

Digital Action Plan - Implementation and Partner Programs

Recommendation

That the January 18, 2021, Financial and Corporate Services report CR_7753, be received for information.

Previous Council/Committee Action

At the October 28, 2019, Executive Committee meeting, the following motion was passed:

That Administration provide a report on the implementation for the Digital Action Plan and any associated partner programs, including the Living Lab.

Executive Summary

This report summarizes the coordinated activities that have occurred since Administration began implementing the Digital Action Plan (Attachment 1) in fall 2019. The Digital Action Plan outlines how the City is creating conditions that enable the development of next generation networks and a delivery framework for Edmonton's digital transformation.

Administration is also working with private and public partners on a number of initiatives. Examples include connecting many EPL locations to the City fibre network, support of a Community Safety Deployment Model with Edmonton Police Service, and planning with companies to improve Edmonton's readiness for installation of a 5G network.

During response to the COVID-19 pandemic, the Digital Action Plan has equipped the City of Edmonton to:

- Reimagine how best to create and utilize digital solutions and prioritize data for recovery and beyond; and,
- Share its vision during broader regional, provincial and national conversations about how Canadian urban municipalities can lead the post-pandemic economic recovery.

Report

Introduced in fall 2019, Edmonton's Digital Action plan was Canada's first municipal

Next Generation Wireless (5G) strategy. It defines two long-term goals supported by six outcomes:

Goal 1: Bridge the digital divide and continue to build a connected community and region by:

1. Enhancing resident experiences by using digital and connected technologies.
2. Working with regional partners to improve access to broadband and wireless networks for residents of the region.
3. Improving digital literacy and digital rights for residents.

Goal 2: Demonstrate thought leadership in Smart City implementation by leading the deployment of next generation wireless networks through:

1. Thought leadership in next generation wireless technology and smart city deployments.
2. Collaborate with regional partners to promote economic development in the Edmonton region to attract new investments.
3. The removal of municipal barriers pertaining to wireless network deployments.

As Administration reimagines actions to recover from the pandemic and the economic recession, there is an opportunity to revisit and update the Plan for 2021 to help foster community, regional and national economic recovery and prosperity through municipal digital infrastructure and capacity building.

Next Gen Connectivity, Spectrum Auctions, Hardware and Permitting

5G technology is characterized by three main features - faster download speed as compared to the current LTE (Long Term Evolution) network, reduced delay in communication, and the ability to connect more devices simultaneously. When the technology is widely available, there are many potential applications for people, businesses and governments. Applications could include: traffic system routing and responsiveness, automation of product manufacturing, self-driving vehicles or capacity for wireless transactions

Canadians do not yet have widespread access to 5G networks. Canada's major wireless carriers are currently enabling existing infrastructure to provide 5G. The federal government is scheduled to issue licenses for additional 5G spectrum in 2021. Another limitation to the speed of Canada's adoption of 5G is the minimal availability and capacity of hardware that can use the network.

Full implementation of 5G technology, particularly using the higher mmWave/FR2 frequencies above 24GHz, will require the installation of pizza box-sized transmitters every 250 metres. This translates into 2,750 small cells to effectively cover Edmonton's roughly 684 square kilometers. With multiple telecommunications

providers, the City could expect upwards of 8,000 new pole installations over the next several years as the higher mmWave spectrum bands become available.

To help Edmonton stay a technology leader, Administration is working with the major carriers to streamline the 5G permitting process by understanding their perspective and ensure the City is not imposing undue burdens on network deployment. In addition, the carriers are aligning 5G roll out with citizen priorities and alignment with the City's strategic planning. Administration will continue to work with carriers on opportunities through collaborations like the proposed "Living Lab".

Goals, Objectives and Actions

Since the Digital Action Plan was adopted, Administration has started a number of actions that support the Plan's goals. Examples include increased services for online permits, licenses and payments for the City's customers and business clients, and the expansion of Edmonton's fibre optic and Open City Wi-Fi networks. A complete overview of all Digital Action Plan actions, and the objectives they support, is available in Attachment 2.

COVID-19 Pandemic, Connection to Reimagine and Economic Recovery

Due to the forward-thinking reflected in the Digital Action Plan, the City of Edmonton was well-positioned to quickly shift many employees to temporarily work from home as an ongoing response to the COVID-19 pandemic. Starting on the March 12, 2020 advisory to shift work to home, Administration successfully set-up 3,605 employees to work from their homes within that first month alone, an unprecedented effort that required innovative, fast-moving adaptation. At the onset, three call centres were equipped with new technologies to physically move over 200 call centre staff (311, Integrated Service Centre, DATS) to work from home without service disruption. The vision of Edmonton's connectedness in the Plan is a foundation of the work to Reimagine a modern municipal government in Edmonton.

For the first three months of the pandemic, Administration's technology resources were focused on responding and reacting to the new needs of local government. Initiatives included online mechanisms to report public health order infractions, enabling the shift to working from home and online payment for many services that previously required in-person interactions.

After this initial three month period of responding, Administration shifted to strategic planning for the economic and social recovery of Edmonton's communities. Through reimagining services, Administration will ensure that the City of Edmonton's programs and services support recovery in alignment with The City Plan. Technology will form a foundational part of how the City reimagines actions to create and utilize digital solutions and prioritizes data for recovery and beyond.

Much of this work is underway, as demonstrated in the actions in Attachment 2. Edmonton's Digital Action Plan has prepared the City to share its vision at regular discussions with the other six major urban municipalities on the role of urban municipalities to drive post-pandemic digital-focused economic recovery and prosperity across Canada.

Partner Programs and the “Living Lab”

At the October 28, 2019, Executive Committee meeting, Telus presented the idea of creating a ‘Living Lab’ to test applications of 5G infrastructure. Committee's discussion indicated support for Telus' vision and asked Administration to collaborate to explore the idea.

A facilitated session between Telus and City staff was held on March 10, 2019, about “Living Lab” applicability. Follow up sessions were planned, but conversations were put on hold due to the pandemic. Telus returned to the City in late August 2020 and provided a proposal with three scenarios for consideration. Administration reviewed the proposal and informed Telus that it would be interested in exploring more following the Fall 2020 budget process. Administration is planning further discussion with Telus in January 2021 to create a 5G pilot idea.

While the Living Lab project's progress was impacted by COVID-19, there are other examples where Administration was able to continue work with partners to implement programs that align with the Digital Action Plan. Attachment 2 provides a broad overview of these efforts. Two significant projects that exemplify the work to date are described below.

The first example is the work Administration is doing with Edmonton Public Library (EPL). Libraries' role as front-line service providers to demographics that are underserved and at-risk has necessitated that library professionals are the primary link between individuals and communities to the rapidly digitizing economy and civic institutions.

EPL is rising to this challenge, providing 500 free public computers and among the lowest printing costs in Canada. Statistics Canada's 2018 Internet Use Survey indicated that the share of users in the lowest income quartile who access the Internet from the library was higher (14.2 percent) than the national average (11.2 percent), highlighting how EPL's work promotes equity for a vital service.

Towards this goal, the City of Edmonton is connecting many EPL locations to the City fibre network. The City and EPL are working together to ensure Edmonton's libraries provide needed bandwidth and public internet access in the most cost effective and secure way.

Another example of collaboration with partners is the coordination, creation, and launch of the Community Safety Deployment Model. Working closely with Edmonton Police Service and the 24/7 Crisis Division Team, this tool applies made-in-Edmonton technology to predict where and when to best deploy community safety resources to maximize efficiency and safety. The model achieves this through predictions based on consolidated partner data. This data driven approach to triage ensures that an enforcement and support balance is achieved. This program supports the objective of leadership in using next generation wireless technology and smart city deployments to ensure the right resources are at the right place at the right time.

Next Steps

The 2019 Digital Action Plan contains a vision for the City of Edmonton as an enabler of 5G, and as a leader in digitization of services and bridging the digital divide. Despite the slower than anticipated roll-out of 5G technologies and connectivity, the COVID-19 pandemic provides an opportunity for the Digital Action Plan to reimagine how Administration leverages digitization and data to support recovery.

To guide this work going forward and ensure optimal return on investment, Administration has:

- Reconvened the Smart City Internal Advisory Committee, consisting of Branch Manager-level representation from across the City to explore and validate ideas aligned with the Digital Action Plan and support reimagined actions on digitalization and data;
- Developed the Technology Investment Governance Structure and process, outlined in Attachment 3, ensures alignment with The City Plan, ConnectEdmonton and the Digital Action Plan is reviewed and confirmed before investing City resources in a technology project; and
- Continued to work with partners, such as Innovate Edmonton and Edmonton Global, to define their role on these recommendations.

The Smart City Internal Advisory Committee will also revisit the Digital Action Plan to update it to reflect its new role guiding post-pandemic economic activity. In the near-term, this means providing the foundation for Edmonton to play an important role in the national discourse on an urban technology based economic recovery. Over the long-term, it means making Edmonton more pandemic-proof, a likely condition to attract sustainable foreign direct investment in the future.

The Smart City Internal Advisory Committee will ensure that Edmonton is leveraging technology to do more with less. Much of the City's technology resources currently focus on delivering standardized and integrated internal systems, often referred to as "Enterprise Commons." A revised Digital Action Plan will be needed to identify

opportunities based on the work already completed and prioritize Administration's resources during this time of restraint.

A revised Digital Action Plan will build upon the original Plan to focus on:

- The successful delivery of Enterprise Commons
- Digitizing and reimagining services
- Streamlining telecommunication-related regulations and leveraging next generation connectivity
- Bridging the digital divide
- Leading local, provincial and national discussions and initiatives to recover from and prepare for future pandemics

In addition to returning in Q4 2021 with the revised Digital Action Plan for Committee's information, Administration will provide an update on both the "Living Lab" partnership with Telus and the progress of 5G roll-out after the Federal spectrum auctions.

Corporate Outcomes and Performance Management

Corporate Outcome: Edmonton Region is a catalyst for industry and business growth			
Outcome(s)	Measure(s)	Result(s)	Target(s)
Increased connectivity for Edmontonians	Properties in the city with internet access	TBD	Target TBD in revised Digital Action Plan Q4 2021
Increase Open City Wi-Fi location	Number of network locations above the current >1,100 added each year	8 - 2020 9 - 2019	5 new locations per year

Attachments

1. Edmonton's Digital Action Plan 2019
2. Digital Action Plan Objectives and Corresponding Actions
3. Corporate Business Technology Investment Approval and Delivery

Others Reviewing this Report

- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations
- J. Meliefste, Acting Deputy City Manager, Integrated Infrastructure Services
- K. Armstrong, Deputy City Manager, Employee Services
- R. Smyth, Deputy City Manager, Citizen Services

- S. McCabe, Deputy City Manager, Urban Form and Corporate Strategic Development
- B. Andriachuk, City Solicitor