EX30.12

REPORT FOR ACTION

Toronto's Open Data Master Plan

Date: January 10, 2017
To: Executive Committee
From: Deputy City Manager, Internal Corporate Services
and Chief Information Officer
Wards: All

SUMMARY

As directed by City Council at its meeting on April 26, 2017, this report recommends the adoption of an Open Data Master Plan 2018-2022 for the City of Toronto. It also provides an update on the progress of the Open Data program, including the development of a new Open Data Portal.

When government data is made open to the public, new ideas and perspectives unlock the potential for it to be re-used, analyzed, and correlated to help improve the City's delivery of public services, engagement with citizens in government decision making, and innovation in our approaches to civic problem solving. A stable foundation and substantial investment in open data is a key to the success of strategic initiatives like Smart Cities, Civic Innovation, and Open Government.

Open Data Master Plan
The Open Data Master Plan provides a strategic framework and roadmap for the City to advance Toronto's vision for open data until 2022. The plan will enable the City to grow as a leader in open data through effective governance, alignment to the International Open Data Charter, open source development and a move to coproduction. It provides visibility into how open data helps meet the needs of Torontonians and how the City plans to unlock its potential. The plan also shows how, and when, the community can best align with the City to leverage open data.

The Open Data Master Plan identifies the resources and digital infrastructure needed to effectively grow and advance the Open Data program. Leveraging current and industry standard technologies that ensure a positive user experience and easy access to quality open data are core to the plan. Increasing the quality, speed and efficiency of open data production is key for creating value through open data, as is showcasing successes and sharing insights. Fundamental to the Open Data Master Plan is building a foundation for enhancing the ability to address civic issues through increased collaboration and partnership.

Four principles guided the creation of the Open Data Master Plan: co-develop with the public; release datasets that help solve civic issues; explore opportunities to improve City efficiency; and embrace inclusivity. These principles were co-developed with the community, supported by Executive Committee and Council through the April 2017 status report, and helped steward the approach to stakeholder consultations.

City staff engaged 125 stakeholders, through 20 meetings in the creation of the Open Data Master Plan. The consultations were inclusive, highly interactive and with long reach. Internal stakeholders (e.g. Chief Transformation Office, Chief Resiliency Office, Civic Innovation Office, Divisions and Agencies), external stakeholders (e.g. Academia, Business, Start-ups, Civic Tech, Province of Ontario) and the Public participated in workshops, meetings, surveys, and webinars. Staff also procured an internationally recognized Canadian not-for-profit organization (OpenNorth) to provide support and coordination services in the external and internal consultation process and documentation of the Open Data Master Plan and Roadmap.

Open Data Program Update
Since 2009, the City has consistently published on average 25 to 30 datasets per year and currently has a total of 258 datasets and over 1,100 datafiles available. 33 new open datasets were published in 2017, alongside 57 updates to current open datasets, and 67 new datasets being prepared for release. The Open Data Master Plan identifies that efficiencies in the publication process will be realized and as such more data will become available with a further emphasis on data quality and relevance to help solve civic issues.

Creation of a New Open Data Portal
The City's first Open Data website was launched in the fall of 2009 and has gone through several iterative improvements. Increased demand for open data and growing expectations for a broader set of functionality, to make open data more accessible to the general public, have necessitated a redesign effort for the current website.

A new Open Data Portal was developed through: Internal, external and public consultation; design thinking and user-centric framework; focus on accessibility and AODA compliance; and socializing initial designs through soft-launches of early prototypes. The new Open Data Portal is expected to launch in Q1 2018 through a phased approach.

The full Open Data Master Plan can be found in Attachment 1.

RECOMMENDATIONS

The Deputy City Manager, Internal Corporate Services and Chief Information Officer recommend that:

1. City Council approve the Open Data Master Plan as outlined in Attachment 1.

FINANCIAL IMPACT

Funding for interim resources to support Open Data Master Plan Implementation totalling $2.779 million are included in Information & Technology's 2018 Preliminary Capital Budget ($0.707 million) and 2019-2027 Preliminary Capital Plan ($1.036 million in each of 2019 and 2020) for consideration. These resources are to fund the modernization of the current Open Data publishing process and continued design and build of the Open Data Portal. The final Open Data Master Plan Implementation project report will include comprehensive costs, timing and financial impacts.

The Acting Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its December 13, 2016 meeting, City Council directed the Deputy City Manager, Chief Financial Officer and Chief Information Officer to report back to the April Executive Committee with a progress report on the Open Data Strategic Plan.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX20.19

At its February 5, 2016 meeting, Government Management Committee requested the City Clerk and the Chief Information Officer to report back on Open Data in the City.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.GM10.4

At its May 24, 2016 meeting, Executive Committee adopted motions for the City Manager to develop an Open Data Strategic Plan.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.EX15.25

At its April 26, 2017 meeting, City Council directed the Deputy City Manager, Chief Financial Officer and the Chief Information Officer to report to the Executive Committee at its October 24, 2017 meeting with a proposed Open Data Master Plan.
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.EX24.10

COMMENTS

Open Data is a foundational element that will enable innovation and new opportunities for the delivery of City services to the diverse communities that we as a municipal government serve. The Open Data Master Plan and Roadmap will ensure further alignment of the Open Data Program to the City's strategic directions.

As directed by City Council, I&T created an Open Data Master Plan for the City of Toronto. This was a complex, multi-pronged project that intersected with many City Divisions, corporate strategic initiatives, community groups, private business, academia and the general public.

The kick-off of the co-development of the Open Data Master Plan and Roadmap occurred in June 2017 and continued into December. The Open Data Master Plan and Roadmap is complete and ready for wide-scale socialization and adoption.

Development of the Open Data Master Plan
City staff engaged 125 stakeholders, through 20 meetings in the creation of the Open Data Master Plan, which have been inclusive, highly interactive and with long reach. Internal stakeholders (e.g. Chief Transformation Office, Chief Resiliency Office, Civic Innovation Office, Divisions and Agencies), external stakeholders (e.g. Academia, Business, Start-ups, Civic Tech, Province of Ontario) and the Public have participated in workshops, meetings, surveys, and webinars to obtain input. Staff also procured an internationally recognized Canadian not-for-profit organization (OpenNorth) to provide support and coordination services in the external and internal consultation process and documentation of the Open Data Master Plan and Roadmap.

Establishing a Public Advisory Group comprised of individuals from the Public, Start-ups, and Academia was key to stewarding the broad consultation feedback and facilitated effective co-development of the Open Data Master Plan.

The Open Data Master Plan by design ensures linkages to data analytics, data visualization, and business intelligence efforts currently underway across the organization. The importance of this alignment is noted specifically in the "Enable Effective Use of Data" action within the "Activation" theme of the Master Plan.

Four principles guided the creation of the Open Data Master Plan: co-develop with the public; release datasets that help solve civic issues; explore opportunities to improve City efficiency; and embrace inclusivity. These principles were co-developed with the community, supported by Executive Committee and Council through the April 2017 status report, and helped steward the approach to stakeholder consultations.

There were three phases for the development of the Open Data Master Plan.

Phase One: Assessment and Planning: January – June 2017 (Complete)
- Initial identification of opportunities and challenges
- Creation of partnerships with key stakeholder groups
- Hiring of resources (Open Data Portal development)
- Analysis of the current Open Data workflow and pipeline
- Procurement of contract with Open North to assist in facilitating co-development of the Master Plan

Phase Two: Co-Development of Draft Master Plan: July– December 2017 (Complete)
- Develop an engagement strategy
- Establish a Public Advisory Group
- Consult with internal, external, and community stakeholders
- Establish initial key themes, issues, and opportunities
- Socialize the Open Data Master Plan with stakeholders and City executives

Phase Three: Present and Implement Open Data Master Plan: Q1 2018 (In Progress)
- Begin implementation of the Open Data Master Plan

Benefits of Having an Open Data Master Plan
The Open Data Master Plan provides a strategic framework and roadmap for the City to advance Toronto's vision for open data until 2022. The plan will enable the City to grow as a leader in open data through effective governance, alignment to the International Open Data Charter, open source development and a move to coproduction. It provides visibility into how open data helps meet the needs of Torontonians and how the City plans to unlock its potential. The plan also shows how, and when, the community can best align with the City to leverage open data.

The Open Data Master Plan identifies the resources and digital infrastructure needed to effectively grow and advance the Open Data program. Leveraging current and industry standard technologies that ensure a positive user experience and easy access to quality open data are core to the plan. Increasing the quality, speed and efficiency of open data production is key for creating value through open data, as is showcasing successes and sharing insights. Fundamental to the Open Data Master Plan is building a foundation for enhancing the ability to address civic issues through increased collaboration and partnership. The Open Data Master Plan is a living strategy that will be monitored throughout its implementation with considerations for future requirements beyond 2022.

Summaries of Attachments are provided below.

Open Data Master Plan (Attachment #1)
The Open Data Master Plan provides a strategic framework and a roadmap for advancing Toronto's vision for open data until 2022. The Master Plan identifies four themes and twelve areas of action for: Formalizing and maturing the Open Data program; amplifying and showcasing the value of open data; and enabling others within the open data community to address civic issues through increased collaboration and partnership.

Open Data Master Plan Stakeholder Engagement List (Attachment #2)
The Open Data Master Plan consultations have been inclusive, highly interactive and with long reach. This attachment outlines the various internal and external groups who were engaged during consultations.

Outstanding Council and Committee Motions (Attachment #3)
A number of approved Council and Committee motions have been carried forward and their status is reported in this attachment. There are 33 motions and 18 have been marked as complete. Motions that are addressed through The Open Data Master Plan are identified.

Open Data Program Work to Date

Program Standing and Available Datasets
The Open Data Team provides a single point of contact and day-to-day operational support to all Divisions and the public (Year-to-date: +3,600 emails, 33 new open datasets, 100+files). The City's Open Data Portal now provides access to 258 datasets representing over 1,100 data files. Updating open datasets and improving dataset quality can has as much benefit to the community as a new open dataset release. 57 previously released open datasets were updated and enhanced in 2017. There are 67 new open datasets being prepared for release in 2018.

The Open Data Program continues to hold a respected place among Canadian municipalities and the 2016 Canadian Open Cities Index (https://publicsectordigest.com/2016-open-cities-index-top-20-results) noted that "the City of Toronto continues to be a national leader in the publication of diverse and high-quality datasets" and ranked high (second overall) in Open Data implementation.

The Open Data Team has been informed by Public Sector Digest that the City of Toronto has held its respectable rank of second in Open Data Implementation for 2017 and has climbed to an overall rating of 90% (up from 76% in 2016).

Recently Released and Future Datasets
Since January 2017, the Open Data team has assisted with the release of 33 new datasets and over 100 new data files, including:

Dataset	Comment
Bloor Street Bike Lane Survey Feedback	Made available 3 days after pilot evaluation staff report
Festivals & Events	Real-time data
Fire Services Incident Data	Used to develop http://www.torontofirecalls.com
Paramedics Services Incident Data	Used to develop http://www.torontofirecalls.com
Travel Times - Bluetooth	Real-time data
TTC Delay Data (Bus, Streetcar and Subway)	Highly demanded dataset (public and developer community)

Year-to-date 57 datasets and over 100 datafiles have been updated, which include:
- Fire station locations
- Municipal address points
- Property boundaries
- Road Restrictions
- Toronto centreline

The Open Data team is working with City Divisions, Agencies, Boards and Commissions to publish an increasing number of datasets. Currently there are 67 datasets in the pipeline being readied to be published, including:
- 10 year cycling network plan (trails and on-street)
- Green P On-street parking
- Rain gauge precipitation (historical data)
- Transportation Services Street Furniture

New Open Data Portal
The City's first Open Data website was launched in the fall of 2009 and has gone through several iterative improvements. Increased demand for open data and growing expectations for a broader set of functionality, to make open data more accessible to the general public, have necessitated a redesign effort for the current website.

The new Open Data Portal is developed through:
- Internal, external and public consultation
- Design thinking and user-centric framework
- Accessibility and AODA compliance
- Socializing initial designs through soft-launches of prototypes

City Divisions, as well as the public, benefit when their data is published to the City's Open Data site. A new Open Data Portal launch is expected in Q1 2018 through a phased approach using the most current and industry recognized technology. The outcome will be enhanced ability for Divisions to access data made available by other Divisions, increased collaboration, increased information sharing with the public, and quick analytics and visualization capabilities.

Further investigation on how to best utilize an enhanced Open Data Portal for internal and public benefit took place as part of the activities in developing the Open Data Master Plan.

Modernize Internal Open Data Workflow and Pipeline
The Open Data Team has planned and prototyped the use of electronic forms and has investigated automated workflows. Draft operational and reporting dashboards have also been designed and are currently being tested. Automation of the dataset publication pipeline is a core theme with a series of actions within the Open Data Master Plan. The new Open Data Portal has been designed to maximize the benefit of an automated publication pipeline.

Strengthened Intergovernmental Relations
The Open Data Team continue to build strong relationships and shared learnings with other municipalities, the Province of Ontario, and Federal Government through discussions regarding the adoption of the internationally recognized Open Data Charter. In addition Toronto continues to participate in a monthly national Open Data cities teleconference series (Open Data G4) and quarterly provincial meeting series (Public Service Open Data community of practice). Participation by the Open Data Team as a Member of the Province's Open Data Charter Stakeholder Advisory Group continues.

Community Engagement and Sponsorship
The Open Data Team continues to participate in a variety of community engagement activities. These are represented by:
- Weekly and monthly community events focused on open data and civic technology
- Civic Tech Toronto hacknights
- Hosted four Civic Tech Toronto weekly hacknights
- Open Data Day: Co-developed an Open Data Best Practices document with public stakeholders and the Government of Ontario
- CodeAcross 2017: Sponsored Civic Tech Toronto hackathon on civic tech challenges presented by the Government of Ontario and the City of Toronto
- Open Data Book Club
- Collaborate with Academia
- Participate in research with the Canadian Open Data Exchange through their Cross Canada tour that seeks to help municipalities and provinces align their Open Data strategies to provide increased benefits to companies

Open Data Public Folder

To increase community engagement, transparency and visibility of work that took place developing the Open Data Master Plan and developing the new Open Data Portal; the Open Data Team has created a public file folder that is accessible on Toronto.ca/Open. Content includes:

- Open Data Master Plan consultation presentations and summaries
- Public Advisory Group meeting summaries
- Open Data Portal design process documentation

The Open Data Team will continue to focus on strengthening the Open Data program and socializing the Open Data Master Plan through input from a variety of channels.

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ATTACHMENTS

Attachment 1 - Open Data Master Plan and Roadmap

Attachment 2 - Open Data Master Plan Stakeholder Engagement List

Attachment 3 - Motions approved at the February 5, 2016 Government Management Committee GM104, May 24, 2016 Executive Committee EX15.25, and April 19, 2017 Executive Committee EX24.10