

digital

NEW BRUNSWICK



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Message from the President



As President of Treasury Board, I am pleased to introduce *Digital New Brunswick*, a strategy that will help improve the way the government serves New Brunswickers.

Digital New Brunswick addresses the growing demand for government to embrace new technology and new ways of operating and delivering services. The strategy places citizens and businesses at the centre of everything the provincial government does, while leveraging digital technology to deliver its programs and services more effectively. It will allow New Brunswickers to access their information and government services from any device, anywhere, and any time.

By improving the way government works, we are able to deliver savings to taxpayers and continue to make important investments in the priorities of New Brunswickers such as health care, education and the economy.

Elaborated in collaboration with our partners in the IT, business and academic sectors and with the participation of citizens and public servants, this strategy is an important step in our vision to make New Brunswick the first digital society in North America. It also follows the government's commitment to advancing the Smart Province initiative and making new investments in technology infrastructure.

The New Brunswick government is responding to the call for a more open government with increased transparency, accountability and citizen-engaged participation through the release of this innovative strategy.

Thank you to all of those who helped develop *Digital New Brunswick*. We look forward to our continuing partnerships in making this strategy a reality.

A handwritten signature in blue ink, appearing to read 'Roger Melanson'. The signature is fluid and cursive, with a long horizontal stroke at the end.

Honourable Roger Melanson
President, Treasury Board

Message from the Deputy Minister

Across the globe, governments are rising to the challenge of using digital technology to deliver services in a convenient, personalized and cost-effective manner. As Deputy Minister of Treasury Board, I am proud of the expertise, hard work and dedication of staff who have worked closely and extensively in collaboration with partners and stakeholders to respond to this challenge in New Brunswick.

The world has gone digital. And to ensure that the government better responds to the needs and expectations of New Brunswickers, we must adopt new approaches and technologies that support delivering public service for today and the future. *Digital New Brunswick* is a roadmap for change for New Brunswick.

The strategy will improve collaboration within and across provincial organizations as well with partners, while connecting New Brunswickers to the information, programs, and services they need, regardless of where they are or what time it is.

These are exciting times for New Brunswick. Thank you to all of those who have worked together in the development of this innovative strategy with the shared goal of providing the best services for New Brunswickers in the most efficient and effective manner.

A handwritten signature in black ink that reads "Cheryl Hansen". The signature is written in a cursive, flowing style.

Cheryl Hansen
Deputy Minister, Treasury Board

Executive summary

New Brunswick prides itself in being the best place to work, live and raise a family. The top priorities of the Government of New Brunswick (GNB) are to create the conditions for continued and sustainable job growth, to improve New Brunswick's fiscal situation and to support families throughout the province.

However, several important realities are facing New Brunswick that demand immediate attention:

- Citizens have embraced new digital technologies, from smart telephones and personal devices connected to the Internet, to new digital businesses and services that leverage the Internet of Things (IoT), artificial intelligence and much more;
- Cybersecurity risks are escalating in severity, frequency and impact;
- New Brunswickers want more open government: transparency, accountability and participation;
- Governments everywhere are being challenged to work differently and deliver services such as those delivered by the private sector;
- New Brunswick's demographic reality must be factored into any new strategy. The province is aging while youth are leaving for employment in other economies. One in five New Brunswickers – 148,785 out of 747,100 in total – is 65 or older.

Treasury Board has prepared this strategy, *Digital New Brunswick*, through a large collaborative approach involving employees from Parts 1 to 4 of the Public Service, academia and private sector stakeholders, students and citizens. The initiatives collectively developed are critical to New Brunswick's ability to manage current and future realities.

The strategy proposes placing citizens and businesses in New Brunswick at the centre of everything the provincial government does, while leveraging digital technology as an enabler for effective and efficient service delivery. Digital technologies are electronic tools, systems, devices and resources that generate, store or process data. These include social media, cloud computing, interoperable systems, online games and applications, multimedia, productivity applications, and mobile devices. The vision is for New Brunswick to become the first digital society in North America.

The initiatives in Digital NB are grouped under seven main areas that address New Brunswick's critical needs:

1. *Re-imagined services and programs*: Re-designed government services and programs that put citizens and businesses at the centre;
2. *People-powered*: Skills, culture and experience within the workforce that will enable the digital transformation;
3. *Information as a game-changer*: Increased access and use of information within GNB and the public;
4. *Business and technology modernization*: Modernization of business processes, standards, and technology infrastructure and software applications;
5. *Enterprise Risk Management (ERM)*: Risk/opportunity balanced approach to adopting innovative business solutions and realizing outcomes;
6. *CyberSafe* - Cyber security, innovation and growth that continually meets the information security needs of the Province while supporting economic growth;
7. *Success through leadership*: Governance and strong leadership to drive the transformation to a Digital Society.

This is not a technology plan. This is a transformation plan. The scale and pace of the initiatives required represent a fundamental change to people skills, business processes, technology, culture and use of information. By taking this approach, GNB will need to be prepared for a substantial reshaping of business and culture. Success will be demonstrated through the ability to provide citizen-responsive services, become more efficient and be technologically equipped to face the significant challenges that exist now and in the future.

Acronyms

- CIS: Center for Internet Security
- CRTC: Canadian Radio-television and Telecommunications Commission
- EIM: Enterprise Information Management
- ERM: Enterprise Risk Management
- ERP: Enterprise Resource Planning
- GNB: Government of New Brunswick
- IoT: Internet of things
- KPI(s): Key Performance Indicator(s)
- MEC: Memorandum to Executive Council
- NGO: Non-governmental organization
- OCIO: Office of the Chief Information Officer
- SOC: Security Operations Centre

1. Introduction

Twenty-five years ago, it was called the “electronic super highway.” Today, of course, it is called the Internet. The pace of change in digital technologies has accelerated exponentially over the past few years. Digital technologies are electronic tools, systems, devices and resources that generate, store or process data. These include social media, cloud computing, interoperable systems online games and applications, multimedia, productivity applications, and mobile devices.

Given the rapid rate of change, GNB is faced with how best to:

- Deliver citizen-centric programs and services using citizen input and the latest digital technologies;
- Empower New Brunswickers to quickly access programs and services; information and data; and their own personal information;
- Make business-to-government transactions simple;
- Create economic opportunity for citizens and business;
- Ensure New Brunswick is a leader in government transformation in public services.

There are several challenges to address including the following:

1. *Isolation of valuable information:* Information is collected and stored in departmental silos. This information is difficult for the public to access and for departments to share to meet the needs of citizens and efficiently manage services. This also prevents GNB from easily accessing an organizational view of its finances, risks and business.
2. *Service design:* Services are designed around departmental mandates. This can result in duplication of services and processes as well as poor coordination for citizens and businesses.
3. *Outdated technology:* GNB maintains a large number of older information systems that are inefficient and unable to evolve to meet current business needs.
4. *Low availability of online services:* It has been estimated that only 10 per cent of GNB services are fully available online.
5. *Need for digital literacy:* The rapid pace of technology continues to challenge GNB employees and New Brunswickers who do not have the knowledge and technological skills to participate fully.
6. *Increasing cybersecurity risks:* Risks are escalating globally in terms of severity, frequency and impact.

Digital NB identifies initiatives to address these challenges over the next five years.

See Appendix A for Transformation Agenda

1.1 Government commitments

GNB first signalled its interest in digital technology in the 1993 and continued to do so in subsequent years. In 1996, GNB said it would base its job creation agenda in part on the information highway. Fast forward to 2014, GNB committed to the following steps that will position New Brunswick to become a digital society:

- Eliminate duplication within government services
- Drive a culture of continuous improvement
- Identify opportunities to use technology to improve efficiency, service delivery and sharing of data and best practices
- Reduce costs through the adoption of new technology

GNB announced plans to act on these commitments in 2016. Through the Smart Province Initiative, GNB committed itself to build the first truly digital government in Canada. It committed, further, to delivering the best and most cost-effective services to New Brunswickers while providing a platform on which private-sector companies can build cutting-edge products and services. This included review of legislation and launching initiatives such as the [Open Data Policy](#), [Open Data Portal](#) and Digital Identification.

1.2 Strategy development - A collaborative effort

The development of this strategy and its foundational initiatives were structured to be citizen- and business-centric. To truly effect change that will bring wide-spread benefits to New Brunswick, GNB must rethink its internal business and departmental approaches. It must identify whole solutions based on bold and innovative ideas from multiple stakeholder perspectives. Collaboration with stakeholders was a key first step to understanding service from a citizen and business perspective.

The initiatives within the strategy were identified through collective input from both internal and external stakeholders. [Treasury Board](#) met with nearly 500 employees from all four parts of GNB, universities and colleges, and private sector companies and groups. In addition, close to 7000 citizen surveys were completed.

Stakeholders who contributed to the development of the strategy included:

- citizens accessing Service New Brunswick services;
- youth from various schools and universities around the province;
- employees and senior managers from departments across government, in addition to the Anglophone and Francophone school districts and the provincial health sector;
- several large provincial corporations;
- legislative branch;
- several special interest groups with linkages to the strategy initiatives (federal and provincial government and private sector);
- municipal government associations;
- university faculty and student advocacy representatives;
- large and small private sector companies across the province.

Stakeholders provided input through interactive workshops, meetings and events. People were asked how digital technology could be leveraged to benefit the province, how GNB could change to be more citizen- and business-focused, and what opportunities exist.

Some key thoughts that emerged from discussions and surveys were:

- The need to openly share data, information and expertise across GNB;
- The critical need to update business and technology processes, systems and infrastructure;
- The need for strong leadership as GNB redesigns its way of doing business;
- The importance of all internal and external stakeholders working together toward the goal of building a stronger New Brunswick;
- The desire for simple and easy-to-use online GNB services;
- The challenges that must be addressed for those who cannot easily access online services.

Many of the stakeholders contributing to this strategy shared their own work in digital transformation. New Brunswick has many leaders who can help demonstrate the business and economic value of transforming their business by leveraging digital means including Alcool New Brunswick Liquor and New Brunswick Power as well as other private sector companies.

An in-depth research of how other jurisdictions are managing digital and business transformation was also completed that included lessons learned and best practices.

Treasury Board is grateful to everyone who contributed their time, energy and guidance to this important initiative.

See Appendix B – What we heard and Appendix C – Stakeholder list

2. Strategy vision and objectives

GNB's mission is *to improve the lives of New Brunswickers everyday*. This strategy will position New Brunswick to continue to be the best place to work, live and raise a family.

Vision:

To be the first digital society in North America.

Objectives:

The overarching objectives of the strategy are to support:

- Citizen- and business-centric provision of public services in the most efficient and effective manner using digital technologies.
- Citizen access to their information and government services from any device, any time, anywhere.

2.1 The vision in action

A digital society can be described as a modern, progressive society that is connected to information, programs and services, regardless of geography and time, through the use of digital technologies.

In a Digital NB, citizens will access various government services and information, pay their bills and taxes, register companies, access medical and social records, e-vote and more, all over the internet, 24/7, in a secure and private manner.

On a typical winter's morning in a digital New Brunswick (the following names are examples, not actual people):

- Diane LeBlanc awakes to find it snowing as predicted. She uses her smartphone to check when the snow plow will be coming to her street – in about 45 minutes. She decides to take the bus rather than wait for the plow and drive. While on the bus, Diane uses her smart phone to request that a criminal record check of herself be sent to her daughter's hockey association and school. This way, she can replace the outgoing coach of the team and travel with the girls to away games.
- Meanwhile Stephen White, a senior, is using his tablet to check his email. While his first pot of coffee brews, he finds an email from GNB telling him that, according to its records, he is eligible for seniors' rebates. He clicks okay to confirm, which takes him to a page to authorize a direct deposit to his bank account. He can hardly wait to tell his friends. He did not even have to go looking for it.
- Diane's son, Robert, is on the school bus. He is looking forward to taking his driving test. He uses his smartphone to book the test online. He is not likely to forget the big day, but his busy mother might. Service New Brunswick will send them both texts the day before to remind them of the time and place. When Robert passes, he will immediately receive a congratulatory text plus a link to driver safety information.
- David, a youth living with a New Brunswick foster family, is being supported by a team of professionals from his local hospital, his high school and the Department of Social Development. This team works closely together and regularly shares information about him. A digital system connects his school marks, behaviour reports, health records and the social services being provided. As a result, each member of the team is able to make decisions and recommendations based on the complete picture of how David is doing.

- Elsewhere, an established European technology company is looking to expand its operations. The owners would like to have a presence in Canada to access a new set of customers. They choose to set up in New Brunswick where the company can be established with ease. With a few simple clicks, the company is registered and services are enabled through an integrated bundle service that establishes an electronic mailbox, postal box, a telephone number, and all relevant licences and accounts with provincial and federal organizations.

A successful digital society combines digital operations with great customer experiences. The transformation process for New Brunswick will require a holistic approach to GNB's culture, business and technology practices. This change will be based on insights obtained directly from the citizens and businesses GNB serves.

3. Strategic transformation areas

Broad consultation within GNB, and with industry, citizens and businesses, has yielded seven strategic areas of transformation:

1. *Re-imagined services and programs*: Re-designed government services and programs that put citizens and businesses at the centre;
2. *People-powered*: Skills, culture and experience within the workforce that will enable the digital transformation;
3. *Information as a game-changer*: Increased access and use of information within GNB and the public;
4. *Business and technology modernization*: Modernization of business processes, standards, and technology infrastructure and software applications;
5. *Enterprise Risk Management (ERM)*: Risk/opportunity balanced approach to adopting innovative business solutions and realizing outcomes;
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7. *Success through leadership*: Governance and strong leadership to drive the transformation to a Digital Society.

4. Guiding principles

Five principles guided the development of this strategy. GNB will embrace and reinforce these principles during the transformation.

1. *Citizen- and business-centric*: Services are inclusive of all New Brunswickers and based on what is heard from citizens / businesses. In short, “ *No service design about citizens, without citizens*”. Citizens have access to a personalized central record within GNB; reducing duplication and promoting efficiency for both citizens and service providers.
2. *Information-driven*: Accurate and reliable information is used to make evidence-based decisions and to create the policies, programs, and services that New Brunswickers need. There is access and visibility to public information and decisions while respecting privacy and security. The collection and flow of information is managed through digital technology.
3. *Agile*: Government services and programs respond to ongoing change by pivoting in a flexible and responsive manner. Opportunities are explored within a risk-managed culture.
4. *Trusted partnerships*: Partnerships with stakeholders are built where there are synergies in actions and outcomes.
5. *Big-picture thinking*: An enterprise perspective is adopted that actively focuses on government-wide transformation.

5. Benefits of a digital society

The outcomes of this strategy will contribute directly to attracting businesses to the area, increasing the desire for next generations to stay, and making New Brunswick the place where people, governments and businesses work together to achieve transformation.

The following benefits of this strategy were identified by our internal and external stakeholders:

1. Empowered citizens through secure access to their information;
2. Increased citizen satisfaction through simple, quick digital services anywhere, anytime;
3. Increased ability to attract and retain families, talent and business in New Brunswick;
4. Increased government productivity and benefit to the economy;
5. Reduced costs of government through fewer manual processes and elimination of duplication.

The following statements come directly from stakeholders:

“In control of my own ‘destiny’ when/how I invest my time for services I need.”

“Not have to call multiple numbers to access service.”

“I can renew my driver’s licence at 1 a.m. after I finish my shift at the hospital.”

“Selling point to industry and the younger generations to want to come to New Brunswick.”

“Ability to access information from other departments that can be repurposed to plan, guide the development of new services, identify service gaps.”

“Leading the world vs following the world.”

5.1 Strategic Alignment within New Brunswick

Digital NB has broad reaching linkages and benefits for New Brunswick as it supports many key strategies throughout government, such as the Aging Strategy, the Education and Literacy Plans, Economic and Growth Development Plan, NB Families Plan and many health initiatives.

Specific examples of initiatives in strategies that will be supported by Digital NB include the following:

Health and Aging

- patient engagement through the use of technology;
- a community-based single point of contact to access information on supports and services;
- direct access to personal health information and electronic access to patient-specific education;
- technologies that will improve communication between patients and their caregivers;
- solutions to support research and the sharing of patient information between government departments and care providers;
- technology-enabled home-based care systems that provide remote monitoring for families;
- technology literacy training programs;
- self-serve technologies, such as appointment scheduling and registration.

Education and Literacy

- a single-point of access to early childhood and public school services;
- integrated and seamless continuum of learning;
- an education record, from birth, through the formal school years and on to post-secondary and/or adult education;
- opportunities for learners to develop science and technology skills;
- use of creative digital literacies and multi-modalities in learning.

Community and Economic Growth

- open data portals to share information and better connect residents to their government;
- a single, secure digital ID for residents;
- integration of digital technology to detect and react to local changes in electricity demand;
- expertise and career advancements in Cybersecurity;
- innovation skills development among youth;
- development of Research and Development innovation support mechanisms and partnerships;
- partnerships with industry and academia to explore ways to enhance technology adoption and increase investments in strategic innovation infrastructure;
- analytical and educational tools to help communities identify their vulnerabilities and take action to adapt.

Digital NB supports an enterprise-wide government transformation versus a siloed approach. Therefore initiatives within the Digital NB will meet needs across many government strategies using a common approach versus a number of similar but inconsistent approaches and use of digital technologies. This will accelerate transformation as well as avoid duplication in effort and minimize cost. The end result will be a standardized approach to services that scales best practices and innovation, and wraps service delivery around citizens and businesses.

6. Strategic transformation initiatives

6.1 Re-imagined services and programs

Current state

The world is digital: ATM cards, smart phones, shopping online, doing homework, researching on the Internet, planning events on Facebook and EventBrite. New Brunswickers have high expectations of service delivery, and they quickly gravitate to providers who meet them. New Brunswickers have come to expect, even demand, technology-enabled service delivery.

Of the nearly 1,000 GNB services, it is estimated that only 10 per cent are fully delivered online – and even among those, people encounter services that are not connected to one another and require duplicated requests for the same information.

GNB needs to redesign how it delivers services. The world is changing rapidly, and this warrants a new approach to the way government works. The concept of “everyday innovation” will be critical to the success of the transformed GNB. GNB must leverage the bright ideas of its employees and of New Brunswickers. Their input must be at the heart of the innovative solutions. Existing processes and legislation that limit GNB from fully exploring innovative business solutions must be updated.

GNB does not have standard approaches or tools to engage New Brunswickers in the design of its services. It has not embraced two-way conversation with the public using social media as many other governments do.

A framework is required with a set of tools and practices to ensure that there is an understanding of the necessary risks that innovation activities carry and that a common approach and language for innovation is adopted across GNB at every level.

Destination: What New Brunswick will look like

New Brunswickers are at the heart of GNB’s services. They are able to access the services they want, when and where they want them – and services are modern and personalized. Citizens who are not yet comfortable with online digital services are offered alternative methods.

Citizens and businesses are able to put new ideas into practice with relative ease and speed. GNB has a strong innovation practice based on established processes and tools. Departments own and drive the change that they need. GNB is often sought out as a best-practice transformation shop: the world wants to be like New Brunswick.

Mobile apps and online chat support have become the norm in government services. Citizens find information easily and in real time. They can access securely their personal health information or educational results. New Brunswickers are involved as a regular practice in the creation of services they consume, throughout the whole life-cycle – design, testing, deployment, replacement/decommission. GNB has service-design standards: all must be simple, intuitive, and delivered digitally by default.

What New Brunswick will do to get there

What New Brunswick will do now

1. Create a dedicated team of digital transformationists:

- Create a dedicated team of experts to develop the path forward and drive digital transformation in collaboration with stakeholders, citizens and business.

2. Develop a citizen- and business-centric mindset:

- Develop a plan to build innovation capability within GNB.
- Citizen- and business-led design: Initiate awareness and education on Design Thinking in government.
- Implement citizen involvement as a requirement for new programs and services funding.
- Identify alternatives and supports for citizens not able to access digital services.
- Support existing projects in citizen engagement approaches.

3. Establish foundational elements for change:

- Implement an Enterprise Resource Planning solution.
- Develop a Digital ID for secure and private access to digital services.
- Transition all GNB and Service New Brunswick websites into mobile-friendly sites.
- Develop standards for mobile applications development to support anywhere, anytime, any device accessibility.
- Implement an Open Data Portal for access to government data and information.

What New Brunswick will do within five years

Go digital:

4. Implement policy and standards:

- Establish a policy that ensures digital technology is considered first as the enabler for new services (Digital First).
- Implement mobility standards (anywhere, anytime, any device) to support high-visibility, high-value services.

5. Build digital services expertise:

- Establish a digital services hub to operationalize digital activities and to create a collaborative space for transformation with all partners.

6. Develop digital tools and supports:

- Create and implement a Digital Services Playbook to guide the way forward in a repeatable fashion.
- Build a digital workplace within GNB to allow employees to perform to their maximum with the right tools and resources at their fingertips.
- Use social media, mobile apps and other information for gathering input and analytics.

7. Drive citizen-centric service:

- Implement one public services support desk.
- Develop a mobile app and web portal that allows citizens and businesses to personalize their digital access to GNB services.
- Develop digital assist capabilities for citizens to evolve with the transformation.

See Appendix D – Roadmap

Potential KPIs

- Percentage of services available online;
- Number of interconnected services wrapped around a citizen need;
- Percentage of services on mobile platforms;
- Department ratings on Innovation Maturity Mode;
- Customer satisfaction ratings.

6.2 People-powered

Current state

The heart of any government is people: the people it serves and the people who do the work to serve. GNB employs people who are conscientious and solution-focused. However, GNB employees do not yet have all the skills and tools needed for digital transformation. For example, data literacy is low among information management and technology professionals; and only a small portion of IT capability is devoted to innovation or research. Minimal investments have been made in talent management or in transforming the workplace to attract the next generation.

Although New Brunswickers are continuing to ask for more digital services, a significant portion are not yet comfortable using mobile devices, tablets or computers. Others simply do not have easy access to high speed internet.

GNB must invest further in literacy programs to grow citizens' knowledge and comfort with online digital services as well as the risk measures needed to protect their information. Although New Brunswick is able to provide quality internet service, equal access to all is required to support digital service delivery.

Destination: What New Brunswick will look like

New Brunswickers have gone digital. People are comfortable with digital services. New Brunswickers are aware of the risks involved in a digital life, of their privacy rights and of how to protect them.

GNB has earned a reputation as being an exciting place to work. Through the work of this strategy and ongoing talent management efforts, GNB is regarded as an employer of choice, offers good compensation, training opportunities for professional advancement and a flexible work environment. It attracts and retains the skilled workers required to serve New Brunswickers in a rapidly-evolving, digital service delivery environment. GNB has a data-literate workforce; GNB's information and data professionals are experts in their fields, and they have the right skills and tools to do the job.

What New Brunswick will do to get there

What New Brunswick will do now

Build people skills and expertise in:

1. Information management:

- Develop an information management training plan tailored to all levels of employees.

2. Digital technology:

- Review and develop a plan for increased digital skills for GNB employees.
- Leverage and support the [Digital Literacy Training](#) program for citizens offered by the [Department of Post-Secondary Education, Training and Labour](#).
- Support the development of foundational concepts in technology such as coding in the school system to position learners for future success.
- Support improved access to quality high-speed internet across New Brunswick.
- Collaborate with stakeholders in universities and community colleges to leverage expertise in digital transformation.

3. Analytics and planning:

- Establish roles such as enterprise data scientists, to carry out analytics and business intelligence in GNB.

What New Brunswick will do within five years

Build people skills and expertise in:

4. Digital literacy

- Partner with the education system to encourage building digital literacy and skills into curricula.
- Increase public education on use of technology and on risk and privacy awareness.

5. Digital transformation

- Infuse GNB with new talent who have experience with the latest digital technologies.
- Build new capabilities among GNB staff while designing new digital services.

6. GNB employee training and tools

- Establish mandatory information management and risk management training for all employees.
- Provide tools and ongoing training to attract, retain and equip a workforce for frequently altered roles.
- Provide options for GNB staff to potentially work anywhere, anytime.

7. Expertise and research

- Establish partnerships with academia and the private sector.
- Champion research to support business redesign and transformation.
- Build centre of expertise in business intelligence, data science and analytics.
- Build expertise in enterprise risk management.

See Appendix D – Roadmap

Potential KPIs

- Percentage of New Brunswick population who own a digital device;
- Digital literacy rates;
- Percentage of employees completing mandatory training.

6.3 Information as a game changer

Current state

GNB has not successfully harnessed the true value of the information it collects. Departments historically have operated independent of one another resulting in processes and systems that are not aligned nor compatible to share information. Many processes within GNB are manual and paper-driven and accessibility to information is further limited by existing privacy legislation. This results in a significant amount of information duplication for service providers and citizens accessing service through multiple departments.

There are increasing demands from citizens for seamless and responsive government services that leverage information to support the delivery of high quality programs. Currently GNB cannot easily access government-wide views of service information. As a foundational step, the Right to Information and Protection of Privacy Act (RTIPPA) was recently amended to permit the sharing of information for the purposes of integrated or common services delivery.

GNB must now develop mechanisms to support the flow of quality information securely between departments. Standard processes and tools to collect and store information are required to ensure GNB-wide information can be accessed and analyzed to improve decision making and the delivery of citizen-centric programs and services.

Destination: What New Brunswick will look like

GNB serves New Brunswickers from largely paperless offices. Information is managed digitally and easily shared between and among systems. GNB employees and New Brunswickers are secure in the knowledge that the electronic information they access and share is trustworthy and accurate; that it supports the best possible, transparent decision-making; and that New Brunswickers' privacy is protected.

The value of information across GNB has been realized. GNB asks New Brunswickers for their information only once. Information is used to support research and innovation, improve business cases and deliver new services while maintaining the cross-enterprise high standards for privacy and security. IT investments support access to information in a standard way.

What New Brunswick will do to get there

What New Brunswick will do now

1. Develop plans to support data and information sharing:

- Identify priority data and information that could be shared between public bodies, including privacy and security considerations and mechanisms to support sharing.
- Develop a GNB-wide approach to data management and standards.
- Develop a plan to address information duplication and waste.
- Identify the requirements and process to create a trusted digital repository for preservation of government-held information.

What New Brunswick will do within five years

2. Establish policy:

- Establish policies and develop approaches to implement the *Ask once* policy (citizens accessing GNB services only need to give their demographic information once).

3. Develop Enterprise Data management:

- Develop program to manage the retention life cycle of information and data.
- Establish a centralized digitization program for records.
- Implement data quality assurance.
- Replace manual data collection processes and modernize classification, search and archival tools.

4. Enabling technology: Leverage new technology to improve the efficiency of information collection, storage and sharing

- Implement digital signatures capability.
- Implement standardized e-forms management.
- Develop a government-wide information search capability.
- Identify IM standards and requirements for connecting systems to share information.

See Appendix D – Roadmap

Potential KPIs

- Percentage of information duplication across shared systems;
- Number of opportunities for information-sharing identified;
- Number of completed RTIs published and publicly accessible.

6.4 Business and technology modernization

Current state

There was a time when GNB won awards for its innovative IT solutions. However GNB has not evolved its IT business through modern technology. Today, GNB has most of its IT resources dedicated to the maintenance of a large inventory of out-dated applications that are not user-friendly. GNB's computing resources are managed in-house, tying up capital funding and expertise that could better be directed to working with departments and agencies to support their efforts in improving programs and services.

GNB has now gained a reputation for being outdated in its technology and approaches. The Conference Board of Canada placed New Brunswick and Prince Edward Island last among the provinces for innovation.¹ The Organisation for Economic Co-operation and Development (OECD) recommended in 2014 that all levels of government, even as small as municipalities, create digital strategies.² This message must not be lost on New Brunswick.

Destination: What New Brunswick will look like

The province is a world-class leader in the use of business technology and service delivery. It is recognized as an innovative, responsive, digital society and a hub for development. New Brunswick-made solutions are sold globally. GNB uses modern tools in the workplace; a continuous program of review and rationalization has measurably reduced the burden of in-house, outdated systems and infrastructure. The province has reallocated human and financial resources to the development of innovative, agile, sustainable solutions required to provide the services citizens expect.

What New Brunswick will do to get there

What New Brunswick will do now

1. Review existing technology:

- Review existing technology to develop a plan to reduce, rejuvenate or replace (including application lifecycle management and rationalization).

2. Improve access to technology:

- Develop and implement a cloud services framework.
- Work with government and private partners to improve quality of broadband coverage in the province, which is essential to New Brunswick's success.

What New Brunswick will do within five years

3. Standardize technology:

- Decrease the use of outdated technology and embrace new and innovative solutions, including transitioning custom applications to standard platforms.
- Consolidate infrastructure and data centres.
- Integrate IT systems enterprise-wide to share information among departments easily.

4. Modernization of business and service delivery:

- Revamp current services from a prioritized list based on transaction volumes and needs to make them available on mobile and online.
- Leverage new, trending technology.
- Implement Enterprise Resource Planning technology.

1 Innovation. 2015. <http://www.conferenceboard.ca/hcp/provincial/innovation.aspx>

2 Recommendation of the Council on Digital Government Strategies. 2014. <http://www.oecd.org/gov/digital-government/Recommendation-digital-government-strategies.pdf>

5. Develop QA best practices:

- Adopt quality assurance best practices for IT systems.

See Appendix D – Roadmap

Potential KPIs

- Lowered average age of applications (less than eight years);
- Percentage of applications going through a quality assurance process;
- Percentage of applications going through app lifecycle process;
- Percentage of apps transitioned to standard platforms;
- Reduced number of data centres;
- Percentage of cloud services.

6.5 Enterprise Risk Management

Current state

To meet its ongoing business objectives, GNB requires regular and real-time access to an enterprise-wide picture of its opportunities, finances, organizational impact and risks. Currently GNB collects information within its individual departments and some information is not accessible. What does exist is not always readily available, not rolled up across GNB; and often stored in a physical format, such as CD or paper.

GNB manages risks in an ad-hoc, reactive fashion. It is not able to apply an enterprise (GNB-wide) approach to managing risks. The insight to risk and opportunities within each department and across GNB as a whole would greatly reduce the likelihood of unexpected and unwanted results.

Destination: What New Brunswick will look like

GNB has a fully implemented Enterprise Risk Management (ERM) program supported by policy, standard framework and processes, tools and performance metrics. GNB manages risk well and provides decision support to its leaders for strategic planning, budget requests, investments, innovation and project plans.

GNB formally manages business transformation and innovation risks across government and within departments. ERM is an essential tool as GNB institutes innovation as a discipline and puts it into action: redesigning services with citizens; adopting new roles and processes; and implementing new technology and information management solutions.

What New Brunswick will do to get there

What New Brunswick will do now

1. Initiate ERM program, expertise and tools:

- Build a policy-driven program (framework, process, systems, organization, culture, etc.) to enable the collection, analysis and leveraging of GNB-wide risk content to support predictable business outcomes.
- Initial implementation of a risk register (a system that provides a list of risks, owners and mitigation plans), followed by full roll-out to all other departments.
- Design and begin building expertise in ERM to provide direction, monitoring and support.

What New Brunswick will do within five years

2. Implement ERM program across GNB:

- Implement a standard enterprise approach to identifying and managing risk, including facilitated central and standard risk reporting.

- Implement approach to information-sharing that explicitly maintains privacy and security.
- Develop business continuity plans and disaster recovery plans, by priority functions.
- Create GNB-wide risk management dashboards and risk heat maps.
- Establish a risk committee.

See Appendix D – Roadmap

Potential KPIs

- Measures of ERM capability maturity;
- Percentage of risks addressed;
- Percentage of ERM training delivered for all of the public bodies.

6.6 Cyber Safe

Current state

GNB currently operates reactively to cybersecurity demands and has minimal resource capabilities to manage services strategically. Workers possess highly sought-after skills making it difficult to retain talent. This is compounded by an aging workforce, lack of cybersecurity skills development, and low recruitment levels. As a result, GNB often needs to outsource this specialized capability in order to maintain adequate expertise internally.

Cybersecurity resources primarily work independently within departments and are not aligned through an overall governance and business structure. Departments do not address cyber risks consistently and their actions can impact other departments unknowingly. Treasury Board is currently in the process of developing a Cyber Strategy that will align and support initiatives within the Digital NB Strategy.

The complexity of cybersecurity is arguably the biggest threat preventing large organizations from achieving their objectives. The power of new technologies are redefining cyberspace, as more sophisticated and automated attacks are being launched. With the rise of mobile and smart devices, the threat landscape will also expand in size requiring more time and resources.

Destination: What New Brunswick will look like

GNB Cybersecurity is delivered efficiently and effectively to a growing New Brunswick digital society. A strategy is in place that guides operations through a GNB-wide governance and business model supported by standards, processes and a collaborative team of cyber security specialists. While ensuring the information security needs of the Province are met, GNB fosters excellence in cyber safety, innovation and growth and is aligned with internal and external business partners.

Through partnerships and collaboration with leading experts in New Brunswick, GNB Cybersecurity is sustainable and resilient to internal and external influences. It is supported by management systems, policies and legislation that ensure its continuing viability. It adapts quickly to changing business needs as well as evolving threats in cyberspace.

What New Brunswick will do to get there

What New Brunswick will do now

1. Assess cyber security requirements:

- Conduct an assessment to identify GNB's cyber security requirements, current state of cyber readiness and the gaps to address.
- Update and publish the GNB cyber security strategy, policies and architecture to keep pace with a rapidly changing environment.

2. Design cyber security program:

- Develop a plan for a modern and agile cyber security program with strong governance focused on risk-based decision making.
- Centralize all cyber security resources to establish a center of expertise.

What New Brunswick will do within five years

3. Establish cyber security program plans and resources:

- Establish a strong base of GNB cyber security expertise responsible for continuous cyber security improvement and strategic initiatives including a talent management plan.
- Adopt standard cyber security tools and processes across GNB.
- Develop cyber resilience and crisis management plans.
- Integrate cyber security screening and training into HR practices.
- Implement a simple cyber security management system and dashboards including employee cyber awareness and safety metrics.

4. Leverage technology and automation:

- Implement technology and processes to automate response and reporting to cyber breaches and detect cyber-criminal activity (in real-time).
- Automate training and awareness sessions.
- Leverage partnerships with other jurisdictions, the private sector and academia.

5. Maintain best practices in cyber security monitoring:

- Perform enterprise risk assessments and publish policies on GNB smart devices (IoT), mobile and cloud technology.
- Maintain a watch list of emerging technologies and plan accordingly.
- Embed cyber security within the standardized GNB procurement process.

See Appendix D – Roadmap

Potential KPIs

- Cyber security maturity level;
- Cyber security risk index, including cybersecurity risks as measured against the Center for Internet Security (CIS) Top 20;
- Percentage of vulnerability scans completed on time;
- Percentage of applications risk assessed on time;
- Percentage of incidents resolved on time;
- Cyber security training success rate (verified by testing).

6.7 Success through leadership

Current state

Large and complex organizations benefit from organization-wide approaches to managing operations. GNB's work culture is primarily based on departmental silos operating independently of one another. This practice, often reinforced by legislation and policies, does not facilitate or enable the sharing of best practices, skills, expertise and information. This results in duplication of costs and efforts in addition to a decrease in opportunities to modernize work processes.

IT business solutions are a large part of business modernization. However GNB does not have an enterprise framework in place for decision making and prioritizing IT investments. Business solutions are often determined at the department level and do not benefit from the collaboration of a global approach. A coordinated, multi-departmental approach will be an integral part of a culture of innovation and change needed to support the vision of a digital New Brunswick.

Input from GNB employees emphasized the importance of strong government leadership, governance and legislative reform relative to privacy, security and accountability when implementing this strategy. Without leadership, the six other strategic areas for transformation will be impossible to achieve.

Destination: What New Brunswick will look like

In a transformed GNB, leadership and proper governance have begun to eliminate departmental silos and address privacy protections. GNB is fostering cross-enterprise leadership, collaboration, information-sharing, transparency, increased productivity, managed demand and capacity and the ultimate objective: citizen- and business-centric programs and services for New Brunswickers.

GNB prioritizes initiatives and investments with a focus on business outcomes, efficiency, and excellent standards of service. To enable innovation, GNB is updating key legislation and policies, which employees see as business enablers.

What New Brunswick will do to get there

What New Brunswick will do now

1. Review current GNB service delivery:

- Establish an approach to review programs and services to New Brunswickers and businesses; prioritize opportunities for redesign.
- Develop a portfolio management program to evaluate and prioritize business change initiatives.

2. Review and update legislation:

- Review legislation and policies to make digital initiatives possible.

3. Establish enterprise approach:

- Establish enterprise governance for prioritizing IT investments.
- Establish an Enterprise Information Management champion.

What New Brunswick will do within five years

4. Support citizen- and business centric programs

- Define roles and responsibilities between business and IT in the collaboration of digital transformation.
- Deliver training on the relevant legislation and policies.
- Adopt standardized GNB-wide best practices.

See Appendix D – Roadmap

Potential Key Performance Indicators (KPIs)

- Percentage of annual IT budget spent on digital initiatives;
- Percentage of software applications with defined business and system owners and subject to application lifecycle management.

7. Change Management framework

Digital NB includes a number of strategies that require significant changes in business processes and/or technology solutions. These initiatives will affect how GNB operates at the operational and leadership levels. It will require the adoption of standardized tools and processes across GNB to design and deliver services.

Failure in large business transformation is often attributed to the lack of buy-in, knowledge and motivation to change from those affected. The creation of a Change Management framework is a vital component of Digital NB. For organizations undergoing complex change, well-planned change management activities based on industry standards will significantly increase the probability of delivering expected outcomes and benefits as well as reduce the risk of investment loss.

7.1 Clear vision and visible support

Critical to the success of Digital NB will be a common understanding of the strategy vision, guiding principles and benefits. The Change Management framework and communication framework will ensure this knowledge is shared and understood among the leaders who will sponsor and guide the implementation of the strategy. The Change Management framework will clarify roles and responsibilities and position sponsors and leaders to demonstrate visibly their support to those affected.

7.2 Organizational readiness

One of the critical success factors when implementing Digital NB will be understanding GNB's ability to transition to the desired future business model. An assessment of GNB's strengths and weakness as well as the effects, challenges and risks will help GNB prepare for transformation.

7.3 Engagement

The engagement of GNB leaders and employees, as well as external stakeholders, is an important component of the Change Management framework. Critical to stakeholder engagement are early communication and involvement. The Change Management framework will establish a standard process and set of tools for departments to use as they implement initiatives and transition to new work practices.

7.4 Change readiness and adoption

Measures of stakeholder knowledge, buy-in, ability and capacity to change will be key to an effective implementation approach to the Digital NB. The results will identify gaps in communication, potential change champions, competing priorities, barriers, challenges and the most effective training approach.

GNB leaders and employees must be equipped with the tools and skills to be successful. A formal training needs assessment is critical to this stage and will be developed with employee involvement.

7.5 Recognition

The Change Management plan will include processes and support to understand and recognize effort, progress and success during transition phases.

7.6 Sustainability

It is important that GNB actively measure performance against expected outcomes. A change sustainability plan will support departments as they embed newly adopted practices into daily operations and continue to measure progress and success.

Lessons learned from the implementation of Digital NB can be used to create a GNB prepared and able to transition through future change initiatives.

8. Communication framework

A communication framework is necessary to support and implement the Change Management framework associated with Digital NB and promote engagement and adoption among stakeholders.

It must explain to New Brunswickers how Digital NB will improve the operation of GNB and make it easier for them to access programs and services.

It must keep New Brunswickers abreast of the progress of Digital NB in a clear, transparent fashion. Specific stakeholders include municipalities, business and post-secondary institutions. Affected GNB employees will be informed directly, ahead of any public announcements.

8.1 Goals

The objectives of the communications strategy will help meet the following goals:

- Sponsors and leaders will have a high degree of knowledge of the strategy vision, initiatives and benefits as well as the business case for changing the status quo. Roles and responsibilities among communicators will be clear.
- GNB employees and managers will understand the vision, benefits, reason for change and how Digital NB initiatives will affect them. They will understand their role and have mechanisms to provide input and access additional information.
- External stakeholders, primarily private-sector business, universities, colleges, agencies, etc., will have a high-level knowledge of the Digital NB vision and benefits and will understand how they can work collaboratively with GNB on Digital NB.
- New Brunswickers will be aware of GNB's plan to advance and improve its services. They will understand the need for change and the overall benefits of Digital NB.
- A formal communication structure to share progress and updates on Digital NB is embedded into regularly GNB management reporting activities and KPI dashboards.

8.2 Objectives

- Communication roles and responsibilities will be assigned, clarified and monitored.
- Internal and external communications regarding the strategy are managed centrally and closely aligned with the strategy implementation and Change Management framework.
- The communication channels and information flow are mapped and well communicated to sponsors and leaders.
- The execution of communication responsibilities will be measured and reported via visible KPI dashboards/scorecards.
- Communications to target audiences is delivered regularly regardless of delays related to lack of updated or new information. The committed frequency is maintained.
- A mechanism will be provided for input from internal and external stakeholders throughout the implementation of Digital NB.
- Each initiative will have high-level updates for all departments and detailed project status reports for individuals and committees responsible and involved in the implementation.
- Change assessment and training materials will include key messages tailored for the target audience.
- Measures to assess internal and external communication effectiveness will be in place and monitored.
- Ongoing updates targeted to impacted stakeholders will be embedded into regular communications post implementation.

8.3 Standard approach

Internal and external communications are essential components of the Change Management framework. The execution of a coordinated and standardized approach to communication is key to the implementation of initiatives that require a change in behaviours and processes.

Prior to the implementation of Digital NB, the following structures will be in place:

- A central structure in GNB that is responsible for the linkages between internal and external communications and change management practices.
- A standard process for communicating to GNB employees about the strategy that includes roles responsible for communicating, frequency of communication, method of communication, mechanism for feedback and measures of completion and effectiveness.
- Standard communication toolkits for those with communication roles.

The execution of and effectiveness of internal and external communication activities will be measured and monitored to ensure messages are shared in a timely and consistent manner and are achieving the goals of the communications plan.

9. Challenges and risks

The development of this strategy has reinforced the urgency for GNB to adopt a digital strategy. The risks of not doing so are clear: GNB will be unable to sustain or improve its programs and services. At the same time, it will be unable to reduce costs for taxpayers. New Brunswickers will be dissatisfied; businesses will choose either to leave or not come; youth will continue to leave; and GNB will be unable to sustain its outdated in-house technology.

GNB must consider in more detail the risks associated with adopting and implementing Digital NB. GNB will have a greater chance of successfully implementing Digital NB if it understands the main challenges and risks and how to mitigate them.

Although technology risks, such as cybersecurity will be important to manage, the significant risks associated with this strategy have less to do with technology and much more to do with the complexity of changing the design, delivery and management of services. GNB business models and the human and financial resources needed to operate services will be transformed through this strategy. This risk relates to how much GNB is willing to change and to adopt organizational change management practices as a mitigation. Also to be considered are the risks of not having the adequate resources to properly fund and manage the strategy's initiatives and projects.

See Appendix E – Challenges and risks

10. Conclusion

The Digital NB strategy positions the Government of New Brunswick to become a citizen- and business-centred organization. Through innovative business redesign, technology modernization, and partnerships, government will transform its programs and services to support New Brunswick's growth and success. The vision – become the first digital society in North America.

By moving ahead with this strategy, GNB will be positioned to meet the current and future demands of government. GNB will transition from an organization that is falling behind in business and technology best practices to an organization that leverages digital technology and innovation to deliver seamless personalized services to citizens and businesses.

Historically GNB departments have delivered services independently rather than operating as one integrated organization. This strategy requires a significant change in culture in order to adopt enterprise business practices that are centred around the people receiving services. GNB will look to the leaders of successful transformations (e.g., the [United Kingdom](#) and [Australia](#)) in coordinating this shift in approach and culture.

Appendix A

Transformational agenda

Current state (areas of challenge) – 2018	Digital strategy initiatives (enablers) – five years	Targets – 2023
<p>1 Isolation of valuable information: GNB information is collected and stored in departmental silos. This information is hard to obtain for the public and difficult for departments to leverage to meet the needs of citizens and manage services.</p> <p>An organizational view of government finances, risks and business is not easily accessible.</p>	<ul style="list-style-type: none"> – Modernize data quality, collection and storage processes and standards – Develop plans and policies to support GNB-wide (enterprise) data and information sharing – Develop governance and business model with standard processes and tools to support enterprise resource and risk management. 	<p>Information is accessible to citizens and GNB is managing business with an enterprise view: Public have access to their information; GNB departments reduce duplication and improve access to information needed for service planning; and there is a clear picture of the current state of all departments at all times.</p>
<p>2 Service design: Services are designed around departmental mandates. This results in duplication of services and processes as well as poor coordination for citizens and businesses.</p>	<ul style="list-style-type: none"> – Build expertise, tools and workspace to support and sustain GNB digital business transformation – Co-design GNB services with citizens and gather satisfaction feedback – Develop personalized online/mobile services that are easy to use and access by leveraging technology and innovation – Partner with external businesses and stakeholders 	<p>GNB provides seamless services to citizens and businesses: Easy to use and accessible services that meet citizen and business needs, increased participation and trust in their (more responsive) government.</p>
<p>3 Outdated technology: GNB maintains a large number of older information systems that are inefficient and unable to evolve to meet current business needs.</p>	<ul style="list-style-type: none"> – Establish IT governance structures – Leverage cloud services to provide online capabilities to citizens – Modernize and standardize IT systems within departments – Consolidate infrastructure where possible to support information sharing and efficiency 	<p>Technology becomes an enabler: Efficient, reliable, agile technology services support GNB business and provide digital services to citizens.</p>
<p>4 Low availability of online services: It has been estimated that only 10 per cent of GNB services are fully available online.</p>	<ul style="list-style-type: none"> – Develop policy and standards to provide GNB services digitally unless restrictions exist (Digital First policy) – Review and update legislation to support changes. – Leverage digital technology to support online services, e.g. digital signature (Digital ID), electronic forms, etc. 	<p>New Brunswick goes digital: Majority of high-volume over-the-counter services are also available online and the digital option is preferred by most customers.</p>

<p>5 Need for digital literacy: The rapid pace of technology continues to challenge GNB employees and New Brunswickers who do not have the knowledge and technological skills to participate fully.</p>	<ul style="list-style-type: none"> – Provide and leverage education and training on digital literacy and risk and security awareness – Recruitment and retention/training efforts to build a sustainable GNB workforce to support a digital NB – Identify and support assistive capabilities for those not comfortable or able to use digital services – Partner with academic and training stakeholders 	<p>New Brunswickers are digital and risk aware: There is a high participation rate in digital services – both by newly trained GNB employees and by citizens. New Brunswickers understand how to safely use online digital services.</p>
<p>6 Increasing cyber security risks: Risks are escalating globally in terms of severity, frequency and impact.</p>	<ul style="list-style-type: none"> – Assess cyber security requirements and design GNB-wide program supported by strong and sustainable base of cyber security experts – Develop standard tools and processes to be shared and used among all GNB departments – Maintain best practices in cyber security monitoring 	<p>New Brunswick is cyber-aware, cybersafe and cyber-resilient. GNB Cybersecurity operates through an enterprise governance and business model that provides standards and processes to support a collaborative team of cyber security specialists.</p>

Appendix B

What we heard

The development of the *Digital New Brunswick Strategy* involved a three-month stakeholder input phase. With a strategy involving this much change, obtaining input from a spectrum of people is critical for success.

Beginning in January 2017, Treasury Board team embarked on stakeholder consultations. One-hundred and fifteen meetings and workshops were held. The team heard from nearly 500 people from GNB departments, school districts, health authorities, municipalities, crown corporations, private sector businesses and universities and colleges.

The team also met with more than 100 students from schools and universities and surveyed more than 6,800 New Brunswickers who were accessing Service New Brunswick services between March and May 2017.

Literally thousands of rows of data were captured through this exercise. Stakeholder participants were enthusiastic and openly shared their knowledge, experience and suggestions on how GNB could build a strategy that will help it achieve its goals. Input is still coming in and undergoing analysis, for example from municipalities, so this section will only grow and provide more insight as the strategy unfolds.

Treasury Board thanks all those who participated.

Some key thoughts that emerged:

- The need to openly share knowledge, information and expertise across GNB.
- The critical need to update GNB's business and technology processes, systems and infrastructure;
- The need for strong leadership as GNB transitions and update its businesses; and
- The importance of all stakeholders working together toward building a stronger New Brunswick.

A large portion of stakeholder input was facilitated through interactive workshops about GNB digital programs and services. The following information was gathered:

1. Do we need to change the way we do business and provide services? Why is it vital that government transforms its business?

Top three ways GNB needs to change:

1 Modernize business:

“We are 20 years behind; need to get with the times we force our people to interact by our old ways.”

“GNB is out of date – world/business is transforming rapidly but government is 15+ years behind.”

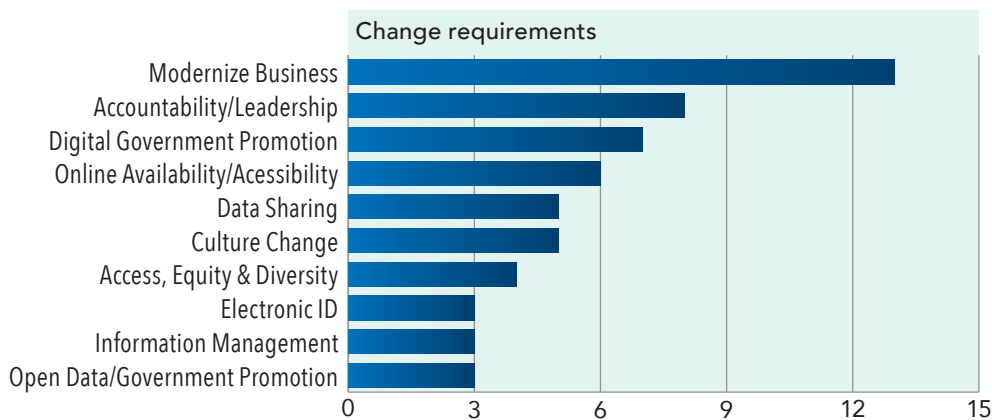
2 Accountability/leadership:

“Need leadership from the top to ensure all levels of government receive a mandate toward this, and get on board.”

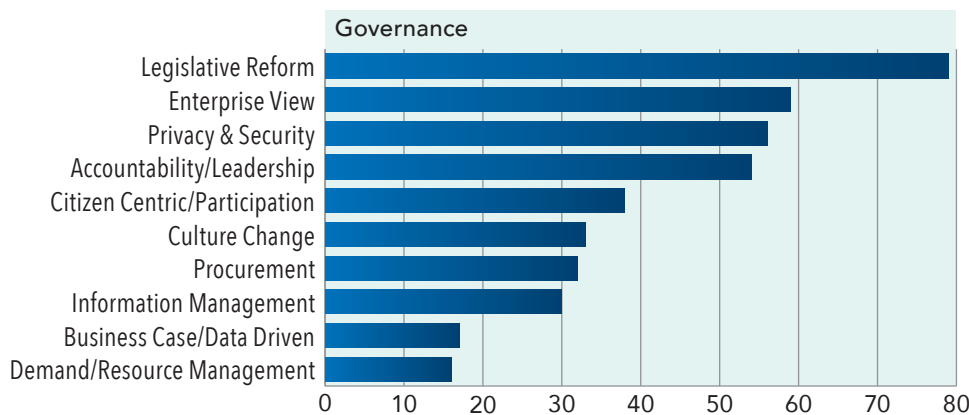
3 Digital government promotion:

“Outside of government, people can get services instantly online.”

“Why am I /providing responses on a digital strategy on paper?”



2. What type of governance needs to be in place to support customer-centric digital services? What policies, legislation, culture, etc. are required?



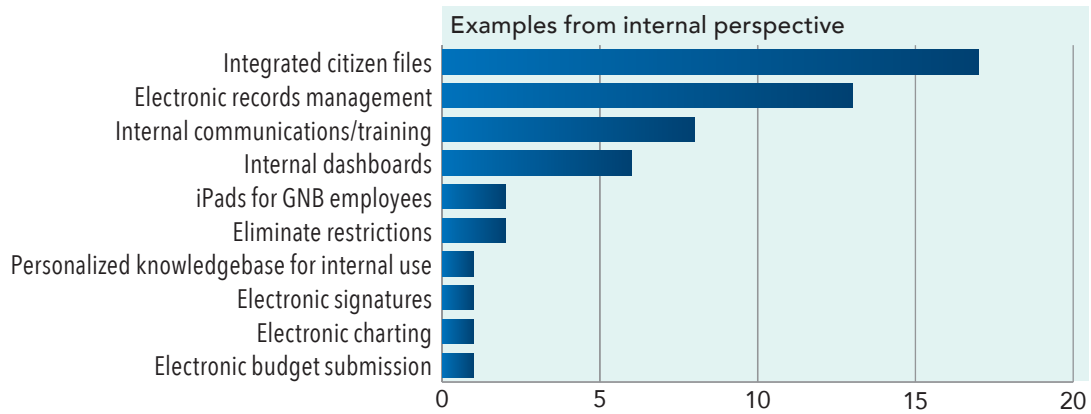
3. What are three examples of citizen-centric digital services?

GNB employees' perspective:

Citizen's perspective:

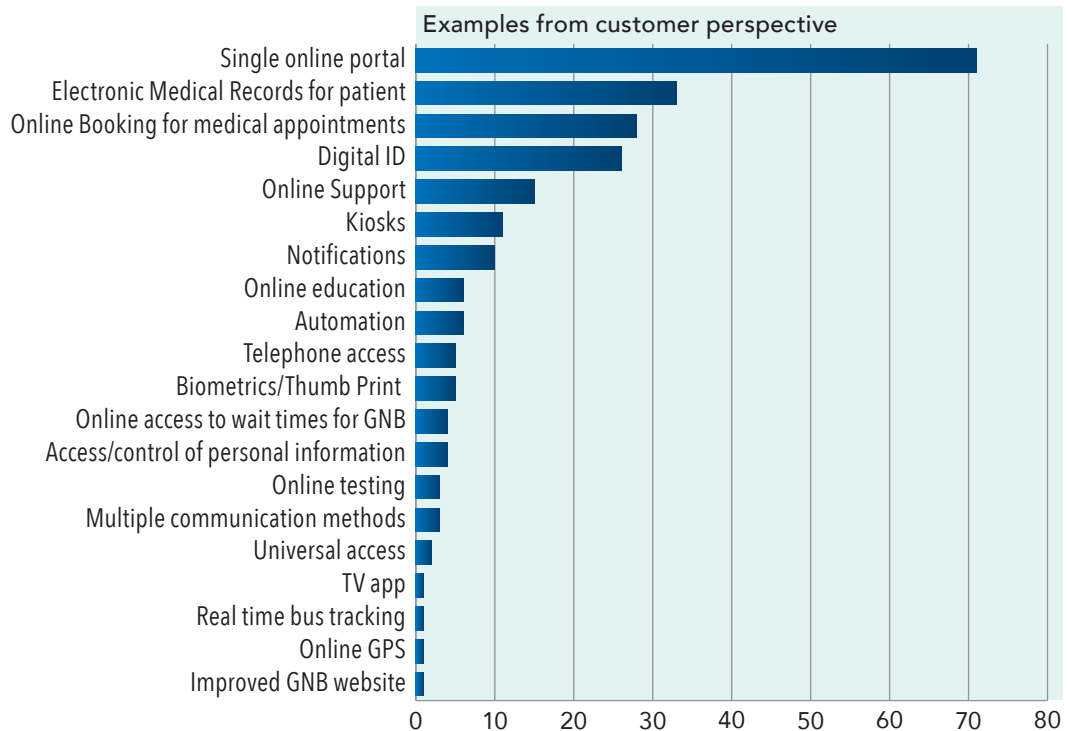
Top five examples:

- 1 Single online portal.
- 2 Electronic medical records for patient access.
- 3 Online booking for medical appointments.
- 4 Digital ID.
- 5 Online support.

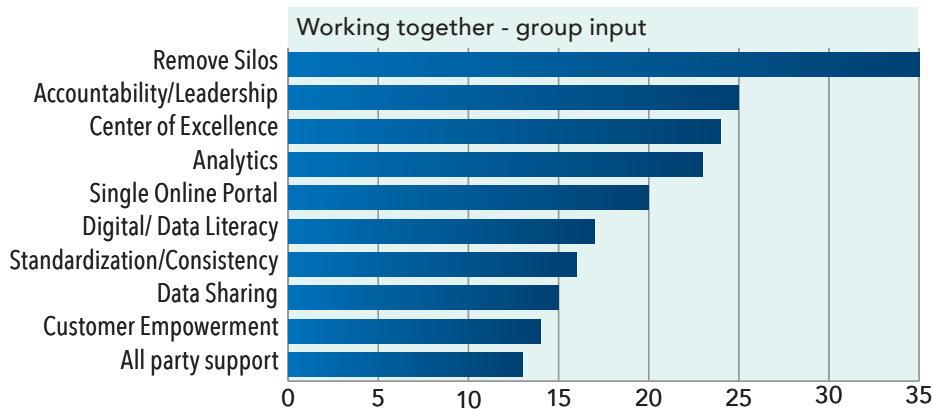


4. How could GNB work together with its partners (all four parts of GNB and with external stakeholders) to design and manage citizen-centric digital services?

Top three ways GNB departments can work together:



- 1 Remove silos:
“Getting away from silo structure.”
- 2 Accountability/leadership:
“Too many masters.”
“Determine / clearly define who owns strategy for healthcare.”
- 3 Centre of excellence:
“Governing body to oversee service delivery from all departments to ensure sharing of common data and consistency between departments.”



5. What types of skills and expertise are required to provide digital service?

Top three skills required (group feedback)

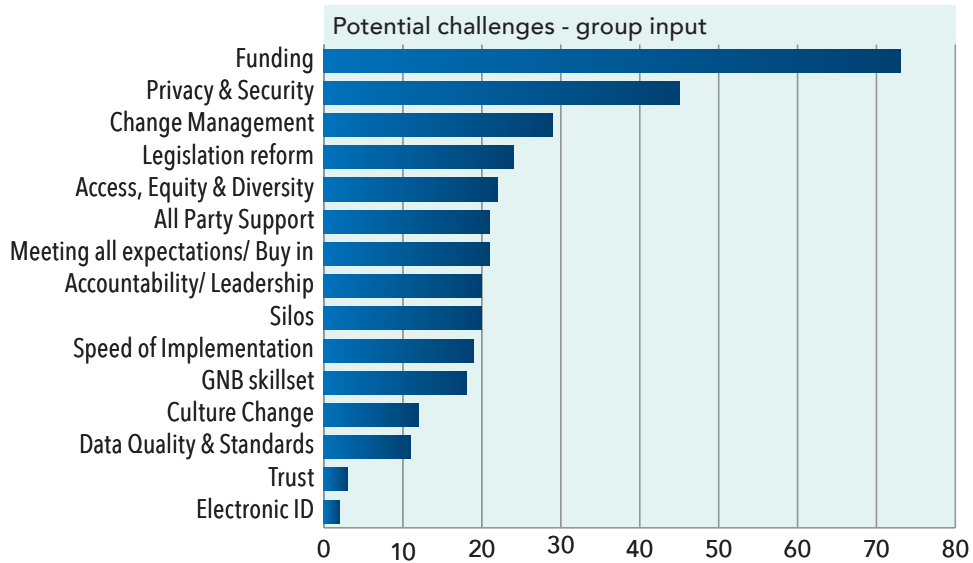
- 1 Citizen-centric
“Understand what public needs to provide so GNB can provide what they want/need.”
- 2 Change Management/communication skills:
“Strong communication skills adapted to reach all citizens.”
“Know how to manage change (role of all GNB managers).”
- 3 Privacy and security Skills:
“Privacy/security with a digital focus without hindrance.”



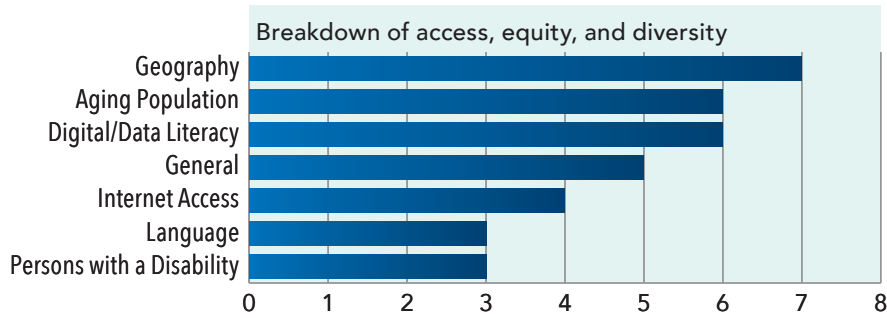
6. What will be the top three challenges for GNB in providing customer-centric digital services?

Top three potential challenges – group perspective:

- 1 Funding:
“Willingness to invest in systems, people”
- 2 Privacy and security:
“Privacy / consent.”
- 3 Change Management:
“Change management – culture / trust.”



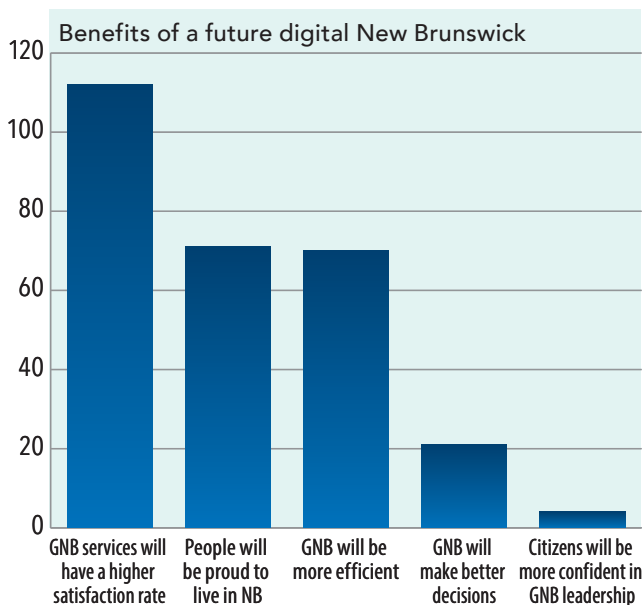
The access, equity and diversity bundle included many diverse themes. Following is a breakdown of that input, for further detail:



7. List three major benefits to our province if we achieved a true digital society.

Categories of captured benefits of a future Digital NB:

- 1 GNB services will have a higher satisfaction rating.
- 2 People will be proud to live in New Brunswick.
- 3 GNB will be more efficient.
- 4 GNB will make better business decisions.
- 5 Citizens will be more confident in GNB leadership.



Surveys from New Brunswickers

Online and in-person surveys were completed by more than 6,800 New Brunswickers who were accessing services from Service New Brunswick across the province.

Online survey findings – 1,515 respondents accessing online services:

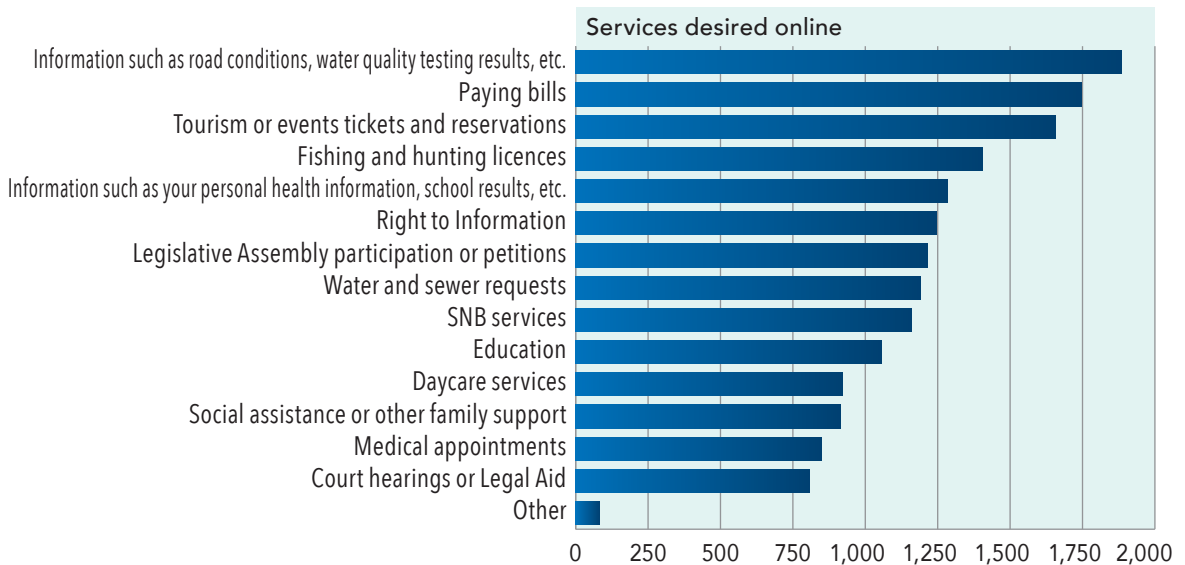
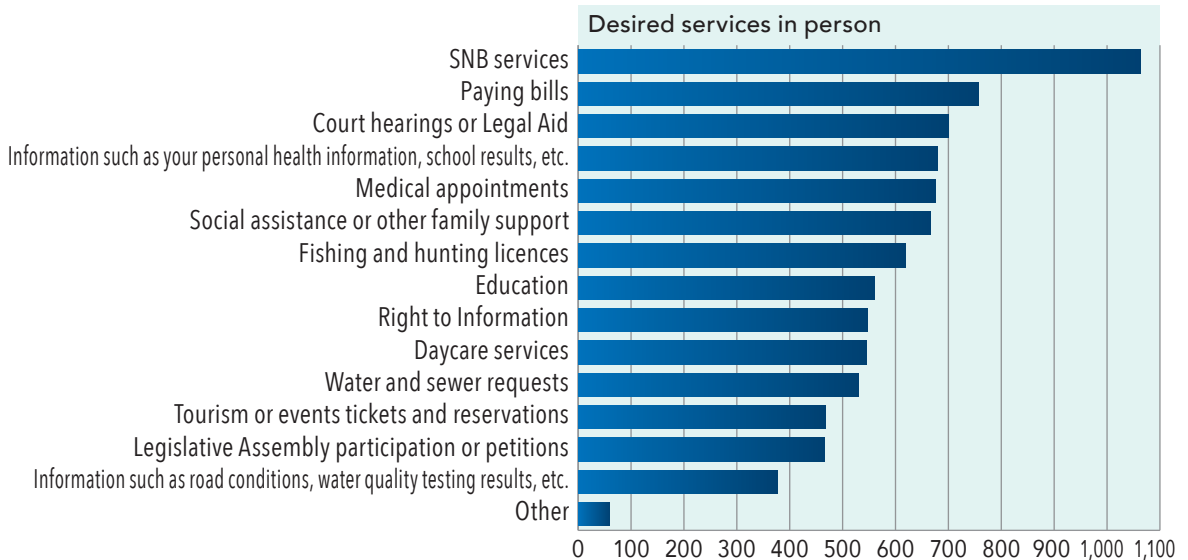
- 93% indicated they would be likely or very likely to use Service New Brunswick online services again.
- 86% accessed services online or through a mobile device compared to in person or by telephone.
- 87% preferred to pay bills online or through a mobile device.
- 80% preferred to check road conditions, etc. online or through a mobile device.
- 75% preferred to purchase tickets and make reservations online or through a mobile device.
- 60% preferred to access personal health and school information online or through a mobile device.

Respondents described themselves in the following age categories:

- Younger than 25 = 1.5%
- 25-40 = 11%
- 41-65 = 54%
- Older than 65 = 33%

In-person survey finds – 1,845 respondents accessing services at a Service New Brunswick service centre:

- 82% of all respondents have a computer or tablet at home.
- 95% of respondents younger than 25 have a computer or tablet at home.
- 71% of respondents older than 65 have a computer or tablet at home.
- 90% respondents from cities have a computer or tablet at home.
- 80% on average from rural communities have a computer or tablet at home.
- 84% of respondents from cities have high-speed Internet access at home.
- 72% of respondents from rural communities have high-speed Internet access at home.
- 44% of respondents overall did not have a printer at home.

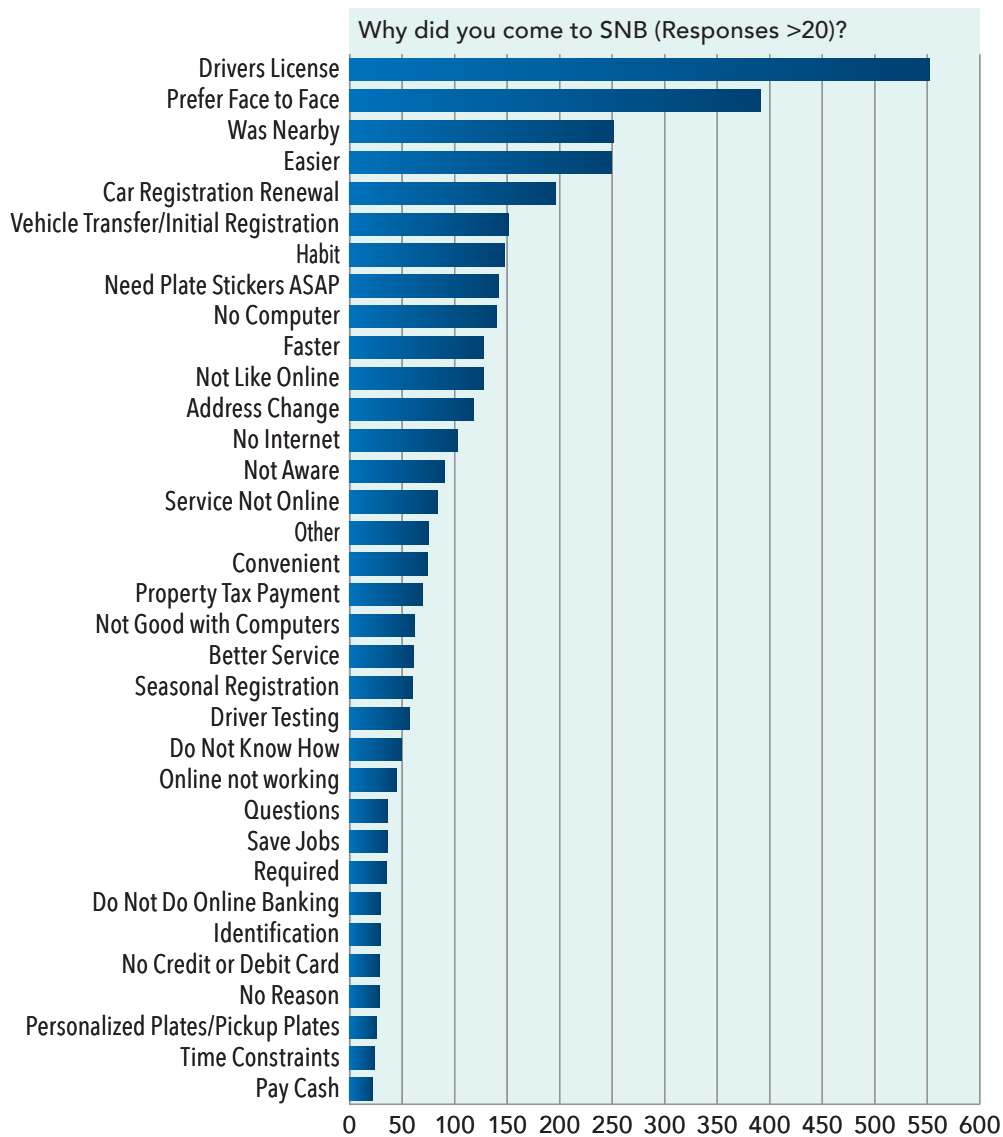


- 61.2% of respondents older than 40 are likely or very likely to use online services in the future
- 62 % of respondents 40 and younger are likely or very likely to use online services in the future

Reasons for visiting the Service New Brunswick service centre for in-person service (includes reason that had more than 20 responses):

Survey respondents described themselves in the following age categories:

- Younger than 25 = 6%
- 25-40 = 20%
- 41-65 = 44%
- Older than 65 = 15%



Appendix C

Stakeholder List

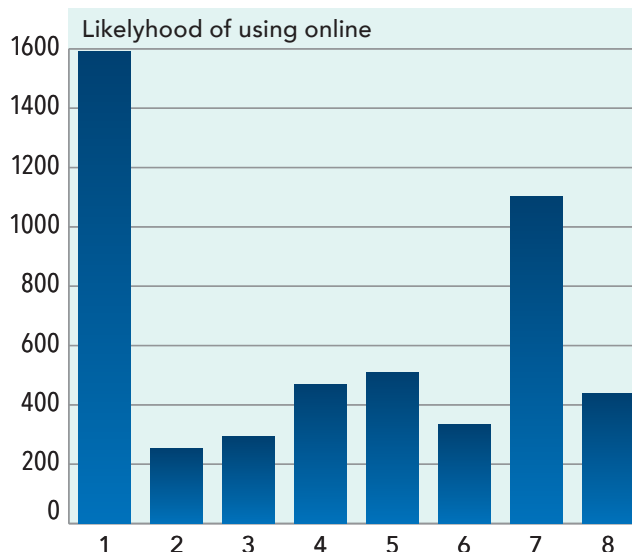
The following is a list of stakeholders who participated in workshops, meetings, discussions, and surveys:

Citizens

- SNB Surveys - Almost 5,000 Service Centre paper surveys plus 1,800 online surveys
- 120 youth (Woodstock High, École Sainte-Anne, UNB Computer Science, various student fairs and events)

Government and non-Government Stakeholders

- 435 individuals from GNB Parts 1 to 4 and external entities attended various workshops and interactive sessions



GNB

Part 1

- Agriculture, Aquaculture and Fisheries
- Education and Early Childhood Development
- Energy and Resource Development
- Health
- Justice and Public Safety
- Local Government
- Opportunities NB
- Post-Secondary Education Training and Labour
- Provincial Archives
- Service New Brunswick –
 - Client Services
 - Strategy, Planning & Solution Services
 - Operations
 - Business Application Services
 - Health application services
 - Corporate Application & Security Services
 - Infrastructure Operations
- Social Development
- Tourism, Health and Culture
- Transportation and Infrastructure
- Treasury Board

Part 2

- Anglophone School Districts
- Francophone School Districts

Part 3

- Facilicorp
- Horizon
- NB Health Council
- Vitalité

Part 4

- Alcool NB Liquor
- CCNB
- Financial and Consumer Services Commission NB
- NBCC
- NB Power
- WorkSafeNB

Senior Government Groups, Commissions, Boards

- Corporate ADMs
- Directors of Finance
- Health Authority CEOs, CIOs, CTOs, COOs
- Jobs Board
- Right to Information and Privacy

Government Subject Matter Groups

- Archivists
- Departmental Data Managers
- Departmental Information Security Officers
- Digital Lab
- Enterprise Resource Planning Group
- Human Rights Commission
- Information Access and Privacy Unit
- Information Management Committee
- Open Data Atlantic
- Records Management Network
- RTTIPA Coordinators

Legislative Branch

- Legislative Assembly
- Provincial Ombud

Non-GNB

Municipal

- Association francophone des municipalités du N.-B.
- Association of Municipal Administrators of NB
- Cities of New Brunswick Association

Federal

- CIO of the Government of Canada
- CRTC
- Open Data Director

Academia, Private Sector and Partners

- Saint Thomas University
- Université de Moncton
- University of New Brunswick
- Student Alliance
- Acadian Peatmoss
- Assumption Life
- Bell Aliant
- CARIS
- Cook Aquaculture
- Ganong
- IBM
- Irving Oil
- JD Irving
- McCain
- Medavie Blue Cross
- Moosehead
- PQA/PLATO
- UNI (Caisse Populaire)
- Canada Health Infoway
- Cyber NB
- NB Social Policy Research Network
- New Brunswick Women's Council
- TechImpact

Appendix D

Roadmap

Digital NB strategy initiatives and outcomes

Initiatives	Outcomes		
	2018 & 2019	2020 & 2021	2022 & 2023
Re-imagined services and programs			
1 Create a dedicated team of digital transformationists 2 Develop the innovation mindset 3 Establish foundational elements for change 4 Implement policy and standards 5 Build digital services expertise 6 Develop digital tools and supports 7 Drive citizen-centric service	Digital transformation team Innovation Plan Citizen-centric design thinking and process Citizen involvement requirement Linkages to other citizen led projects ERP implementation Digital identification for citizens GNB/SNB mobile-friendly website Mobile application standards developed Open data portal Alternatives for digital services identified	Digital First policy (digital tech is first option) Mobile application standards implemented Digital services hub Digital services Playbook One public services support desk Personalized online services	Digital workspace (tools and process) Digital assist capabilities for citizens implemented
People powered			
Build people skills, tools and expertise in: 1 Information management (IM) 2 Digital technology 3 Analytics and planning 4 Digital literacy 5 Digital transformation 6 GNB employee workforce 7 Best practices and research	IM training plan Digital skills training plan PETL Digital Literacy program leveraged for citizens Teaching of foundation IT concepts (support) Improved access to high-speed internet (support) Collaboration with university and colleges Analytics and business intelligence roles in GNB	Partnership with education system on digital literacy Public education on technology use and risks GNB talent experienced in digital technologies GNB staff training on digital service design GNB mandatory information and risk training Partnerships with academia and the private sector Business redesign and transformation research Enterprise risk management expertise	Tools and ongoing training for GNB workforce GNB staff work anywhere, anytime Business intelligence/data analytics expertise

Initiatives	Outcomes		
	2018 & 2019	2020 & 2021	2022 & 2023
Information as a game changer			
1 Develop plans to support data and information sharing 2 Establish policy 3 Develop enterprise data management 4 Information collection, storage and sharing efficiency	Priority data and information to be shared identified GNB-wide data management standards Plan to address information duplication and waste Requirements for a trusted digital repository	Ask once policy established Program to manage life cycle of information/data Digital signatures capability Standardized e-forms management	Data quality assurance Manual data collection processes modernized
Business and technology modernization			
1 Review existing technology 2 Improve access to technology 3 Standardize technology 4 Modernization of business and service delivery 5 Develop QA best practices	Reduce, rejuvenate or replace technology plan Cloud services framework Enhanced broadband coverage NB	Outdated technology reduced / innovation leveraged Current services revamped to be mobile and online New trending technology leveraged Quality assurance best practices for IT systems	Infrastructure and data centres consolidated Integrated IT systems to share information Enterprise Resource Planning implemented
Enterprise risk management			
1 Initiate ERM program, expertise and tools 2 Implement ERM program across GNB	Program to manage GNB-wide risk content Initial launch of a system to deliver a risk register ERM expertise development	Centralized standard enterprise risk approach Information-sharing with focus on privacy./security Business continuity and disaster recovery plans GNB-wide risk management dashboards	
Cyber safe			
1 Assess cyber security requirements 2 Design cyber security program 3 Establish cyber security program plans and resources 4 Leverage technology and automation 5 Maintain best practices in cyber security monitoring	Cyber readiness assessment GNB cyber security strategy and policies Modern and agile cyber security program Centralized cyber security resources	Strong base of GNB cyber security expertise Standardized cyber security tools and processes Cyber security management system Partnerships with other jurisdictions and sectors Enterprise risk assessments and technology polices Watch list of emerging technologies Cyber security within GNB procurement process	Cyber resilience and crisis management plans Cyber security screening and training HR practices Automated response/reporting of cyber breaches Automated training and awareness sessions

Initiatives	Outcomes		
	2018 & 2019	2020 & 2021	2022 & 2023
Success through leadership			
1 Review current GNB service delivery 2 Review and update legislation 3 Establish enterprise approach 4 Support citizen- and business centric programs	Programs/ services redesign approach Business change initiatives evaluation program Legislation/policies review to support digital services Enterprise governance for prioritizing IT investments Enterprise Information Management champion	Business and IT roles and responsibilities Training on relevant legislation and policies Standardized GNB-wide best practices	

Appendix E

Challenges and risks

Given the magnitude of required change and funding requirements, the key project risk drivers can be summarized as: 1) engaging citizens, 2); executive support; and, 3) human resource constraints.

The following table details the challenges and mitigation strategies expected with the implementation of Digital NB.

Strategic challenges	Mitigation
<p>Funding: If the strategy has support for its outcomes but has adequate funding and resource commitments are not made, the identified outcomes and benefits will not be achieved.</p> <p><i>Drivers: executive support and funding limitations</i></p> <p><i>Impacts: people, process and technology constraints</i></p>	<p>Cost each initiative and tie it to the outcomes, indicating which outcomes will not happen if the attached initiatives are not funded. Adopt the private-sector model of achieving gate-by-gate funding based on success.</p>
<p>Privacy and security: If initiatives related to privacy and security are not fully implemented, GNB may not be sufficiently prepared: (a) for the adoption of cutting-edge technologies. This could increase the risk of a privacy breach. (b) GNB may also not be prepared to manage cyberthreats that have the potential to disrupt its core operations and/or damage its reputation.</p> <p><i>Drivers: people, process and technology constraints</i></p> <p><i>Impacts: service outage, data breach</i></p>	<p>Ensure there will be training and hiring of new people with new skills to mitigate the risk, but beyond how we prepare individuals, adopt robust, well-managed processes such as those seen in the private sector. Better alignment of CyberNB and Part 1 should be explored.</p>
<p>Culture change/ Change Management:</p> <ol style="list-style-type: none"> GNB may encounter resistance to the change of sharing information by default. This may impact the ability to adjust business models and core operations. If the sharing of information among departments is not executed by GNB employees, the ability to implement digital programs and services will be hampered. Lack of participation due to existing organizational culture could prevent the benefits of an ERM from being realized. Risks reported would not give an accurate picture of GNB's overall business risks, as it would remain fragmented by departmental silos. <p><i>Drivers: executive support, corporate governance, business strategy</i></p> <p><i>Impacts: less innovation, limited digital service penetration, inflated service delivery costs</i></p>	<p>With the implementation of open data, information-sharing and ERM, GNB employees will be provided comprehensive training and tools to support this necessary shift in culture and business processes.</p> <p>Leadership champions the strategy and makes it clear to GNB employees that Digital NB is proceeding. There is a clear and standard communication plan, change management approach and monitoring of compliance.</p> <p>ERM implementation will include awareness and education, metrics, appropriate responsibilities.</p>
<p>Access/equity/diversity</p> <p>There is a risk that the strategy will favour the digitally literate (among the public and GNB employees) and that urban areas will have an advantage over rural ones because of the higher availability of broadband internet coverage.</p> <p><i>Drivers: citizen engagement</i></p> <p><i>Impacts: limited digital service penetration, inflated service delivery costs</i></p>	<p>The strategy initiatives will implement support for citizens not yet familiar nor comfortable with digital options; leverage the Department of Post-Secondary Education, Training and Labour Digital Literacy Training program; support broadband coverage everywhere; linguistic inclusiveness; training for employees who are less digitally literate themselves and for employees reaching out to the less digitally literate in the course of their work.</p>

Strategic challenges	Mitigation
<p>Lack of organizational readiness</p> <p>1 The lack of readiness of the organization and foundational elements not being in place (examples, infrastructure and integration) could impede implementation.</p> <p>2 Building a world-leading, competitive economy must be based on innovation, partnerships, advanced literacy skills and a smart workforce able to create and use information and knowledge with technology as a major enabler. GNB's inability to attract and retain top talent may limit its ability to achieve operational targets.</p> <p><i>Drivers: executive support, corporate governance, business strategy, organizational change</i></p> <p><i>Impacts: people, process and technology constraints, less innovation</i></p>	<p>Allocating sufficient funding for key initiatives and commitment to managing all business capabilities (people, process, information, technology) well during the transformation and beyond will promote and sustain organizational readiness.</p> <p>Align the resource requirements of the digital transformation strategy to GNB's talent management strategies..</p> <p>Ensure training is a priority – and create an environment in which newly trained employees can thrive.</p>
<p>Global trends/disruptive technologies:</p> <p>Global trends and rapid/disruptive technology changes may outpace GNB's ability to react and manage changes effectively without making significant changes to its business model.</p> <p><i>Drivers: global trends, business strategy, executive support and funding limitations</i></p> <p><i>Impacts: people, process and technology constraints, less innovation, inflated service delivery costs</i></p>	<p>ERM implementation will support better, faster, more informed decisions regarding new technologies and provide GNB with the agility and adaptability required.</p> <p>The ability to embrace governance models and solid enterprise architecture will provide the necessary foundation for this capability</p>