TORONTO

REPORT FOR ACTION

Building Digital Autonomy in the City's Digital Infrastructure

Date: June 15, 2021
To: General Government and Licensing Committee
From: Chief Technology Officer
Wards: All

SUMMARY

This report responds to the request for the Chief Technology Officer to report back to the General Government and Licensing Committee on public and stakeholder consultations related to the development and procurement of digital infrastructure; and on a request to consult with appropriate stakeholders on the inclusion of a commitment to the City's control and autonomy of its core digital infrastructures.

Digital autonomy is related to some key concepts that are already embedded within the Digital Infrastructure Plan including equity, democracy, transparency, and privacy. To-date, staff have developed a definition for digital autonomy that applies to the municipal government context; and have identified a range of issues that could position the City on a path towards achieving digital autonomy. These issues have been developed in collaboration with the City Clerk's Office and the Purchasing and Materials Management Division.

This report provides an overview of these issues, along with an outline of the public consultation and stakeholder consultation path. The following engagement activities have taken place so far:

- Participation in workshop coordinated by the Cities Coalition for Digital Rights;
- Engagement with Open North, a non-profit organization that advises local government on technology and "smart city" issues;
- Liaison with staff from other leading cities; and
- Meeting with the Digital Infrastructure Plan Community Advisory Group.

Further consultation and stakeholder engagement will take place over the summer, including a public meeting on June 21, 2021. Additional consultation, examining digital autonomy in the context of the Digital Infrastructure Plan, will take place in Q3 2021 with a further report back to the Executive Committee in Q4 2021.

RECOMMENDATIONS

The Chief Technology Officer recommends that:

1. The General Government and Licensing Committee receive this report for information.

FINANCIAL IMPACT

There are no financial implications resulting from the recommendations within this report.

DECISION HISTORY

At its meeting of March 10 2021, City Council directed the Chief Technology Officer to complete public and stakeholder consultation on building and procuring digital infrastructure, and related policies for the Digital Infrastructure Plan and to report to the General Government and Licensing Committee by end of the second quarter of 2021.

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2021.DM30.1

At its meeting of November 25, 2020, City Council directed the Chief Technology Officer and the City Clerk to include an update on the alignment of the Data for Equity Strategy with the Digital Infrastructure Plan, Open Data Master Plan, and Information Management Policies and Guidelines in the Digital Infrastructure Plan progress report to the Executive Committee in the third quarter of 2021.

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.EX18.6

At its meeting of January 29 2020, City Council directed the Chief Technology Officer, in consultation with the City Clerk, to consult with appropriate stakeholders on the inclusion of a commitment to the City's control and autonomy of its core digital infrastructures and a commitment of support to laws that protect the City's and its citizens' data, in development of the Digital Infrastructure Plan.

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2020.EX12.2

COMMENTS

Summary of Issues

Digital Autonomy falls within a complex policy arena that contains overlapping, and sometimes, competing regional interests and regulatory oversight, particularly when it comes to platform and service providers that operate on the global stage. The issues also fall within the domains of private individuals, where individual data autonomy intersects with concerns over data collection (legitimacy and scope), process

transparency, data security, data retention, and the rights or expectations to have one's data deleted upon request.

At the local government level, the movement towards digital autonomy is largely centered on the City's ability to autonomously control and maintain its digital infrastructure assets through constructive and self-directed relationships with technology companies and vendors.

Digital infrastructure is defined as infrastructure that creates, exchanges or uses data or information as a part of its operation, and includes physical structures, cabling and network systems, software systems, data standards and protocols. Examples include sensors (e.g. cameras, GPS sensors, microphones, etc.), broadband and telephone networks, Wi-Fi, Apps, and open data standards. Residents interact with or benefit from the City's digital infrastructure in a variety of ways including: accessing information from the City's web site; using the Covid-19 'chatbot'; paying for City services online; automated meters to monitor water usage; and the use of sensors to improve road safety.

Common ways that a municipality's control of its digital infrastructure assets can be limited come through:

- Products having imbedded or contractual limitations, that could - for example - restrict the addition of extra functionality into the product;
- Manufacturers and vendors placing restrictions (or prohibitions) on who can repair, modify or maintain digital infrastructure; and
- Both of these above situations can lead to "vendor lock-in" scenarios, where it becomes impractical to switch to another product or vendor, even if the original product or vendor has a known deficiency;

Additionally, the above scenarios can limit interoperability of the City's digital infrastructure (that is, the ability for systems or devices to communicate or exchange information with each other). As the City and its services become increasingly contingent on networked digital technologies, interoperability will become critical for the City's internal operations, services and processes, as well as its ability to work with other municipalities and external stakeholders.

Jurisdictions from around the world have responded to these issues in a variety of ways including procurement approaches and policy interventions. While much can be learnt from these approaches, given Toronto's legislative context as a large municipality, it has been necessary to develop a local response. This response includes a working definition for digital autonomy; a scoped list of issues that will help move the City towards digital autonomy; and a high-level implementation approach. This response has been framed in the broader context of the Digital Infrastructure Plan (DIP). Specifically, this includes adding "digital autonomy" as a sixth principle of the DIP; and creation of an accompanying Vision Statement. This response is summarized in Table 1 below.

Table 1: Summary of Digital Autonomy scope and related issues

Digital Autonomy Working Definition	• Digital Autonomy refers to the City's ability to develop, maintain and control the selection, use and design of its digital infrastructure to deliver public services and advance the public interest, as informed by legislation and community consultation.
Scope of Issues related to Digital Autonomy	• Open Source • Open Standards • Open Contracting • Data Residency in Canada • Right to Repair Digital Infrastructure
Proposed 6th "Working Principle" for the Digital Infrastructure Plan (DIP)	• Digital Autonomy
Draft Vision Statement	• The City will maintain control in the selection, use and design of its digital infrastructure, so that it can act in an autonomous self-determined manner within the digital realm. Digital Autonomy and public control will be achieved by implementing policies and requirements related to Open Source, Open Standards, Open Contracting, Data Residency, and Right to Repair, in combination with community consultation.
Implementation approach	• The City would benefit from applying the Digital Autonomy principle to many types of digital infrastructure. • The Digital Autonomy principle would be implemented gradually to new digital infrastructure initiatives, enabling methodical, iterative change. • This approach recognizes that the process of change takes time and resources (policy development, change management, implementation). • Community consultation would be integrated into the decision-making process to identify and prioritize suitable initiatives.

Consultation

The scope of issues outlined in Table 1 above were developed through research and collaboration with staff from the City Clerk's Office, the Purchasing and Materials Management Division, as well as staff from other cities and agencies. Reports and documentation provided by Waterfront Toronto, relating to the SidewalkLabs proposal,

also informed this scoping exercise. These issues then formed the basis of the public and stakeholder consultation process which is presently ongoing. A summary of the consultation process follows:

- **December 2019, Digital Infrastructure Plan consultations**

During initial consultations related to the Digital Infrastructure Plan (DIP), participants were provided an opportunity to comment on the proposed working principles, and to provide suggestions for additional topics that staff should consider. Through this consultation, the suggestion to add Digital Autonomy as another DIP principle was provided at that time (referred to as technological sovereignty in the submission).

- **March 2021, Cities Coalition for Digital Rights Applied Digital Rights Initiative**

The City of Toronto joined the Cities Coalition for Digital Rights (CC4DR) in October 2019 and became a core city in 2021. CC4DR is an international coalition with over 50 cities that aims to promote, protect and uphold human rights on the internet at the local and global level. Membership in this coalition has afforded staff the opportunity to participate in numerous workshops on issues related to "smart cities", including a "Digital Rights Initiative" held in March 2021. Technology Services staff worked alongside Canadian and International experts to help scope out issues related to digital autonomy at the local government level.

- **Ongoing, Open North Advisory Services**

Open North, a non-profit organization based in Montreal, provides free advisory services to cities on smart city issues. Technology Services staff are currently working with an Advisor from Open North, who has expertise in IT procurement policy and Open Source policy to examine issues related to digital autonomy. To-date, staff have had two meetings with this Advisor, and a third is expected to take place in early July.

- **Ongoing, Collaboration with City of Barcelona**

The City of Barcelona is a leader in the field of municipal digital autonomy (referred to as digital sovereignty in the European context). Barcelona's transition towards digital autonomy began 2016, and focuses on an "open and efficient government that uses technology to transform and digitally innovate the public sector based on free software and standards" (General Principles of Technological Sovereignty, https://www.barcelona.cat/digitalstandards/en/tech-sovereignty/0.1/general-principles). Technology Services staff have engaged with staff from the City of Barcelona to learn about their approach to achieving this focus, with a view to transferring these lessons to the local setting. This engagement is ongoing.

- **June 2021, Digital Infrastructure Plan Community Advisory Group**

Following City Council's adoption of the Digital Infrastructure Plan principles in January 2020, Technology Services staff formed a Community Advisory Group (CAG). The mandate of the CAG is to provide an ongoing forum for advice and feedback to the DIP Project Team. The CAG is comprised of approximately 20 Toronto residents that have a diverse demographic and interests. Staff met with the CAG on June 7, 2021 to present the initial findings related to digital autonomy. The purpose of this meeting was twofold: to get CAG's feedback on the proposed scope and approach, as summarized in Table 1 of this report; and to get their feedback on materials that would be presented at a public

consultation scheduled to June 21, 2021. These materials are included in Attachment 1 of this report.

Next Steps

A public meeting is scheduled for the afternoon of June 21, 2021. The presentation approach at this meeting will be refined based on advice provided by the Community Advisory Group (CAG), however the content will largely reflect that which was presented to the CAG and summarized in Table 1. Stakeholder engagement will continue through to July. This will include meetings with the Toronto Region Board of Trade, procurement bodies such as the Ontario Public Buyers Association and Supply Chain Canada, as well as with academia.

As outlined in the City's Data for Equity Strategy, staff will work to consider and address the principles of Indigenous data governance and methods of First Nations, Inuit and Métis engagement and guidance on how data is collected, protected, used and shared. The First Nations principles of OCAP®1 (Ownership, Control, Access and Possession) provide a model for the City's approaches to Indigenous data governance.

Feedback from the activities described in this report will inform refinements to the proposed approach summarized in Table 1. Staff will then begin the process of integrating the Digital Autonomy principle into the Digital Infrastructure Plan. This process includes developing "actionable" policy statements which would be needed for implementation. For example, determining how to integrate public consultation into the process to identify and prioritize suitable initiatives. This work will be integrated into the more extensive consultation on the Digital Infrastructure Plan that will take place in Q3 2021. A report on the outcomes of that process will be presented to the Executive Committee in Q4, 2021.

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SIGNATURE

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ATTACHMENTS

Attachment 1: Materials presented to the Community Advisory Group

1 OCAP® is a registered trademark of the First Nations Information Governance Centre (FNIGC). For more information please see www.FNIGC.ca/OCAP