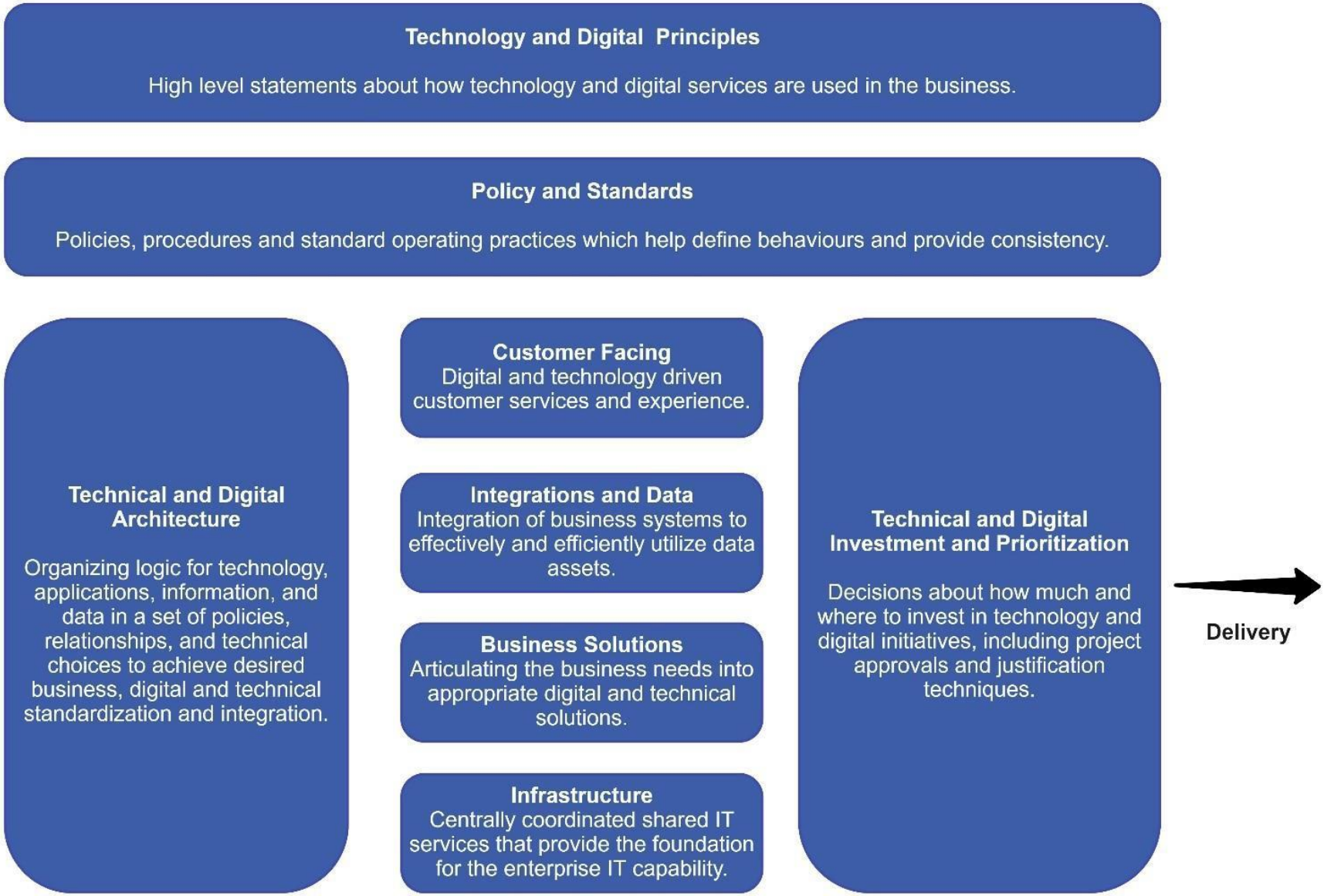

Figure 14: Sample IT Governance Framework

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 do our customers expect from us?
- 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 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.

An enterprise IT Governance Framework should be developed and implemented including:

- An IT Steering Committee (SMT can perform this role).
    - This committee will form the high-level IT Strategy to align with Corporate Strategy and guide major decisions on IT systems and processes.
- Project Intake and Prioritization Group.
    - This group will review major project requests such as system upgrades, new system purchases and other projects that would take considerable time and resources.
    - Any organization only has a certain capacity to take on new projects on top of existing workloads, and so each request must be considered carefully. This would include value, risk, costs, and resources.

4.6. Cloud Technologies and Framework

To build a modern, collaborative technology experience – 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 embraced Cloud technology, adopting a Cloud-first policy resulting in the ability to close down many of their own data centres. Cloud technologies provided 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 risk to the IT environment by using up-to-date hardware, application and software of the Cloud that ensures 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 and 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.

The Township is already familiar with the use of external services. It is recommended that the future business systems be implemented using the Cloud infrastructure. A Cloud Framework with supporting policies should be created that will govern the use and appropriateness of Cloud services.

4.6.1. Purpose of a Cloud Framework

A Cloud Computing Framework is a strategic artifact that will provide direction for a holistic view of Cloud adoption at the Township. The Cloud provides the capability to innovate, reduce capital and operating costs, scale and respond to the evolving growth and demands of the citizens and staff which is challenged via an on-premise environment.

A Cloud Computing Framework will enable the Township to provide oversight of the enterprise-wide adoption of on-demand Cloud services for Software as a Service (SaaS), Platform as a Service (PaaS) and Infrastructure as a Service (IaaS) through governance, compliance and security. A strategic framework will facilitate digital transformation by:

- Utilizing the Cloud to improve efficiency and effectiveness.
- Increasing business agility and responsiveness to stakeholders' and citizens' desired outcomes in a digital world; and
- Supporting technology innovation.

4.7. IT Policies and Standards

Consistent with the commentary throughout this section, many of the decisions related to technology are business or management decisions. These are not decisions to be made by IT alone on behalf of the corporation. For example:

- Which employees get smartphones?
- Who can buy new technology?
- Can a member of staff use their personal phone at work?
- Who is authorized to register a web domain for the Township?
- Which websites can staff access, and should that activity be tracked?
- What content is saved when an employee retires?
- How much space does an employee have in email?
- Which systems need to be up and running first in the event of a disaster?
- How secure do we need to be?

For each of these decisions, several factors need to be weighed including business impacts, employee impacts and importantly, cost implications.

Typically, IT recommendations and policy should flow from IT, through the IT Governance Committee and if necessary to SMT for final approval. Council will retain responsibility for budget approval, is the final authority for municipal spending decisions and must approve Township policies in accordance with current practices.

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

The Township has several existing IT policies that should be revisited and reviewed through the lens of this Digital Strategy.

A standard IT Policy Framework typically addresses the following areas:

- **Acceptable Use** – Provides the parameters, obligations and responsibilities associated with access to and use of Township technology.
- **IT Security** – Defines how the Township (as a whole) operates a secure and reliable technology environment, with adequate controls to protect the Township's information assets.
- **Third-Party Access** – Defines how third parties should access the Township's network in a secure manner.
- **Backup, Recovery, Business Continuity and Disaster Recovery** – Defines the backup and recovery plans for computer systems that store Township data. This policy is also designed to prevent the loss of data and systems in the event of an equipment failure or destruction or security incident.
- **IT Procurement Processes** – Defines roles and responsibilities and processes for procuring technology solutions.
- **Asset Lifecycle Management** – Ensures effective procurement, maintenance and operation and replacement of IT Assets to ensure delivery of consistent, efficient, reliable, timely and cost-effective services for employees and the community.
- **Hosted and Cloud Solutions** – Defines the Township's position with regard to Cloud computing and the due diligence required before procurement of Cloud solutions.
- **Data Management (Lifecycle, Privacy)** – Ensures that the corporation can effectively manage its data assets while complying with required legislation.

The Manager, IT/GIS – with the input of staff and stakeholders across the organization and the proposed IT Governance Committee – should review, revise, and augment the corporate IT Policy Framework in the context of this Strategy to ensure that it accurately reflects how the Township wishes to use and manage technology.

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

4.8. Explore New Funding Sources for Technology

To facilitate the increased investment and ongoing support of technology, the Township should also look to alternative funding sources outside of the traditional IT funding envelope.

It is in the ongoing operations of technology that the Township faces the toughest challenge. For every new technology implemented, new demands are placed on the organization to support and maintain that technology.

The Township should continue to explore a range of alternative funding sources, successfully used by other municipalities to support technology investments. These include:

- **Development Charges** – Used to support technology investments related to growth, e.g., Fire mobile technology, traffic light pre-emption, public Wi-Fi provision. Note, the City of Vaughan has made changes in its Official Plan to address the need for and enable public Wi-Fi in city facilities.
- **Building Permit Reserve** – Used to directly fund permitting technology and indirectly fund upstream and downstream technologies and process improvements that contribute to an improved permitting process, e.g., planning application processing technology.
- **Gas Tax** – Used to fund technology projects related to Asset Management, e.g., City of Waterloo received an FCM award for investing over $700,000 of gas tax funds into its Asset Management systems.
- **Departmentally-Funded Technology and Resources** – E.g., in Burlington, additional corporate IT staff have been paid for from the Fire budget, providing additional resources to support Fire but the resources are centrally managed and coordinated in IT.
- **Grants and Challenges** – E.g., Smart City Challenge, FCM Asset Management, Community Improvement.
- **Growing Revenues to Offset Technology Costs** – E.g., advertising linked to digital services.
- **Services Surcharges** (specifically on B2B services) – Used to fund implementation of digital services, e.g., building permit or planning application "surcharge" diverted to a fund to support the implementation of digital services that reduces costs for those using the service (e.g., through reduced plan printing and visits to the municipal office).
- **Technology Levy –** Some municipalities have introduced a levy to fund investment in community technology, e.g., the Town of Caledon has introduced a "broadband levy" to address improved internet services in its community[1].

As the list above highlights, other municipalities are realizing positive new technology-powered outcomes for their residents while finding ways to fund them so that the solutions can be sustained.

4.8.1. Capital to Operating Cost Transition

Another major change that will have an impact on the Township's technology budgets is that technology expenses are beginning to shift from capital to operating budgets.

[1] https://www.caledon.ca/en/business/Internet.asp#broadband

In recent years the technology industry has rapidly moved from a buy to a rent model. As cloud services have popularized subscriptions, almost all IT software and services are now shifting to a subscription basis, so there is no hiding from this new business model. This has the benefit to the Town of lowering the up-front capital investments required to get technology up and running, but it shifts costs to ongoing operating budgets – and a potentially higher total cost of ownership.

The Township must prepare financially for this as IT operating expenses should be expected to increase significantly as subscription fees increase as a proportion of overall IT costs. This has already been experienced with several project costs being funded through the operating budget.

Capital funding will still be required to support project implementations (professional services, staffing), hardware and other technology procurement, but it is reasonable to assume that all software expenditures will gradually transition to subscription and thus operating accounts over the next 5 years.

Recommendations

5.0 Recommendations

After completing the current state assessment, the Perry Group consultants prepared a list of draft recommendations. These draft recommendations were presented and reviewed with SMT for feedback. The final recommendations were formed and presented in line with the key outcomes defined in the RFP.

The project identified several key outcomes for the IT Strategic Plan. They are to:

- Digitize manual processes, where possible, to improve customer service and streamline accessibility – **Digital Customer Service**.
- Optimize operational efficiencies by minimizing data entry, process duplication and hard copy documentation – **Maximize Operational Efficiency**.
- Identify and address hardware, software and data-sharing gaps by implementing realistic and best practice solutions – **Digital Business Solutions**.
- Identify and implement security measures to protect Township data, technology infrastructure and business continuity – **IT Best Practices**; and
- Maintain long-term cost sustainability.

These key outcomes define the specific areas of focus. The recommendations and workplan are developed based on these focus areas.

5.1.1. Digital Customer Services

"There is no difference between digital service delivery and service delivery. Today, everything is digital. If governments do not recognize this evolution, then any Service Strategy is flawed at the concept stage" – Alex Benay, CIO Canada, 2017 2019.

The Township is in the customer service business and its goal as a service provider is to provide easy-to-use, simple services. In today's world, residents do their banking online as well as buy products and services online. They also expect to be able to access government services from their smartphone or their tablet, any time and from anywhere.

Residents are getting more and more digital friendly. New residents arrive with certain experiences that they expect from the Township as well.

Today, everything we do has a digital component to it, be it ordering a pizza or renewing a vehicle plate. These are regular activities that residents do online using digital service offerings. Scugog needs to focus on providing to its customers access to municipal services through digital means.

Transforming over-the-counter or over-the-phone services to digital, means enhancing the customer experience. Instead of taking time off work and driving to a Township office to receive a service, customers can now do it online from anywhere, anytime, e.g., online submission of building permit applications, making an online payment for a parking ticket, etc.

The benefits are not only to the customer. After implementing these services, the Township would be operating the service with less human interaction, reducing the cost of the service delivery. Following are some benefits of digital services:

- Improve customer service and customer experience.
  - The customer does not need to visit a Township facility, the service is available 24/7.
- Reduce processing times.
  - The time it takes for internal staff to process, approve, review, etc.
- Improve process efficiency and accuracy.
  - Through self-service, the customer is inputting the data which would otherwise be entered by a staff member.
- Enable data analytics
  - Allow the Township to gather real-time data that help make better decisions.

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

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

Some of these services are available today, such as online recreation program registration, online bid management and streaming of Council meetings. The Township 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 Township. This doesn't take away from the important role of the face-to-face and telephone-based services currently offered. The Township 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 that simply prefers to interact using a smartphone or the web.

5.1.2. Maximize Operational Efficiency

The efficiency of the organization depends on its business processes. The current business processes should be optimized through process review. The optimized processes should then be digitized for optimal efficiency. Digital business processes are enabled through business solutions. Business solutions are a mandatory requirement to provide digital services online, therefore, this focus area is a prerequisite to providing digital services to residents.

A business process defines the sequential steps that are required to provide a service. Most times, business processes are cross-functional, meaning, they touch many internal departments. It is important to note that prior to digitizing a business process, the Township should review the current process and optimize it. Two common practices used for process optimization are Lean Six Sigma and Business Process Re-Engineering.

It is important to digitize entire processes rather than specific activities within a process, i.e., identify duplication of work and less value-adding activities within a process and eliminate those. When a business process is defined, clear start and end points must be identified, e.g., making a payment is not a process – it is an activity within a larger process.

Activities that could be done better by a business system should be automated. Identify points in a process where data is tracked separately by staff from different departments. These points could be eliminated by data integration or sharing.

It is important to note that the Township should not digitize a “bad process”. Automation projects should always be preceded by a process improvement exercise.

Some tangible benefits of such a digitized process are summarized below:

- Increased process efficiency – systems perform repetitive complex functions.
- Less manual work for internal staff.
- Staff time is saved providing additional capacity and cost avoidance.
- Quick turnaround due to increased process efficiency.
- Data tracking is available due to end-to-end digitized processing, e.g., the ability to track how long it takes for the administrative staff to review and confirm a request, ability to benchmark the cycle time from the submission of the application to the issuance of the license.

5.1.3. Business Solutions

The Township has made some significant investments in small scale enterprise solutions, yet these solutions have not always been fully implemented, fully integrated or fully utilized, for example, Laserfiche for document management, MS Dynamics for financials, PerfectMind for Recreation and Worktech for work orders that is only used by Roads.

It is recommended that a more formal, corporate approach to these systems (and any future systems that may be used by more than one department), be adopted by the Senior Management Team. Each of these systems are complex but the true value comes only when fully implemented and integrated with core systems. Without this approach, the solutions will not deliver full value and are likely creating inefficiencies due to the workaround processes found.

To further develop the effectiveness of digital services and digital business processes, it is also important to focus on improving the digital awareness of the staff, management and Township leadership. These skills and enhanced digital knowledge should be extended to the residents as well.

Digital awareness improvement enables staff to look for digitization opportunities. A continuous pipeline of ideas should be built and encouraged among the staff. Digital skills should be a mandatory skill in new recruits. Continuous education opportunities and sharing of digital experiences among peers should be encouraged.

The Digital Awareness Program should influence the corporate culture of the Township. The leaders in the organization should be equipped with sufficient digital skills to question every manual form, manual activity, duplication of effort, etc. The management team should be able to identify the most valuable digital ideas from the rest. “Digital” should be embedded into the DNA of the organization. Some key benefits of enhanced digital awareness are:

- The ability to identify digital opportunities.
- The ability to lead digital transformation from the top.
- The ability to realize the benefits of data analysis.
- Evidence-based decision-making.

5.1.4. Implement IT Best Practices

IT Service Management

The Township should implement a Cloud-based ITSM solution that will enable a quick "go live" timeline including support from a third-party ITSM vendor. This will limit the resourcing pressures on IT and lower the total cost of ownership (TCO).

Features of the ITSM solution should adhere to ITIL best practices and include:

- **Change Management** – Change management is ultimately a balancing act between the need for speed and the management of inherent risks associated with a change. This process will mitigate the risk of an IT change causing an unplanned service disruption. This unwanted disruption and potential cost is a foundation stone in the need for a change management process.
- **Incident Management** – An incident is defined as an *unplanned interruption to a service or reduction in the quality of a service*. Incidents are usually identified by end users and reported via telephone, email, or an IT self-service portal. An incident is an issue affecting one or more employees, customers, third parties, business processes or services, or another entity that can be adversely affected by the Township's technology or technology-based services not working as they should. For example, a faulty laptop and an inaccessible business application are both classified as incidents. Both of these sample issues (or incidents) are likely to be reported to the IT Service Desk for resolution, either by an affected person or a monitoring or event management tool.
- **Problem Management** – Problem and incident management differ but are both key components in ITIL. Problems are defined as "*a root cause, or potential cause, of one or more incidents";* A problem can cause a single incident, or it can cause multiple incidents. And an incident may be traced back to a single problem or—sometimes—multiple problems*. For example: an extended network outage at the Township would be an* ***incident****. The* ***problem*** *that caused that incident could be loss of power and no DR plan.*
- **Knowledge Management** – Knowledge management is the process of gathering, analyzing, storing, and sharing knowledge that is created within an IT Service Desk. It is designed to assist IT, including third-party partners, to make the right decisions throughout the service lifecycle and the incident resolution process by efficiently controlling and handling the flow of information. This process also supports the onboarding of new users in, and outside, of IT.
- **Metrics and KPIs** – Tracking metrics will be key for an effective service management at the Township. Thus, ITIL metrics should be positioned as a key monitoring solution to support the improvement of communication, standardize IT Service Management processes, and to be more able to meet the needs of the end user.

Develop a Cloud Framework with Supporting Policies

The objectives of this strategic approach are to provide a Cloud Framework to:

- Improve operational flexibility by leveraging the economies of scale in resources that Cloud service providers bring to the table, rather than building and maintaining relatively smaller scale, in-house resources in a data centre.
- Reduce the risk to the IT environment by using up-to-date hardware, application, and software of the Cloud, which ensures platform updates are scheduled and performed based on industry best practices.
- Improve resilience through distributed processing, high-service availability, and disaster recovery.
- Increase scalability to match IT resource capacity with business demand – which is also well-suited to adapt to the flexibility of business requirements. This improves cost associated with IT resource utilization by only paying for the resources used.
- Improve agility to rapidly roll out new IT solutions to meet business needs.
- Continually optimize costs by monitoring Cloud usage and consumption.
- Foster a culture of innovative technological solutions (digital transformation) to deliver better business benefits to internal and external customers.

The framework will identify important considerations when evaluating Cloud solutions, and the steps required to fully evaluate benefits, and mitigate risks. A range of tools, including a Cloud checklist, standard RFP requirements, and suggested contract terms should be included as part of the framework to help decision-makers when assessing Cloud computing solutions.

Initiate the Business Continuity/Disaster Recovery Program

The first step in the development of a formalized BCP/DR Strategy will be the definition of service recovery times as defined through a Business Impact Analysis (BIA) process. This activity will help the Township identify critical services based on impact ratings. This activity will drive the development of a technology disaster recovery plan.

Activities will include:

- The development of an IT Service Catalogue that will serve as a well-curated, single source of information for all the IT services available within the Township.
- A BIA and IT Risk Assessment (RA) that will initiate the BCP/DR Program.
- Impact ratings defined in the BIA process that will be used to build a formal DR Strategy.
- Risks identified in the RA process that will be addressed in a formalized Risk Register and managed using appropriate controls based on best practices (NIST, ISACA, ISO, ITIL, etc.).

Initiate a Cybersecurity Program

As a starting point, a high-level Cybersecurity Maturity Assessment should be performed using guidance from organizations such as NIST and ISO.

The Cybersecurity Maturity Assessment should follow best practices such as those outlined in the NIST Cybersecurity Framework Special Publication 800-53. Each Control Statement should be associated with one or more questions, which are weighted and scored accordingly.

The purpose of the assessment is to help the Township identify its risks and to determine its cybersecurity maturity. It is recommended that the assessment be performed as an initial step in a formal Cybersecurity Program which should include a complete analysis by a qualified cybersecurity firm.

The assessment will provide the Township with a repeatable and measurable process to inform management of risks and cybersecurity preparedness.

As an example, a NIST assessment would consist of four 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.

These activities will serve as the launchpad to a well-structured program that leverages third-party expertise “as required”.

Roadmap

6.0 Roadmap

6.1. Balancing the Portfolio: Run, Grow, Transform

Just as one balances an investment portfolio, the Township should seek to balance its technology investment portfolio.

In the intake process, initiatives should be identified by the following categories:

- **Run** – Activities or investments required to keep existing Township 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. They 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 change, 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. However, the Township should 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.

This categorization will guide SMT when making key decisions around budget and project selections. SMT should provide direction to IT on target allocation across these investment categories.

6.2. Determining Priorities and Setting the Project Roadmap

As part of the review process, a prioritization workshop was held with the Project Steering Committee.

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. 30 projects were prioritized using five 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 ten priority IT initiatives for Scugog.

1. CloudPermit.
2. CRM – Service Requests.
3. Upgrade Network Connectivity.
4. Wi-Fi at Facilities.
5. Asset and Work Management.
6. BCP/DR Strategy.
7. Document and Records Management Plan.
8. Cybersecurity Program.
9. Develop User Training Program.
10. Develop Cloud Strategy.

6.3. The Stages of Digital Organization

Further to the categorization of Run-Grow-Transform, the Strategy identifies three discrete stages to implement the Run-Grow-Transform categories providing a high-level timeline for putting the Township on the path to becoming a more digital organization.

As illustrated in the diagram below, the three stages of the overall timeline are:

- Run – Setting Up for Success – 2022-2023.
- Grow – Digitizing Core Processes – 2022-2026+.
- Transform – Digital Service Acceleration – 2023-2026+.

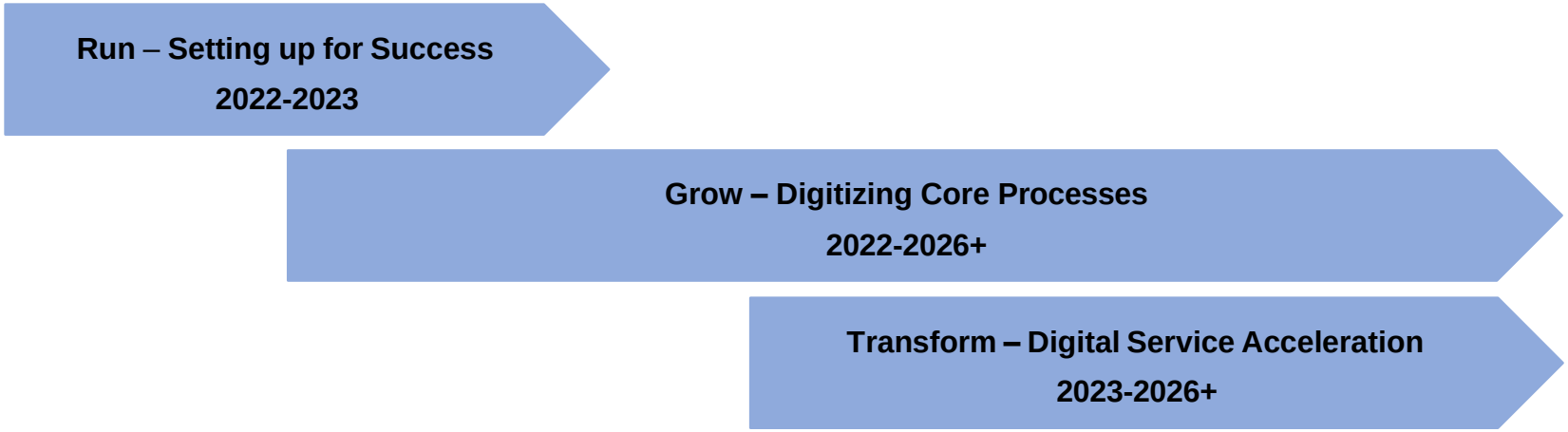

Figure 15: Strategy Implementation Staging

While Run-Grow-Transform activities are staggered over the timeline from 2022 to 2026+, it is important to note that this does not mean that no digital services will be introduced before 2023.

On the contrary – numerous new digital services will be introduced but, in 2023, the Township will be positioned to accelerate digital service delivery as a result of the progress made on back-office process digitization.

Note that SMT priorities are identified by **bold text** and *.

6.3.1. Run – Setting Up for Success – 2022-2023

During this stage, the Township will be:

- Establishing the new governance model.
- Readying for the 2023 budget process.
- Upgrading network connectivity.
- Designing new intake processes.
- Applying IT Service Management best practices.
- Establishing the new IT organization structure.
- Reviewing Microsoft 365 online costs and benefits.

This is a period of transition where projects will continue to be delivered, but where the focus will be on building out *how* things are being done – the right way.

6.3.2. Grow – Digitizing Core Processes – 2022-2026+

During this stage, the governance processes and new organization will be put in place and the engine of delivery will begin to develop.

Project capacity and delivery should begin to ramp up and a few of the significant enterprise business systems projects will be underway.

The work here is the core focus of the Strategy – digitizing core processes around people and money, assets and work, land and property and collaboration and information management.

6.3.3. Transform – Digital Service Acceleration – 2023-2026+

Work on digital service delivery is already underway and there are numerous online services planned for 2022 and beyond (as outlined below).

However, the intent is that, in 2023, digital service delivery begins to really build momentum and speed.

As the Township builds out its digitized foundations, it will enable the launch of new complete, end-to-end, real-time digital services for citizens including online permitting and licensing, massively expanded online payments, bookings, and online tax information.

Reminder: SMT priorities are identified by **bold text** and *****.

2022

- **Online building permits and applications (CloudPermit) ***.
- **Enhance online customer service requests ("Report it") ***.
- Adoption of digital payments engine (including setting payments policies and standards, pre-authorized payments, etc.).
- Establish Digital Approvals and Signatures Policy / practice and rapidly expand use of digital signatures.
- Online tax portal.

2023

- Online Forms Digitization Program (using eForms) – actively working on transforming high-volume forms from PDF / Word to online fillable forms (to include payments, image and document attachments, and digital signatures).

- Online parking ticket and other citation payments management solution.
- Implement a corporate solution for HRIS, including self-service processes for staff.
- Build out GIS Program in partnership with Region of Durham (online mapping and data access).
- Review of accounts payable process.
- Investigate options for markup tools.
- Enhance online notifications, FAQs, information, etc. to the Community.
- **Improve Wi-Fi for both staff and public use at Township facilities ***.
- Online map services – “where’s my nearest (park, rec facility, recycling centre, etc.)”, “what’s happening here (planning, roadworks, etc.)”.

2024

- Online booking solution (for programs, facilities, appointments / bookings with staff).
- Develop new intranet site.
- New solution for managing digital signs at Township facilities.
- Online purchase orders solution and process review.

2025+

- Ongoing development of online services.
  - Enhance online Planning and Development services.
  - Grow online facility and program booking opportunities.
  - Enhance online community engagement opportunities.
- Develop a Digital Strategy
- Develop an Open Data Program (along with Durham Region).

6.4. Detailed Work Plan

The timeline in the following table identifies the major and strategic activities that are recommended for the next 4-5 years. Full details – including required resources, estimated costs and the proposed timeline – are included in Appendix 2 – Detailed Project Roadmap.

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 Township adopt a business case approach to justifying and evaluating proposed technology investments.

6.5.1. Understanding the Types of Benefits from Technology Investments

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

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 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.
- 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 we see 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 better suited to computers) and more on higher value activities (e.g., inspectors and crews getting more done, applications and licences being processed faster, etc.).

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

6.5.2. Examples of Potential Benefits

There are many 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 the use of 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 of up to $185,000 a year in labour savings across the service.
- 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 that pose greater threat to safety.
- Corpus Christi, TX implemented a Mobile Work Management for its field crews and saw the average number of work orders closed per day increase from 11 to 18, an increase in productivity of 63%.
- The City of Guelph conducted an efficiency review of its mostly manual time and attendance process. 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.

- By analyzing their work orders, wastewater staff at Corpus Christi found that nearly 33 percent of the department's effort was spent resolving problems at just 1.4 percent of customer sites. With this information, the City developed and implemented a Repair Plan that resolved these ongoing issues and ultimately significantly reduced costs.
- 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. 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 Township today, it should be anticipated that, through digitization, similar savings could be realized across many of the Township's major processes.

6.5.3. Specific Benefits for Scugog

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.

Nonetheless, focusing on the following four specific initiatives identified in the Strategy, the consulting team has collated information to illustrate estimated benefits and highlight potential benefits that could be achieved from some of the proposed digitization of core processes.

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 in the IT Division that helped implement the technology.

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

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.

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

7.0 Conclusion and Summary

Citizen demands for convenient digital services are increasing. Residents are able to perform many day-to-day transactions via the internet from anywhere, anytime in a convenient and user-friendly manner. They expect and demand that the Township also adhere to this new normal. At the current stage, Scugog's business processes are mostly dependent on antiquated paper-based systems.

Scugog's IT Strategic Plan (ITSP) is developed with the help of staff and SMT to enable the transformation needed. The Township should focus on the following areas:

- Digital Customer Service.
- Maximize Operational Efficiency.
- Digital Business Solutions.
- IT Best Practices.

By focusing on the above areas, the Township could expect the following benefits:

- Enables excellent customer service.
- Improves customer engagement.
- Improves the service delivery timelines.
- Less duplicate data entry due to integrated systems.
- Addresses resident concerns in a timely manner.
- Helps the environment.
- Reduces the service delivery cost.
- Creates capacity.
- Increases transparency.
- Reduces the number of complaints received by Council.
- Helps make informed decisions.
- Increases the accessibility and availability of services.

The ITSP has identified various initiatives as part of the Work Plan. The execution of these specific projects require that the Township build an environment with the appropriate leadership, resources and monitoring mechanisms. It should be noted the workplan does not include standard operating tasks such as general network maintenance and providing technical support. Both of these tasks take a significant amount of resource time, therefore should be considered as annual workplans are developed.

There are costs associated with the recommendations. Estimated operating and capital expenditures have been provided in the detailed work plan for budgeting purposes. It is recognized that exact costs will be determined through the formal procurement process.

The total additional operating budget required over the 5 years is approximately $933,000. Many of these costs are associated with subscriptions costs for new cloud services which shifts expenditures from capital funds to operating. There are certain projects where cost estimates have not been provided because they are dependent on the business analysis work that needs to be completed first to fully determine the scope of work.

The total estimated capital costs over the next 5 years is estimated to be at least $308,000. However, this does not include expenses that will be subject to a formal RFP process. It is important to recognize this and review the budget annually through the Township's budget process.

The technology spending is an investment for the future. The Township should look to investing on average a minimum of $200k on IT capital over the next 5 years

The projects and the outcomes should be measured against the value they bring and the savings they generate for the municipality.

The following recommendations should be considered in order to mobilize the Strategy successfully:

- Reposition IT with alternative resourcing strategies, including taking advantage of shared service and partnership opportunities.
- Implement technology governance through the IT Steering Committee at the Senior Management level.
- Review IT funding and increase technology investment.
- Establish policies and standards for successful technology management.

The Strategy is designed to focus attention on key opportunities and position the Township to successfully realize those opportunities and deliver digitally-powered municipal services.

Appendices

Appendices

Appendix 1 - Project Manager / Business Analyst Job Description Example

Summary: Responsible for the analysis of business solutions and business requirements, recommending solutions and improvements to business processes, developing project plans and implementing them. Provides business solutions support by working with the business units and the vendors to resolve issues. Analyzes business solutions and business processes to determine potential systems integration opportunities.

Location: Municipal Administration Office

Department: Corporate Services, IT

Reports To: IT

Supervises: None

Education & Experience Requirements

- University degree related to area of responsibility.
- Recognized Business Analyst certification such as Certified Business Analysis Professional (CBAP).
- Recognized Project Management certification such as Project Management Professional (PMP).
- Knowledge and experience of business solutions software.
- A minimum of 3 years' experience in an IT Business Analysis or Project Management role.

Required Skills & Competencies

Including, but not limited to, the following:

Project Management

- Takes full responsibility for the definition, documentation, and successful completion of complex projects (typically with significant business, political, or high-profile impact, and high-risk dependencies). Identifies, assesses, and manages risks to the success of the project.
- Ensures that realistic project plans are maintained and ensures regular and accurate communication to stakeholders.
- Adopts appropriate project management methods and tools whether predictive (plan-driven) or adaptive (iterative/agile) approaches.

- Ensures quality reviews occur on schedule and according to procedure.
- Manages the change control procedure and ensures that project deliverables are completed within agreed cost, timescale, and resource budgets, and are signed off.
- Provides effective leadership to the project team and takes appropriate action where team performance deviates from agreed tolerances.

Business Analysis

- Takes full responsibility for business analysis within a significant segment of an organization where the advice given, and decisions made will have a measurable impact on the profitability or effectiveness of the organization.
- Takes responsibility for investigative work to determine business requirements and specify effective business processes, through improvements in information systems, information management, practices, procedures, and organization change.
- Selects, adopts, and adapts appropriate business analysis methods, tools and techniques, selecting appropriately from predictive (plan-driven) or adaptive (iterative/agile) approaches.
- Collaborates with stakeholders at all levels in the conduct of investigations for strategy studies, business requirements specifications and feasibility studies.
- Prepares business cases that define potential benefits, options for achieving these benefits through development of new or changed processes, and associated business risks.

Requirements Definition and Management

- Plans and drives scoping, requirements definition and prioritization activities for large, complex initiatives.
- Selects, adopts, and adapts appropriate requirements definition and management methods, tools and techniques selecting appropriately from predictive (plan-driven) or adaptive (iterative/agile) approaches.
- Obtains input from, and formal agreement to, requirements from a diverse range of stakeholders.
- Negotiates with stakeholders to manage competing priorities and conflicts; establishes requirements baselines.
- Ensures changes to requirements are investigated and managed; contributes to the development of organizational methods and standards.

Business Process Improvement

- Analyzes and designs business processes.

- Identifies alternative solutions to exploit new technologies and automation.
- Develops graphical representations of business processes to facilitate understanding and decision-making.
- Assesses the feasibility of business process changes and recommends new approaches.
- Manages the execution of business process improvements.
- Selects, tailors, and implements business process improvement methods and tools at program, project and team levels, in line with agreed standards.
- Contributes to the definition of organizational policies, standards, and guidelines for business process improvement.

Business Process Testing

- Designs and manages tests of new/updated processes.
- Specifies test environment for whole lifecycle testing (for example, using a model office concept).
- Manages selection/creation of relevant scenarios for testing and ensures that tests reflect realistic operational business conditions.
- Ensures tests and results are documented, reported to stakeholders and are available for specification of user instructions.
- Highlights to business stakeholders, issues and risks identified during testing.
- Provides specialist guidance and advice to less experienced colleagues and users to ensure that tests are conducted in an appropriate manner.

Change Implementation Planning and Management

- Creates the business readiness plan, taking into consideration IT deployment, data migration, capability deployment (training and engagement activities) and any business activities required to integrate new digital processes or jobs into the "business as usual" environment.
- Determines the readiness levels of business users with regard to upcoming changes; uncovers readiness gaps and creates and implements action plans to close the gaps prior to going live.
- Assists the user community in the provision of transition support and change planning and liaises with the project team.
- Monitors and reports progress on business readiness targets, business engagement activity, training design and deployment activities, key operational metrics and return to productivity measures.

- Defines the series and sequence of activities to bring stakeholders to the required level of commitment, prior to going live.

Application Support

- Identifies and resolves issues with applications, following agreed procedures.
- Uses application management software and tools to collect agreed performance statistics.
- Carries out agreed applications maintenance tasks.

Systems Integration and Build

- Identifies, evaluates, and manages the adoption of appropriate tools, techniques and processes (including automation and continuous integration) to create a robust integration framework.
- Leads integration work, in line with the agreed system and service design.
- Monitors and reports on the results of each integration and build.
- Designs and builds integration components and interfaces.
- Contributes to the overall design of the service and the definition of criteria for product and component selection.
- Contributes to development of systems integration policies, standards, and tools.

Systems Installation/Decommissioning

- Undertakes routine installations and de-installations of items of hardware and/or software.
- Takes action to ensure targets are met within established safety and quality procedures, including, where appropriate, handover to the client.
- Conducts tests of hardware and/or software using supplied test procedures and diagnostic tools.
- Documents details of all hardware/software items that have been installed and removed so that configuration management records can be updated.
- Provides assistance to users in a professional manner following agreed procedures for further help or escalation.
- Reviews change requests.
- Maintains accurate records of user requests, contact details and outcomes.

Problem Management

- Initiates and monitors actions to investigate and resolve problems in systems, processes, and services.
- Determines problem fixes/remedies.
- Assists with the implementation of agreed remedies and preventative measures.

Relationship Management

- Identifies the communications and relationship needs of stakeholder groups.
- Translates communications/stakeholder engagement strategies into specific activities and deliverables.
- Facilitates open communication and discussion between stakeholders, acting as a single point of contact by developing, maintaining, and working to stakeholder engagement strategies and plans.
- Provides informed feedback to assess and promote understanding.
- Facilitates business decision-making processes.
- Captures and disseminates technical and business information.

Other

- Undertakes special projects.
- Complies with Township of Scugog policies and procedures.
- Complies with Township of Scugog's and the Occupational Health and Safety Act Regulations.
- Performs other tasks as assigned by management.

Working Conditions

To be supplied by client.

Physical and Mental Demands

To be supplied by client.

Employment Information

To be supplied by client.

Appendix 2 – Detailed Project Roadmap

The following is a list of all the projects currently within the IT portfolio and projects identified through the IT Strategic Plan process. Costs have been estimated only and are subject to the formal procurement process.

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
	Digitize Business Process										
1	Grow	Cloud-Permit SMT Priority	The Township has acquired CloudPermit to digitize current manual processes. Drive ability to be assigned inspection activities in real-time. Access to drawings (including mobile). Develop a project plan with clear assignment of resources.	Vendor	$25,000 for both Building and Planning modules		**X**				
2	Grow	Asset & Work Mgmt	Develop current state documentation and clarify future state requirements.	In-house Business Analyst or out-task.	$50,000	n / a	**X**				

Project	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating	Estimated Capital Cost	2022	2023	2024	2025	2026
2b	Grow	Asset & Work Mgmt SMT Priority	The Township requires a unified approach to support Work and Asset Management. Review of current landscape (as-is) as well as a desired future state should be completed to form a roadmap forward.	IT, Business, and vendor partner	$60,000	$300,000		X	X	X	
2c	Grow	Tangible Capital Assets	As part of the overall Asset & Work Management strategy, identify requirements for tangible capital asset tracking. New solution could include a module for the financial tracking of assets.	IT, Business, and vendor partner							
3	Grow	Document & Records Mgmt Plan SMT Priority	Review current opportunities in Laserfiche, and other platforms (SharePoint) to determine a move forward on an enterprise ECM. Foundations must be in place to support use; should be scaled out from departmental areas and include search, archive and destruction processes.	Expert consulting firm could provide insight and recommendations.	$50,000	n/a		X			

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
4	Grow	HRIS	Prepare HRIS requirements as part of a HRIS strategy.					X			
4b	Grow	HRIS	Implement a corporate solution for employee record management, online recruitment, online learning management, workplace safety.	IT Resource, HR Manager	$40,000	tbd		X			
4c	Grow	Payroll	A review of the existing payroll system to determine if it still fits the requirements. This review could be included as part of the HRIS review.	IT Resource, HR and Finance	tbd	tbd		X			
5	Grow	Accounts Payable Process (BPO)	Documentation of the current state (as-is) process. Current state appears to be a mix of manual and digital tasks. Identify gaps and opportunities for digitization.	Out-task	$3,000	n/a		X			
6	Grow	Parking Mgmt	Implement a solution to manage parking, monthly and ticket payments, enforcement.	RFP process. Revie w what	$25,000	tbd		X			

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
				others are using.							
	Digital Services										
7	Grow	CRM – Service Requests	Determine the Township's Customer Service strategy, including understanding the community channel preferences and priorities for customer service improvements.	Out-task	$50,000	n / a	**X**				
7 b	Grow	CRM – Service Requests SMT Priority	A corporate solution is required to track customer service requests. Should include reporting, escalation and future customer self-service solutions. Consideration should be given to the potential leveraging or partnership with the Region of Durham's 311 solution. Evaluation of the requirements developed in Project 2a will provide clarity.	Consider building on current "report it" function to provide reporting details as a quick win.	Pending		**X**				

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
8	Transform	Online Purchase Orders	May be an additional module of core financial system.	IT Resource Finance	tbd	tbd			**X**		
9	Transform	Facility Bookings	Ability for staff and customers to book meeting rooms, ice pads, program rooms online.	IT Resource, Rec.	tbd	tbd			**X**		
10	Transform	Enhance online notifi-cations	During the Open House, residents asked for increased information about construction projects, road closures, lake conditions, and other information. To be delivered through various online mediums such as the website and social media.	Comms and Customer Service to determine priorities.	tbd	tbd	**X**				
	Digital Infrastructure										
11	Run	Upgrade Network Connectivity SMT Priority	Upgrades are required at some sites to enable improvements to Wi-Fi, telephones, etc.	IT Resource	tbd		**X**	**X**	**X**		

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
12	Run	Wi-Fi at facilities SMT Priority	At some locations, connectivity is sub-par and there are performance challenges. May require Network Connectivity upgrades to be completed. (#3) More publicly accessible Wi-Fi (hotspots), boost signalling – community facilities, parks, etc.	IT Resource	tbd			**X**			
13	Run	Integration Standards Review	Develop standard processes for integration. To be used as a guideline by vendors and by in- house technical staff.	Out-task	tbd	tbd	**X**				
14	Run	Review desktop tools	Assess current desktop/laptop inventory and renewal opportunities across the organization. Review refresh schedule to understand business area prioritization for replacements / upgrade eligibility.	IT Resource	tbd	tbd	**X**				

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
15	Run	Develop Long-Term Network Plan	Plan expansion and enhancements of the Township's networks to improve and expand connectivity across Township facilities as well as VPN improvements further enabling WFH. Should take place with network upgrade #3.	Consider this as an out-task to a network specialist.	$25,000	n/a	X				
	Governance										
16	Governance	IT Governance – establish committee and mandate	Establish Terms Of Reference, mandate and define roles and responsibilities of members. Focus on 2022 Work Plan and 2023 budget. Consider SMT as the initial committee.	SMT and IT Resource	n/a	n/a	X				
17	Run	Implement Project Selection process	Implement processes to support project intake, evaluation, selection and reporting. Including IT KPI and performance reporting.	SMT and IT Resource	n/a	n/a	X				

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
18	Run	Business Continuity Plan SMT Priority	Initiate a Business Continuity Program with Business Impact Analysis and Risk Assessment as the first step.	Out-task	n/a	$25,000	X				
19	Run	Disaster Recovery Strategy SMT Priority	Disaster Recovery Plan based on outcomes of Item 6. Plan will help to mitigate organization IT infrastructure risk exposure.	Out-task, pending funding.	$40,000	n/a	X	X			
20	Run	Cyber-security Program SMT Priority	Develop a formal Cybersecurity Program to include an assessment to better understand the Township's cybersecurity risks and overall posture. Drive cyber literacy across the organization. Foundations required to be able to assess risk with respect to infrastructure condition/availability, projects, cybersecurity, etc.	Out-task	$30,000	$20,000	X				

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
21	Run	Develop Cloud Strategy SMT Priority	Establish the Township's policy and decision-making framework to guide the adoption of Cloud technology (e.g., compliance checklists, security requirements, data residency requirements), as well as a roadmap of the technologies that should be migrated to Cloud and the triggers that would drive the migration. This is a priority that should be in place prior to more Cloud solutions.	Out-task	n/a	$25,000	**X**				
22	Run	IT Policy Develop-ment	Develop essential policies needed and communicate to all staff.	IT Resource	n/a	n/a	**X**				
23	Run	ITSM Procedures and Standards	Implement standardized Systems Management procedures and standards. Fully leverage reports and opportunities with the recently implemented Service Desk tracking system. Critical to systems management is a more proactive scheduling of system and solution upgrades.	IT Resource	n/a	n/a	**X**				

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
24	Run	Annual Council Updates	Prepare and deliver an annual report to Council on the status of the IT Strategy and the value delivered through technology.	SMT and IT Resource	n/a	n/a	X	X	X	X	X
25	Grow	Partner- ships	Work with partners to find shared challenges and opportunities and collaborate on shared solutions (data / community analytics/dashboards, cybersecurity, networks/IoT, public Wi-Fi, community knowledge mobilization re digital etc.).	IT Resource	n/a	n/a	X	X	X	X	X
	Digital Workplace										
26	Run	Develop User Training Program SMT Priority	Develop Training Program, (research partnership opportunities) to help management and staff learn about technology including regarding data, business solutions, cybersecurity, digital tools, future of work, etc.)	Consider working with partners to out-task. Possibly leverage Region's	tbd	tbd	X				

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
				Training Program.							
27	Run	Mobile Device / Field Tech review	Determine mobile options for field staff. Assess a range of devices for field workers. Establish lifecycle and support requirements.	IT Resource	tbd	tbd	X				
28	Run	Review M365 costs and benefits	Obtain services from a third-party to assess and fully understand migration requirements from MS Exchange On-Prem to MS Exchange Online (Cloud-based solution for hosted emails, calendars, contacts, tasks, etc.)	Microsoft partner or potentially the Region to assist.	$10,000	n/a	X				
28b	Grow	M365 Pilot Project	Pending assessment (#14), move a small group of staff to M365 as a pilot project to fully determine costs and benefits.	IT Resource and vendor partner	tbd	tbd		X			

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
28c	Transform	Full rollout of M365	Pending outcome of pilot project, move remaining staff to M365 enabling full collaboration and sharing.	IT Resource and vendor partner	tbd	tbd		X	X		
29	Grow	Build on GIS	Establish working / steering group to work with Durham Region to set priorities and oversee projects within the data and GIS space. Develop a GIS Strategy to determine priorities and set a roadmap for GIS.	IT Resource Region GIS.	tbd	tbd		X			
30	Transform	Mark up Tools	Explore opportunities for "Bluebeam" and other similar solutions. Provides tools for greater efficiencies for staff.	IT Resource	n/a	$10,000		X			
31	Transform	Implement Digital Approvals	Establish practices and supporting policy regarding the needs and use of digital approvals and digital signatures.	SMT / IT Governance Committee	tbd	tbd	X				

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
32	Grow	Intranet	An intranet should be developed / acquired to provide the ability to communicate information, collaborate and provide staff self-service.	IT Resource and Comms.	tbd	tbd			X		
	Digital Services										
33	Transform	Online Tax Info	Present tax information such as property information, tax account, payment status, etc. online as a self- service function.	Out-task	tbd	tbd	X				
34	Transform	Online Payments Standardi-zation	Standardize on an online payments engine for the Township that can be integrated across all services. PCI-DDS is a key requirement to meet to reduce risk to the Township.	Out-task for research and requirement definition	tbd	tbd	X	X			
35	Transform	Digital Signs at Facilities	Current state analysis – potential upgrade/replacement required.	IT Resource	tbd	tbd		X	X		

Project ID#	Run, Grow or Transform	Initiative	Description	Resources	Estimated Operating Cost	Estimated Capital Cost	2022	2023	2024	2025	2026
36	Transform	Online Forms Digitization	Leverage eSolutions Form Builder. Identify high-volume forms for digitization.	IT Resource	tbd	tbd		X	X	X	X
37	Transform	Digital Strategy	A Digital Strategy builds on a strong technical foundation enabling enhanced digital service delivery through the digitization and optimization of business processes.	Out-task	$50,000	n/a					X

Note: Costs provided based on market scan and estimates. Actual costs will vary depending on final requirements and scope of work.

Appendix 3 – Glossary of Terms

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

Term	Explanation
AV – Anti-Virus	Software to protect from virus infection
AVL – Automated Vehicle Location	GPS-based tracking of vehicles
BCP/DR – Business Continuity Planning / Disaster Recovery	A set of policies, procedures and practices that are designed to assist an organization recover from a significant IT failure
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
Cloud	A term used for IT infrastructure and services located outside of the corporate network and accessed over the Internet
CMMI – Capability Maturity Model Integration	Process level improvement program by CMMI Institute
CRM – Customer Relationship Management	A generic system for case management that can be used for handling customer enquiries
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

Term	Explanation
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
ECM – Enterprise Content Management	A system designed to provide enterprise-wide document and records management capabilities
EMM	Enterprise mobility management a set of technology and processes focused on mobile devices and services
ERP – Enterprise Resource Planning	A system that is designed to address business requirements across the whole organization (e.g., JD Edwards)
GIS – Geographical Information Systems	Systems designed to capture and report on all types of geographical data, including spatial data
HRIS – Human Resource Information System	Corporate-wide system for managing the human resource management processes such as employee records, training certifications, etc.
HRMS – Human Resources Management System	Corporate-wide system for managing the workforce
IAM – Identity Access Management	Framework of policies and technologies form identity and user right management
IA – Infrastructure Architecture	The hardware, software and other systems that comprise an organization's technology assets used to deliver IT services
IPS – Intrusion Prevention Systems	Technology to monitor networks for suspicious activity

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
LAN – Local Area Network	Internal private connectivity between municipal facilities and devices
MOSA – Municipal Online Services Assessment	Perry Group's generalized assessment to articulate a target state for the digital experiences that municipalities could, and arguably should, deliver to citizens based on industry best practices
MTM – Municipal Technology Model	Perry Group's generalized architecture used for assessing municipal technology environments
NG-911 – Next Generation 911	Modernized networks and capabilities for Canada's 911 systems
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)
PPM – Project Portfolio Management	The centralized management of all projects, potential and existing, to facilitate resource management, project delivery and status reporting
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

Term	Explanation
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)
SAN – Storage Area Network	A dedicated high-speed device that interconnects and presents shared pools of storage devices to multiple servers
SLA – Service Level Agreement	Documented target levels of service (e.g., response and resolution timelines for incidents)
UC – Unified Communication	Integration of enterprise communication services
VOIP – Voice Over Internet Protocol	Modern telephony systems sharing computer networks
WAN – Wide Area Network	A collection of 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.

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