THE CITY OF Waterloo

Digital Services Strategy

Final Report

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1.0 Executive Summary

Ontario's Digital Service stated goal is to make "government work better for people in the digital age". The federal government's 2022 digital ambition is to "enable delivery of government in the digital age for all Canadians."

The Chief Information Officer of Canada, Catherine Luelo recently explained that "Delivering Government in a digital age is about putting the needs of the people we serve at the heart of the government policies, programs and services we deliver, through the use of modern technology and effective use of data. Advances in digital technology are transforming the way Canadians live, work and interact with one another, and they expect their government to provide services that meet their growing expectations when they need them and through the medium, they choose to access them (digital or otherwise)".[1]

The same imperative that federal and provincial governments are responding to represents a huge opportunity for the City of Waterloo – to re-think services for the digital age to better meet the expectations of the digitally-savvy Waterloo community.

This Strategy is our response to this opportunity and to growing resident expectations for digital government services, alongside staff demands for easier-to-use tools to help them deliver high-quality services, and management needs for new data and improved insights into service delivery.

The Strategy sets out a vision for the City to start its journey to become a more service-centred, digital organization – one that rethinks services to take advantage of new and emerging technology capabilities.

It targets delivering more City services online, in ways that make services more accessible and convenient – available 24 x 7, and available from anywhere; while ensuring all services continue to be available across all channels – including phone and face-to-face for those who don't wish to or cannot use digital services.

It envisages using service and process re-design and the adoption of new technology to speed up delivery of services and to make services easier, less labour intensive, and less costly to operate and manage.

[1] https://www.canada.ca/en/government/system/digital-government/government-canada-digital-operations-strategic-plans/canada-digital-ambition.html

While setting a bold target, the Strategy recognizes that the City is currently behind peers and performing below its own expectations. It acknowledges that, while there is significant leadership interest and organizational will to become more digital at the leadership and management level, the capacity to implement digital change is limited by resource and systems gaps.

The City must ramp up its digital capacity and add new digital capabilities to achieve the vision. The Strategy acknowledges this, and that the journey to become a digital organization will be a marathon, not a sprint.

All journeys start with a first step, and the first steps for the City on its digital journey are to establish a Digital and Web Services team, create foundational digital standards and capabilities, and build a strong partnership between Digital and Web Services and Information Management Technology Services (IMTS) to collaboratively work on initiatives. Setting up a shared governance model with engaged executive leadership to help guide and shape the Digital Program, and launching a small number of new digital services to help demonstrate the value that can be achieved through going digital, and to establish and test the digital standards will also be critical.

So, 2023 is planned to be a year of exploring digital, and building strong foundations for a Digital Program, before a stronger ramp up and investment in digital in subsequent years. Work in 2023 will build out the business case, budget and resource requirements for 2024 to 2026 using existing staff, and proposed contract positions for Digital Service Consultants on the Digital and Web Services team, as well as a web/front-end developer on the IMTS team. We recommend the conversion of the 2023 contract positions to full-time in 2024 to maintain consistency and organizational knowledge during the growth of digital services.

From 2024 to 2026 the Digital Program is targeted to grow – building out new digital capacity, in the Digital and Web Services team and in IMTS. Also ramping up will be the number of digital services the City offers, with the introduction of an online portal, a “report a problem” service, updated and expanded planning and permits online services, and expanded online payments options. The program will also work with customer service leads and IMTS to support customer service and CRM work.

We believe that this Strategy presents a thoughtful, measured and considered response to the digital opportunity and it positions the City to meet the expectations of its community. We plan to walk, before we can run. We will take time to build the foundations of an effective Digital Program. First, by building a small team to establish the basis of the program. Next, building some momentum by tackling some early digital initiatives to prove key ideas and concepts. And then, by scaling up and investing more in a more robust Digital Program in 2024 to 2026.

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2.0 Project Overview: Developing the Strategy

2.1 Introduction

In 2023, digital government is government. User expectations of government services reflect how people live, work and play today, supported by technologies in their homes, offices, cars and hands.

Using their smartphones and other connected devices, most Canadians choose to bank and shop, buy and book, connect and communicate, anytime, anywhere. While some of these experiences are completely digital, many are hybrid, including both virtual and physical components, such as travel or retail.

Governments at all levels – from federal to municipal – have recognized these trends and are embracing these concepts and ideas as well implementing new capabilities to deliver digital government services to their customers. In Canada, the Regions of York and Peel, Durham and Halton, the cities of Ottawa, Saskatoon, Halifax and Vancouver (among many others) are actively pursuing digital transformation programs, and locally the Region of Waterloo and cities of Cambridge and Kitchener are investing in digital workstreams and resources.

Covid-19 accelerated this transformation, with municipalities delivering essential services to their users during lockdowns and pandemic restrictions. Seemingly overnight, local governments shifted part of their workforce to remote or hybrid work while ensuring that service delivery was uninterrupted. Requests and activities that used to require a visit to City Hall could now be completed via online forms and payment options. While this experience demonstrated how rapidly the City could respond to change, embrace new digital channels and adapt service delivery, it was not without frustration, as many new digital offerings created additional manual work and processes in service delivery, putting extra stress on a workforce at capacity.

With different teams responsible for various digital services, the user experience and interaction with those services was often inconsistent. This demonstrated the need for a coordinated shift to a more robust, consciously-designed and user-centred approach that optimizes the use of technology to deliver services that work for the user and business needs of the organization.

2.2 Overview of the Project

The Corporate Communications division recognized a shift in user and service delivery expectations to digital and, following the approval of Council, engaged Perry Group Consulting Ltd. to facilitate the development of a Digital Services Strategy.

The goal was to focus on web and online services (digital services) and to develop a Strategy that would lay out the arguments and drivers, methods and approaches, resourcing and funding that the City would need to move more of its services online.

The City of Waterloo project team consisted of critical resources in Corporate Communications and IMTS:

- Brandon Currie, Supervisor, Community Connections
- Cari Van Niekerk, Manager, Corporate Communications
- Tony Iavarone, Director, Corporate Communications
- Max Min, Director, IMTS

The consulting team worked closely with these leaders and CMT as the Strategy was developed.

This work was also conducted in parallel with work on the Expanded After Hours Call Centre project conducted by Valency. The consulting teams met to discuss findings and align recommendations, and members of the digital project team participated in the Valency work.

2.3 Current State

Over the period of engagement, we met with leadership, management and staff throughout the organization, holding more than 26 interviews and workshops in addition to weekly work with the core teams in Corporate Communications and IMTS. We conducted an all-staff survey with 138 responses representing the diverse opinions and perspectives of staff in all divisions.

Our research was summarized in a Discovery Findings Report that has been shared with stakeholders and determined that, while the organization was ready and willing to explore digital to improve efficiency and effectiveness in service delivery – indeed, we were impressed with the excitement around the digital opportunity – the City was behind its own expectations and that of its peers and local municipalities.

There was a recognition at all levels of the potential of digital services and the positive learning from pandemic disruptions. We saw positives in the online recreation programming and tax/water billing work across multiple departments to create digital service platforms such as Kubra for tax and water billing and the Mypermit portal for building and bylaw services.

We learned of the dramatically high uptake of some digital services offered by the City – for instance, in 2022, 99.5% of overnight parking requests were made online, leaving only 0.5% of requests coming in via phone. We see this as a strong indicator of a high propensity for the community to use any new digital service offerings. However, in the current state, the enthusiasm lacks a shared vision and methodology, so digital projects are being developed in silos and there is a lack of dedicated capacity to pursue process improvements and digital solutions.

The digital assessments completed during Strategy development identified that Waterloo is behind comparator municipalities and that, while technology is accelerating to meet demand, the people and process activities required to support a digital organization are lagging.

In reviewing the technologies available to support digital service delivery, we noted that the digital architecture has some key gaps (CRM, payments) and in numerous areas, the City runs multiple solutions that provide the same features and capabilities – creating duplication of effort, confusion and complexity.

Over the last few years, many new online forms have been introduced to the website to allow users to request services, report issues or apply for programs online. This push to online was recognized in an 84% satisfaction rate with online services in the recent community survey (MSSA)2.

However, the consulting team noted that, in most cases, these forms simply create an email to service delivery departments without integration with back-end systems or optimization of processes. This is creating additional manual work for staff, such as rekeying, without creating delivery optimization benefits for users. Intake forms in isolation do not allow the user to track the status of their request or application or provide expected timelines for resolution or completion of the activity.

2.4 The Digital Service Opportunity

The City of Waterloo has long been considered a “tech city” with a growing population supported by a strong tech sector and academics. Canada is firmly in the internet age, with 94% of the population online and using services such as online retail (84%) and government services (74%). COVID has only accelerated this digital age, with 75% of Canadians reporting they have engaged in various internet-related activities more often since the onset of the pandemic.

[2] https://www.waterloo.ca/Modules/News/index.aspx?lang=en&newsId=7360ab7f-8ecf-4892-a401-f0cde0c22cc2

However, like many other municipalities, Waterloo also faces challenges with increased growth, user expectations, legislated accessibility requirements, and limited staff capacity. Using digital capabilities and service design has the potential to create service excellence and optimize service delivery by creating more efficient business processes, freeing up staff to focus on value-added activities for users. This aligns with the City's guiding principle of fiscal responsibility. It can also create effective engagement and improves accessibility by allowing users to choose how, when and where they interact with municipal services.

Digital services focus on creating user choice of channels by providing omnichannel service delivery, like banking, where users decide whether to interact online, over the phone, or in person. While this is the desirable endpoint, we recognize that the banking industry has taken decades to reach that delivery capability and that this program will be a long-term effort for the City. The Digital Services Strategy recognizes this need for a long-term vision and has presented the Strategy in three phases.

3.0 The Strategy

In response to the opportunity, the City identifies with this Strategy, a vision and initial roadmap for the work ahead.

3.1 The Digital Vision

Our vision sees the City of Waterloo as a **service-centred digital organization** that supports an equitable community that leads the world in learning, discovering and caring.

The vision is a long-term target that can act as a north star.

3.2 The Digital Journey

Achieving the vision – becoming a service-centred, digital organization – is not an overnight effort. It's a large ask that will feel like a marathon, not a sprint. It will take time, patience, determination, and ongoing commitment and investment.

With the publication and commitment to this Strategy, the City begins the concerted journey to become a digital organization. We expect this journey to be comprised of three phases: **Exploring Digital, Designing Digital** and **Being Digital.**

Figure 1: Journey to Becoming a Digital Organization

3.2.1 Exploring Digital: Setting the Foundation for Digital

Over the last few years, we have been “exploring digital” as a model for good service, particularly during the pandemic. While developing this Strategy, we found many examples of digital services and behaviours across the organization.

We will continue our exploration of digital in 2023 with the formal creation of the Digital and Web Services team. This team will become an organizational resource for establishing digital standards, developing service delivery and digital best practices, delivering a digital education program and leading service design pilots designed to surface the organization's resource, service and architecture needs.

Part of the responsibilities of the Digital and Web Services team will include the development of a comprehensive Digital Program for the 2024-2026 budget that will help transition us to the second phase of our journey, Designing Digital.

3.2.2 Designing Digital: Building the Design Framework and Digital Architecture

The Designing Digital phase will be a funded program of architecture and digital service design projects for 2024 to 2026. The work plan will be developed collaboratively in 2023 by the Supervisor of Digital and Web Services, reporting to the Digital and Technology Steering Committee (DTSC) and senior leadership.

The full Designing Digital phase is likely to include multiple programs across multiple budget cycles, based on available funding, resource and corporate prioritization.

3.2.3 Being Digital: A Transformed Organization

We will know when we are a digital organization when we have incorporated digital thinking and a service management approach into our operational framework, building services that embrace digital tools for self-serve and process automation, with digital skills and resources available across the organization.

3.3 Digital Principles

The project team worked with key divisions and leads to identify a set of Digital Principles that the City of Waterloo would apply to the design and delivery of our digital services.

We build services for users and their needs

Our service design starts by defining the problem from the user's perspective. We conduct user research to develop a deep understanding of who the users are, how they behave and what that means for the design of the service. We include people with diverse or unique needs.

We build services that reflect the City of Waterloo brand and our vision of becoming a service-centred digital organization

When the public interacts with the City of Waterloo, their experience should feel cohesive, positive and consistent.

We build complete services for our users

Understand what users are trying to do and design the simplest, fastest way for them to complete their task and achieve their goal. Where possible, each step of the end-to-end journey should be completed digitally and completed the first time.

We build accessible and inclusive service by design

Accessible and inclusive digital design is good for everyone. Make sure the service or product is accessible to all users regardless of their abilities, device, environment or quality of access.

Identify users whose needs are not being met by your service and who may not have access to the service today.

We build services that embed security and privacy by design

Identify the data the service or product will use, store or create. Put appropriate legal, privacy and security measures in place so that users feel confident that their personal information will be kept secure, and their privacy will be respected.

We build services that manage data as an asset

Follow the rules and best practices when you organize and manage data, including making data open by default. Open data allows data to be available to everyone equally, creating opportunities for the development of better government services, across our organization and the community we serve.

We assign the right resources to build services that meet the needs of users and our staff

Put in place a sustainable multi-disciplinary team who can design, build, and continuously improve the digital service or product led by a skilled product manager who is empowered to make decisions. Ensure all resources, especially delivery subject matter experts, have adequate time in their work plan to participate fully in design and development activities. We expect our project teams to actively transfer knowledge and skills to others in the organization involved in service delivery, projects, and operations teams.

Digital leaders, service owners and project teams can use these principles to guide the design of services to meet our expectations of modern and digital service delivery, and which reflect best practices and our community's expectations.

3.4 Digital but Not Digital-Only – Designing Equitable Services

This Strategy is built upon clear evidence that a large portion of the community – at least 80% – are willing and likely to use the digital services that we offer. It recognizes that, for many in the community, interacting digitally with the City is their preferred mode of interaction.

However, we also recognize that there are many who will not or cannot use the digital services we provide. The digital divide is real, and it is important to us that no one feels left behind or underserved.

To be completely clear – this Strategy does not push a digital-only agenda. Services will always be available to customers who want to click, call, or come in. So, while we will design services for digital delivery, users and customers will always have the option of accessing those services through a telephone call, or a visit to a City facility, if they prefer.

4.0 The Digital Program

4.1 The Team

People are at the heart of the digital work ahead.

4.1.1 The Digital and Web Services Team

Digital service design and delivery requires dedicated digital-specific roles, as well as a digital mindset across the organization that transitions the website from an information channel to a service channel.

To establish the necessary leadership and early resources for the embryonic stages of the Digital Program, the City should begin by reorganizing and rebranding the current web team (currently known as Community Connections) to the Digital and Web Services team under Supervisor Brandon Currie.

Two Digital Service Consultants are recommended for the 2023 program year. They will support the build-out of the Digital Program, including the establishment of standards, digital service assessments, and addressing web content digital service design. We understand that capital funding is available within existing budgets to support two Digital Service Consultants to join the team on contract in 2023.

The following is the suggested organizational model for 2023 for the City which will establish a minimum viable Digital and Web Services team.

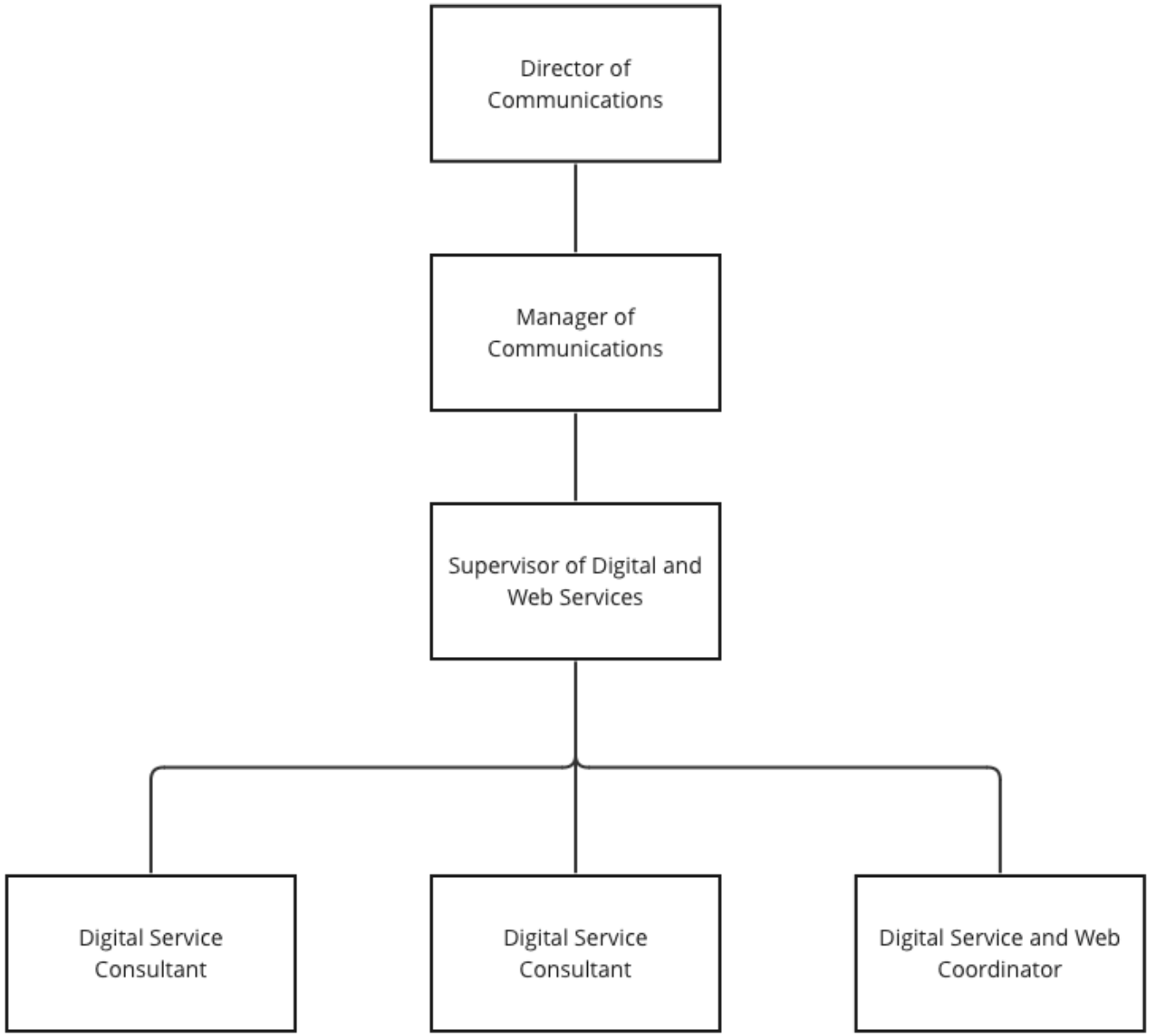

Figure 2: Recommended Digital and Web Services Team for 2023

More resources, including additional operating budget, are likely to be required as the program expands for 2024-2026. Program development should include reviewing the operating and organization structure of the Digital and Web Services team and IMTS to right-size digital resources in preparation for the next budget cycle.

4.1.2 The Partnership Between Digital and Web Services and IMTS

As our goal is to deliver end-to-end digital services that flow from users to back-office staff, this work will involve technology and technical systems development. IMTS, therefore, has a critical role to play in the Digital Program.

To cement this, the Manager of Enterprise Software and Database Administration will form an active partnership with the Supervisor of Digital and Web Services. The leaders will meet regularly to align work across teams, to handle the intake of new opportunities and projects, and to assign resources from the respective teams to new initiatives. The Group will also work together to identify and establish common digital service patterns and re-usable solutions to meet the digital needs of the City (see the Digital Patterns appendix).

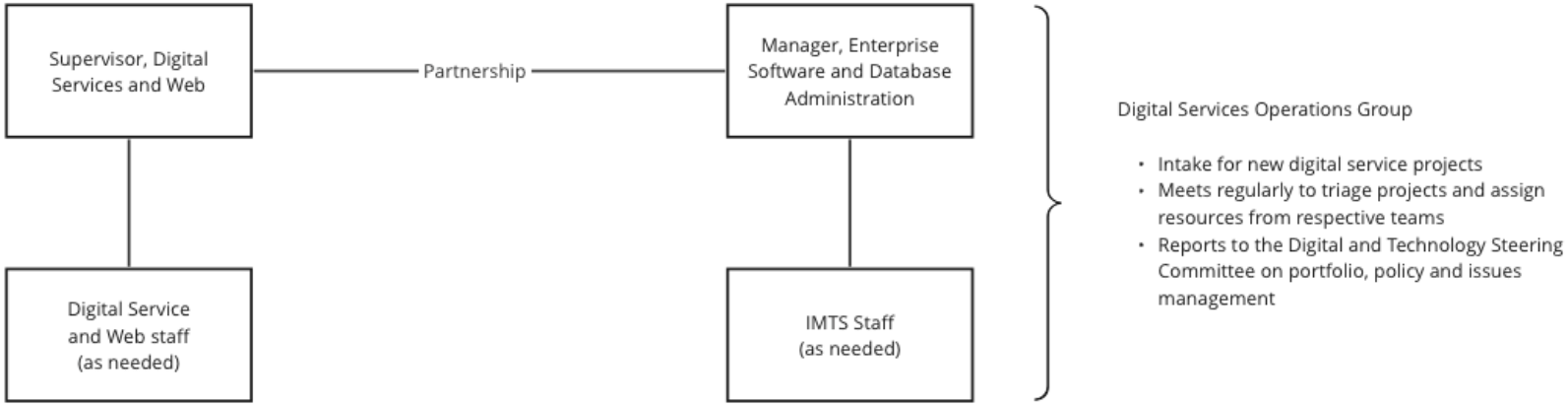

Figure 3: Digital Services Operations Group

During 2023, the consulting team recommends the addition of new IMTS resources on a contract or project basis in web/front-end development to work on the Digital Program deliverables. As mentioned in the Digital and Web Services Team section, the development of the 2024-2026 Digital Program is expected to identify resourcing and budget needs for the next phase.

4.2 Our Areas of Focus

4.2.1 2023 Program Components – Exploring Digital

Program Management

The primary focus for 2023 will be setting up the Digital Program team, communication channels and reporting. The program will model working in the open in a new online program home for staff, which will be hosted online (in Jostle, Teams, or another location) and contain resources for staff to access digital training, project artifacts and the work plan. The team is also proposing public-facing content for the Digital Program to be shared via the City's website, including the Digital Strategy, standards and projects.

The Digital Program will report to CMT on a regular cadence, providing updates on the projects, digital training and 2024-2026 business plan. During the Exploring digital phase, the Program should report monthly, and include monthly reports to be posted in the Digital Program home.

Digital Governance

The IT Steering Committee will be restructured to accommodate the Digital Program and relaunched as the Digital and Technology Steering Committee (DTSC). The DTSC will be chaired by the Commissioner of Corporate Services and membership will include the leadership of key stakeholders in technology and digital service delivery.

Supporting the principles of digital service delivery and corporate prioritization, the DTSC will meet monthly to provide leadership and direction, with the Digital Services Operations Group tasked with facilitating problem-solving, concept reviews and resource allocation in between meetings.

The leads of this working Group will engage other subject matter experts throughout the organization as needed for the intake and prioritization exercises. Senior leaders will support the transition by ensuring projects proposed through their operational teams follow the digital governance model. Under this proposed model, approvals would no longer be considered at the Extended Corporate Management Team meetings – they would only be reviewed and approved by the DTSC.

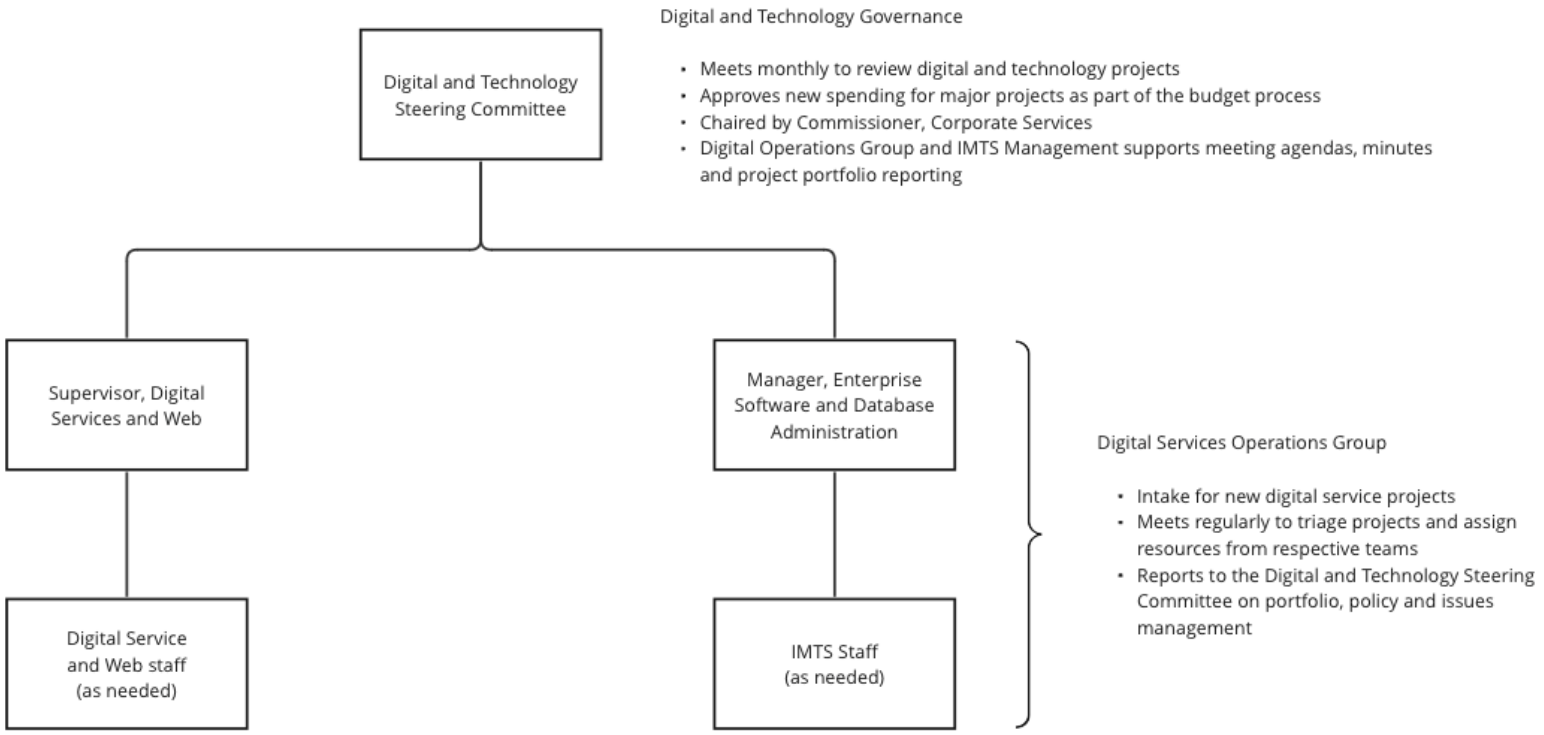

Figure 4: Recommended Digital Governance and Program Management Model

Staff Engagement and Education

The Digital Program should offer several learning and sharing opportunities for staff, both facilitated and self-guided. For 2023, this education should focus on the Digital Principles introduced in the Digital Services Strategy, the Good Services[3] standards for service delivery, and some digital literacy opportunities for leaders and staff such as digital concepts and municipal best practices.

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[3] *Downe, Lou. Good Services: How to Design Services That Work. BIS Publishers, 2020.*

The Digital Program home will provide access to all the resources, self-guided learning, and a calendar of learning events. We suggest using the Teams/Microsoft 365 functionality, where it will be possible to facilitate virtual collaboration through the channels, calendar and messaging tools.

Introducing an idea generation and/or recognition program to the City will build awareness and desire for the benefits of digital service delivery and can be used to surface digital champions and positive digital behaviours at all levels of the organization.

Digital Service Assessment

The work proposed by the Customer Service Strategy to undertake a service inventory is also foundational to the Digital Services Strategy. In conjunction with the customer service program, the Digital and Web Services team will participate in developing a service inventory for the City. Each service will be assessed based on the Program's Digital Principles.

The current state digital service assessment documentation will create the baseline for program performance tracking and prioritization.

Digital Service Design

A digital service design standard is required to align the City toward good service delivery. The digital team will create a "design system" for Waterloo that can be socialized across the organization. This standard should be applied to all newly-created digital services.

In 2023 (subject to funding), the digital team intends to deliver four experiments in digital service design resulting in four new digital services or products. The four experiments should meet the following criteria:

- It is a user-facing service.
- It has potential for reuse that addresses a common service pattern.
- It has a business-unit-ready support assessment, re-design and change management.
- It is a service that impacts a larger, rather than smaller number of users.
- It is a service that is used frequently.

The Digital and Web Services team will work with DTSC to evaluate and select suitable opportunities.

The delivery of these digital service projects will provide controlled experimentation in delivering services within the new design system. These four projects will test our digital governance framework, digital service design principles and development methodologies. The project teams will work in the open, sharing artifacts from the project with the organization such as user research, project management methodologies, design patterns, and lessons learned.

As the digital team evolves the digital design system, they should begin to build a “solutions library” that identifies common solutions and provides guidance for common service patterns (e.g., apply, pay, book, tell, request) (see the Digital Patterns appendix).

Business Process Optimization and Innovation

In addition to the four digital service projects described above, the team will also set up four additional initiatives to apply the process optimization methodology.

Utilizing Lean funding, the digital team will facilitate four business process optimization (BPO) and innovation projects. BPO practices are an important foundation for the transition to a service-centred organization and digital transformation.

These projects will engage both service delivery staff and customers in understanding the current state and customer journeys, identifying opportunities for process efficiencies, value-added activities and service innovation, and the production of future state service design models. The BPO projects will identify technology, people and process changes required to achieve the target state and the potential return on investment if the City were to implement the recommendations.

The projects selected for 2023 will test prioritization frameworks, refine our process optimization methodology, and develop project reporting. It is expected that these four initiatives will tackle larger, thornier areas than the four digital service projects described in the previous section – and this will setup work for the 2024-2026 timeframe.

The project teams will work in the open, sharing artifacts from the project with the organization such as process maps, reporting, lessons learned, etc.

Digital Architecture

To deliver great and consistent digital services, the City requires some key components and digital service solutions that can come together to deliver great services for users. On closer examination, we found that in many situations, the City has more than one solution that can meet the need.

The Digital and Web Services team and IMTS have worked together to identify the City's needs and default solutions that can be used in each of the areas. The Digital Operating Group will work together to maintain (and periodically add to) the default solutions for common digital needs.

The following table identifies the key digital components that are required or are anticipated to support the Digital Program.

Component	Actions / Activities
UX Design	• Develop a digital service design standard and initiate the creation of a "design system" for Waterloo, socialize. • Apply design system to all newly-created digital services. • Implement a common feedback service that can be used across all digital services. • Build a "solutions library" that identifies common solutions and provides guidance for common service patterns (e.g., apply, pay, book, tell, request).
Website (General)	• Continue to use the GHD CMS as the City's default in the medium term (2-3 years). • Evaluate GovStack as the next generation iCreate product, and alternative products to replace iCreate. • Conduct user testing with customers to seek feedback before revising website information architecture and improve navigation.
Booking and Registration	• Standardize on EventBrite and ActiveNet as default solutions for "booking". • Explore simplification of ActiveNet and ticketing/event booking capabilities. • Integrate booking solutions with payments solutions. • Explore M365 bookings for staff availability/team bookings. • Develop guidance on when to use various tool options.
Engagement	• Continue to use and expand upon EngageWR platform – Granicus (formerly Bang the Table).

Component	Actions / Activities
Digital Payments	• Work with Finance to set digital payments strategy (online, mobile, etc.). • Implement a standard payments engine for online transactions as a default service. • Integrate into other solutions (including FormBuilder), to expand the number of solutions that can support payment processing.
Social Media	• Continue as-is with Communications staff supporting service requests. • When CRM and Customer Service Strategy are fully defined and CRM implemented, look to integrate service requests with CRM.
Wizards, Forms and Check Status	• The City intends to move away from using PDF and PDF forms, where possible. PDF forms are deprecated and should not be created anymore. • Continue to use GHD FormBuilder as the default for online forms, with the commitment that form implementation work must include service re-design and consider back-office activities needed to support the service delivery. • Run proof-of-concept projects to explore FormBuilder back-office system integration options (e.g., OpenText, Amanda, Maximo, etc.). • Define geographic information system (GIS) integration model with FormBuilder and experiment with GIS-based forms also available. • CRM forms may be used in future to direct online requests into CRM. This will be defined at the stage of defining a suitable CRM solution – and at that stage the FormBuilder default may be reviewed. • City should explore M365 forms for staff use for simple/basic functions. • Digital and Web Services team will develop guidance on when to use various tool options.
Portal and Account	• Identify and implement a single-sign-on function for the City's website. • Where necessary, build required account synchronization and supporting solutions to support transaction tracking / surfacing.

Component	Actions / Activities
Notifications, Messaging and Subscriptions	• Review and standardize technology and practices around messaging and notifications services.
CRM / Call Centre (General)	• Work with the customer service program to identify requirements and select and implement a CRM solution. • Ensure that the CRM is considered a corporate-wide (enterprise) case management solution that can be used for end-to-end services across the organization.
Telephony	• As required, integrate in-bound and out-bound telephony with the CRM system.
Chat/Chatbot	• Explore / experiment with Chatbot capabilities, using the website as the knowledge base. • Implement live chat as part of CRM solution / call centre service delivery.
Integration Tech	• Select and implement a corporate integration technology platform.
Data and Information	• Implement solutions (e.g., MDM) to build a common customer record (likely in the CRM system).
Property Index, Customer Index	• In support of the CRM implementation, build necessary strategies around customer and property master data (likely to establish the GIS as the master source of address data to support this work and NG911).
Web Applications – Standalone	• Replace GHD website apps that are no longer functioning (e.g., Road Closures) with in-house built solutions. • Continue to build new apps/solutions (following and evolving design standards) – similar to parking solution – to meet customer and business needs.

Component	Actions / Activities
Back-Office Systems/Apps	• Replace current online permits portal with the Granicus Amanda Citizen Portal – following digital service standards and the City's design system. • Build demonstrator integration between FormBuilder and Maximo.
GIS	• Embed GIS (spatial lookup) in FormBuilder. • Work with GHD to expand use of GIS / embedded maps in website. • Fully integrate Open Data into website. • Integrate with Waze for roads closures.
Collaboration Environment	• Revisit DOCS vs. M365 to determine future collaboration environment/strategy.
Technology and Infrastructure	• Continue to provide devices and technology services to support the implementation of digital services, and the connection of staff to those services.

The idea is to build standard digital capabilities for key patterns and functions that can be re-used across the City – helping deliver services quicker, more cost effectively, and in a consistent manner.

Specific Digital Architecture Initiatives Targeted for 2023

The following initiatives are planned for 2023.

- Conduct user testing with customers to seek feedback before revising website information architecture and improve navigation.
- Implement a common feedback service.
- Actively discourage use of PDF and PDF forms.
- Use demonstrator projects to integrate online forms (i.e., FormBuilder, GIS) and back-office system integration (Maximo, Open Text).
- Begin to replace selected GHD apps, with in-house built or alternative solutions (for instance, replace road closures app with an Esri GIS integrated solution that federates road closure data to Waze).

- Using Lean funding, facilitate four business optimization and innovation projects that inform the digital architecture and program resource needs for the 2024-2026 program.
- Create a work plan that includes the operating and capital funding required as part of the three-year, 2024-2026 budget, and 9-year capital funding needs.

4.2.2 2024-2026 Program Activities – Designing Digital

The following work is anticipated during the 2024 to 2026 Designing Digital stage.

Digital Architecture Investments – 2024 to 2026

While we expect numerous additional digital initiatives to be identified over and above the ones here, the following are the key ones that have been identified at this time:

- Evaluate GovStack (next-gen iCreate version) and alternatives as next generation replacement for the City's Web Content Management System.
- Design and implement single-sign-on function and supporting account synchronization / transaction aggregation.
- Set digital payments standard and integrate payment solution into all required services.
- Development requirements, produce and implement CRM.
- Build corporate property and customer master records in support of the CRM project.
- Explore and implement Live Chat and Chatbots as an extension of the CRM solution.
- Replace current Amanda portal with Granicus Citizen Portal.

Digital Services – 2024 to 2026

While we must make investments in underlying digital architecture, the intent is that we use real digital transformation work or projects to create new digital capabilities and capacity. There are numerous opportunities, including:

- Arts and culture bookings
- Building inspection bookings
- Burn permits
- Business licensing
- Community fee assistance program
- Community fundraising and donations

- Construction and maintenance notifications
- Dedications
- Development applications
- EFT registration
- Facility bookings
- Field closures
- Find my local services
- Grant applications
- Mobile sign permits
- Parking permits
- Patio applications
- Pool enclosures
- Private tree bylaw
- Public art walks bookings
- Public education requests / bookings
- Road closures
- Road occupancy permits
- Special events permits
- Snowplow tracking
- Trails and trail closures
- Water/wastewater bookings

The Digital Program will work with DTSC to prioritize efforts and direct attention in 2024, and subsequent years.

For every digital project that we undertake, the deliverable will include the new digital service, plus a new digital capability or component that can be re-used by a subsequent project. Thus, by delivering transformation initiatives, the City will build the components to support the delivery of future service enhancements.

Digital Program Team

The Digital and Web Services team will need to grow in the 2024-2026 budget timeframe to support acceleration and growth in digital service delivery.

Based on learning from the 2023 Digital Program, the Digital and Web Services team will be in a good position to identify its ongoing resource and budget requirements. At this time, we don't know exactly what the resource requirements will be, but opportunities for consideration in the 2024-2026 budget timeframe could include contract or project resources with specific digital skillsets related to capital requests, such as:

- User research.
- User experience and service design.
- Product/service management.
- Business process optimization methodologies, such as Lean.

This may manifest itself in the addition of new Digital Consultant roles within the Digital and Web Services team.

The current level of capital funding for ongoing digital communications activities will also need to be maintained, separate from the 2024-2026 Digital Program ask.

Although the Corporate Communications teams (including the Digital and Web Services team) intends to shift from a fully centralized digital communications model to a more distributed content management approach, the team will need to closely monitor capacity as we expect the increased focus on digital services and staff digital literacy will increase demand for digital communications and web content.

IMTS Expansion

While the attention of the Strategy in 2023 is rightly upon establishing the basics of the Digital Program, without adequate capacity and support from the IMTS team, the Digital Program will be hampered right out of the gate.

As part of the early Discovery work, the consulting team identified that the City was falling behind peers in terms of digital services for the public. It also noted that surrounding municipalities (Cambridge, Kitchener and Waterloo Region) are all investing more heavily in technology and digital staffing than Waterloo currently is, which is likely to be a contributing factor.

While Waterloo has 23 Full-Time Equivalents (FTEs) within their IT team, Cambridge has 32, and Kitchener has 59. For Waterloo, this equates to one IT person per 5279 residents, while Cambridge and Kitchener are in a similar range of one per 4327, and one per 4353 residents, respectively.

Using the local municipalities as a guidepost suggests that there is scope to add new FTE complement to bring the City on par with its neighbours. So, as the City looks to 2024-2026 and beyond to grow its digital capability and capacity, it will be critical to look closely at its technology capacity and capabilities.

Future opportunities for consideration in the 2024-2026 budget timeframe exist to add resources with the following skillsets:

- Web and front-end development.
- Software and integration architecture.
- Specialist in security, Cloud, and integration.
- Business analytics.
- Project management.

The priority will be to add Web / front end development capacity to support the Digital Program.

4.3 Supporting Digital Work and Building a More Digital Culture

4.3.1 Governance

Transforming into a digital organization requires a commitment to doing things differently across the organization.

Technology is an integral part of service delivery in today's world and the inclusion of leadership of key stakeholders in technology and digital service delivery in the new Digital and Technology Steering Committee reflects the importance of cross-departmental collaboration. This new committee represents a change to current operations and will require consistent support from leadership.

While the City is learning and exploring digital, it is important to keep senior leaders plugged into the program and engaged in the transformation through regular updates at CMT.

4.3.2 Capacity Management

Digital service development requires digital expertise and subject matter experts collaborating at all design and development stages. Projects are often delivered using agile methodologies, in small development cycles of 2-4 weeks called "sprints".

In 2023, the project team will primarily operate with existing resources from the Web and Digital Services team, the IMTS team and subject matter experts relevant to each project to test the standards, tools and methodologies recommended in the Digital Services Strategy.

Business departments should be prepared to dedicate, at minimum, a staff member with a deep understanding of the business process and empowered to make decisions during the project.

We recommend limiting the process optimization and digital design projects to a small set of mini-projects that will maximize the learning process for the new team. Projects should be selected to test and develop digital service patterns that align with corporate priorities, such as service request intake or payment. For example, the development of intake forms recommended by the Customer Service Strategy is an excellent opportunity to explore the service intake process across software solutions. The experience of running a series of mini-projects will provide organizational insights for developing the 2024-2026 program roadmap.

4.3.3 Service Accountability

Digital organizations revolve around service delivery, rather than technology. As the organization shifts from exploring digital to *being* digital, the focus shifts from delivering technology projects to implementing digital services.

This shift requires an increased accountability from the service departments to own their service delivery from end-to-end across all service channels. The Customer Service Strategy is proposing a service inventory for the City of Waterloo. When complete, the Digital Program leads will be able to baseline the digitization of the services and service delivery across the organization. This baseline will be used to identify digital patterns in service delivery and solutions that can optimize investments in software and applications.

As the organization gains experience in service design and process optimization, the Web and Digital Services team and IMTS will shift from project management to user experience, solution expertise and support.

4.4 Measuring Progress

Measurement is an important tool for transformation by identifying and tracking changing behaviours.

In 2023, the Digital Program should focus on measuring program activities and reach as they begin socializing the Strategy throughout the City. Dashboards should be open to all staff and reviewed regularly with senior leadership.

As the 2024-2026 Digital Program is developed, the team should identify and plan for program reporting and data measurement.

Some recommended measures, for consideration by the program include:

4.4.1 Staff Engagement and Education

- Number of digital education and training events offered.
- Program reach (percentage of staff/departments engaged).

4.4.2 Digital Service Inventory

- Number of online services available.
- Tracking the digitization and digital service offering baseline (percentage of services the City offers that are available online vs. not) and reporting.

4.4.3 Service Design Digital Projects

- Number of digital projects completed, that used service design approach.
- Percentage of digital projects with performance dashboards.
- Percentage of transactions completed digitally.
- User satisfaction with services (the City should establish a common and re-usable user feedback survey4).
- NOTE: Each project will determine its project success metrics as part of the Discovery phase, however, common metrics to be considered should include service delivery improvements (time to deliver, success rate, user satisfaction, etc.) and channel measures (i.e., channel mix, cost of delivery, etc.)

4.4.4 Process Optimization and Innovation

- Number of process optimization initiatives.
- NOTE: Each process will determine its metrics (see note in Service Design Digital Projects above).

[4] A sample is available from the UK's service manual https://www.gov.uk/service-manual/service-assessments/get-feedback-page

5.0 Implementing the Strategy

5.1 Next Steps

5.1.1 Seek Approval from CMT and Council

Seek approval of this Strategy and the associated organizational changes – along with an accompanying funding allocation – to support proposed 2023 activities (with an expectation of a clear business case to be developed by the Digital and Web Services Supervisor for further digital investments in 2024-2026 as part of the three-year budget).

5.1.2 Set up Digital and Web Services Team and Mobilize the Digital Operating Group

Formalize the creation of the Digital and Web Services team by renaming the Community Connections team, appointing the Supervisor role, and recruiting to the contact Digital Consultant roles.

Begin regular joint working operations between the Digital and Web Services and IMTS teams, establishing alignment, clear roles and responsibilities and models for joint working upon shared initiatives.

5.1.3 Setup Governance and Work with Leadership to Identify Business Process Optimization and Digital Experiments

Revamp the IT Steering Committee to the Digital and Technology Steering Committee, including revisiting membership, meeting frequency and establishing terms of reference and operating model.

Then, work with the DTSC to identify candidates and select services for the planned BPO and digital experimentation work.

5.1.4 Execute the 2023 Workplan

Alongside the initiatives identified above, during 2023, the City is expecting to execute a range of initiatives to setup the Digital Program, including:

- Frequent and regular digital communications – modelling working in the open.
- Establishing a digital literacy program for management and staff.

- Refining and socializing digital services standards.
- Participating in the development of a corporate service inventory and conducting digital maturity assessments.
- Identifying common digital patterns and building re-usable solution guides.
- Evolving the City's design standards through experimentation and user feedback.

5.1.5 Build Business Case and Budget Plan for 2024-2026

With the learnings and experiences from 2023, the Digital Supervisor will take the lead, working with partners and the DTSC to build the business case, identify key initiatives and budget requirements for the Designing Digital phase.

5.2 Conclusion and Call to Action

The broad availability of the internet and the smartphone, alongside the availability of modern, digital capabilities, presents a huge opportunity for the City to re-think services for the modern age – to better meet the expectations of the digitally-savvy Waterloo community.

In taking advantage of these new digital capabilities, the City can re-design its services so that they are better, faster and cheaper to operate and manage. We don't intend to deliver digital-only services – customers will always be able to click, call or come in to use our services – but we do intend to design digital services that most customers prefer to use over other channels.

This Strategy presents a thoughtful, measured and considered response to this immense opportunity.

We will walk before we can run. We will take time to build the foundations of an effective Digital Program. First, by building a small team to establish the basis of the program – standards, good practices and building widespread awareness, knowledge, and desire throughout the organization. Next, building some momentum by tackling some early digital initiatives to prove key ideas and concepts. And then, by scaling up and investing more in a more robust Digital Program in 2024 to 2026.

One of the founders of the UK's Government Digital Service, and contributor to Digital Transformation at Scale, Tom Loosemore – points out that "the Strategy is delivery"[5].

Strategy without delivery, without execution is worthless. So, it is critically important that the City gets started, builds some momentum, and starts to deliver real progress by implementing digital service as envisioned by this Strategy – and that's exactly what this Strategy lays out for the City.

[5] Digital Transformation at Scale: Why the Strategy is Delivery

Appendix 1 – Glossary of Terms

Term	Explanation
ACTIVENet	Facility, registration and membership management software.
AD	Active Directory – authentication and authorization (login) system
Agile	An iterative approach to project management and solution development
Amanda	Permits, Planning and Licensing solution
AODA	Accessibility for Ontarians with Disabilities Act – A law that sets out a process for developing and enforcing accessibility standards
ArcGIS	A family of client software, server software and online geographic information system (GIS) services developed and maintained by Esri, used to make maps, analyze data, and share and collaborate
Back-office	An office or department where work is carried out to support the business of an organization, rather than being customer facing
Bang The Table / Engagement HQ	Platform for engaging online discussion forums, surveys, polling, crowdsourced ideation; feedback tools; integrated participant database and advanced analytics; geospatial engagement via online mapping and placemaking and storytelling
Business Process Optimization (BPO)	A methodology for reviewing existing and planned business processes to identify improvements and innovation opportunities.
Chat / Chatbot	A communication and collaboration tool; a computer program that uses artificial intelligence (AI) and natural language processing (NLP) to understand customer questions and automate responses to them, simulating human conversation
CMT	Corporate Management Team

Term	Explanation
CMS	Content Management System – A content management system supports personalization, manifests the user experience, handles management of web content, and provides search and site navigation features
CRM	Customer Relationship Management – A generic system for case management that can be used for handling customer enquiries. Note that the C in CRM is used differently in many municipalities – Citizen, Client, Customer, and Constituent
Customer	Refers to users of the municipality's technology and digital services, including residents, businesses, visitors, Mayor and Council, the workforce and our partners
CX	Customer experience
Data	Information in an electronic form that can be stored and used by a compute, typically collected to be examined and considered and used to inform and help decision-making
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
Digital First	Engineering, architecture, platform, technology, content, experience, culture – all striving to reimagine and reset outdated business practices and conduct business in an online "anywhere, anytime" manner that takes full advantage of burgeoning technologies
Digital Heroes	An awards scheme dedicated to honouring individuals who are breaking new ground and leading digital transformation initiatives
Digital Team	An organizational resource for digital standards, service delivery practices and service design pilots designed to surface an organization's resource, service and architecture needs
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

Term	Explanation
DOCS	Online word processor included as part of the free, web-based Google DOCS Editors suite
DTGC / DTSC	Digital and Technology Governance/Steering Committee – Corporate governance committee for information and technology decision-making
ECMT	Extended Corporate Management Team
EngageWR	An online platform that allows municipalities in Waterloo Region to gather feedback through multiple formats about current and future initiatives
Engagement HQ / Granicus (formerly Bang The Table)	Platform for engaging online discussion forums, surveys, polling, crowdsourced ideation; feedback tools; integrated participant database and advanced analytics; geospatial engagement via online mapping and placemaking and storytelling
ETL	Extract Transform Load – Tools to manage data migration between databases
Eventbrite	An event management and ticketing service that allows users to browse, create and promote local events
FormBuilder	An application that allows administrators to create, maintain, edit, and redistribute their own customizable, job-specific forms
GHD	A global network of multi-disciplinary professionals providing clients with integrated solutions through engineering, environmental, design and construction expertise
GIS	Geographical Information Systems – Systems designed to capture and report on all types of geographical data, including spatial data
Good Service / Good Service Standard	A “good service” is comprised of small component pieces joined together through data or user experience to form a seamless user journey that helps a user do the thing they set out to do – from start to finish
IMTS	Information Management and Technology Services (City of Waterloo IT team)
ITGC / ITSC	Information Technology Governance/Steering Committee – Corporate governance committee for information and technology decision-making

Term	Explanation
Kubra	A company that provides customer interaction management solutions.
Lean	A method that provides organizations tools to improve the capability of their business processes to increase performance and decrease process variation, leading to defect reduction and improvement in profits, employee morale, and quality of products or services
M365 (formerly Office 365 or O365)	Microsoft Cloud-based office productivity suite which includes email and calendar, messaging, collaboration, and office suite
Maximo	Application suite that offers a single platform for intelligent asset management, monitoring, maintenance, computer vision, safety, and reliability
MDM	Master Data Management – to more efficiently support various mobility tools deployed and to safeguard potential data loss
MDM	Mobile Data Management – A technology-enabled discipline in which business and IT work together to ensure the uniformity, accuracy, stewardship, consistency, and accountability of an organization's official shared master data assets
MDM	Mobile Device Management – the management of remote devices.
Mypermit	User-friendly, one-stop-shop platform for permit drafting, filing, uploading shared documents, and seeing progression (City of Waterloo uses the Amanda portal)
NLP	Natural Language Processing – the branch of computer science (the branch of artificial intelligence or AI) concerned with giving computers the ability to understand text and spoken words in much the same way human beings can
Omnichannel / Omni-channel	Seamless and effortless, high-quality customer experiences that occur within and between contact channels (e.g., online from a desktop or mobile device, by telephone, or in a brick-and-mortar building)
Open Data	Structured data that is machine-readable, freely-shared, accessible, exploitable, editable, used, shared, and built on without restrictions, for any purpose

Term	Explanation
OpenText	A company that develops and offers Cloud native enterprise information management software
PDF	Portable Document Format – a file format that provides an electronic image of text or text and graphics that looks like a printed document and can be viewed, printed, and electronically transmitted
RoW	Region of Waterloo
Service-centred	A service where the person is placed at the centre of the service; where focus is on the person; from the person's perspective
Telephony	The field of technology involving the development, application, and deployment of telecommunication services for the purpose of electronic transmission of voice, fax, or data, between distant parties
UX	User Experience – the process that design teams use to create products that provide meaningful and relevant experiences to users. UX design involves the design of the entire process of acquiring and integrating the product, including aspects of branding, design, usability, and function
Valency	A company that offers one stop shopping for cybersecurity services
Value-Add / Value-Added	Special features or improvements added to a product or service to increase its desirability and monetary value to consumers
Waze	A subsidiary company of Google that provides satellite navigation software on smartphones and other computers that support the Global Positioning System (GPS)
Wizard	A user interface that leads you through a sequence of small steps to configure a program for the first time; a complex, rare, or unfamiliar task may be easier with a wizard that breaks the task into simpler pieces

Appendix 2 – Digital Patterns

Digital patterns are a set of common customer-facing activities that occur over the delivery of digital services.

For example, while parking permits and building permits are very different digital services, they both contain activities related to checking eligibility, completing an application by providing prescribed information, payment, approval and receipt of permission (permit/documents).

These digital patterns represent opportunities to standardize technology solutions and design standards, improving the customer experience through consistency and the business operations by reducing solution costs and development time.

Pattern	Pattern Description
Apply for something	Enables the user to complete an application process. In most cases, this pattern is linked with a “Check” pattern to assess the eligibility (e.g., is the user being asked to submit a type of application to complete a task?).
Book something	Enables the user to book things such as a course, appointment, a room, an item, or a person’s time. In most cases, a specific date and time need to be selected.
Check something	Enables a person who needs to understand if it applies to them or helps them find something (e.g., the status of something, the closest location, or their eligibility to a service).
Consent or Authorize	Enables the user to provide consent to something such as sharing data within the organization, with a 3rd party, or with the Canada Revenue Agency (CRA). Provide approval, or acknowledgement on the use of personal information and acceptance of the process.
Get Information	Find information (read text on website, access a knowledgebase article, watch a video, listen to audio, download a document or a guide) about services or a service, when to use, how to use, requirements to use, communicate expectations of use.
Get Notified	Receive an alert / notification / reminder / prompt about something.

Internal Workflow	Enables staff (including municipality, contractor, partners) to handle requests, cases, manage processes and workflows, and secure approvals and signoffs.
Pay for something	Enables the user to complete a monetary transaction toward the municipality.
Register for something	Enables the user to complete a process (like booking something). By registering, users will create an account with personal and sensitive data that they can return to.
Request something	Enables the user to ask for something specific in order to get to some tangible outcomes (e.g., a copy of a certificate, a pass or a record digitized). May be linked to Pay for something pattern.
Tell us something	Enables a person who needs/wants to give some information to the municipality, like a referral or to report something.

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