OpenNorth

# What Could Open Data Programs Gain from Aligning with International Best Practices?

*Mapping existing open data practices in Canadian sub-national governments to the International Open Data Charter*

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# *Table of Contents*

## *A. Executive Summary*

Across Canada, the release of open data by municipal and provincial governments is rapidly growing. Given this momentum, there is a need to assess the policies that guide open data provision and ensure their framework supports open and innovative data initiatives. An emerging set of principles, the International Open Data Charter (ODC), have been adopted by forty-one governments around the globe to guide the development and release of government open data. In December of 2016, the Federal Government of Canada committed to adopting the Open Data Charter. However, with the exception of the Province of Ontario, which committed to adopting the ODC as a part of their Open Government Partnership commitments in December 2016, there has been very limited conversation on adopting the ODC by subnational governments. In our role as Open Data Charter Stewards and in collaboration with the research partnership, GeoThink, OpenNorth is researching the potential benefits and challenges to Canadian provinces and municipalities in adopting the ODC. Background information on the International Open Data Charter, OpenNorth, and Geothink can be found in Annex One of this report. Key Conclusions and Future Directions available on page 20.

## *B. Research Process*

Four high-level questions guided our research process:

- What are the practices that enable delivery of open data at the subnational level in Canadian governments?
- How do these practices align with the international Open Data Charter?
- What *benefits* are there to adopting the international Open Data Charter?
- What *challenges* are there to adopting the international Open Data Charter?

To answer these questions we evaluated the current state of open data policy instruments in Canadian provinces and municipalities, and conducted interviews with open data managers from ten municipalities and four provinces to better understand the background and content of their jurisdictions' open data policy instrument, the intended and actual outcomes of open data use, and future directions of their open data initiatives.

### *Jurisdiction Selection*

Ten municipalities and four provinces were selected for this study. To focus our study, all selected jurisdictions have launched their own open data portal or catalogue, and have a form of policy instrument that guides management of open data.

- **Municipalities:** While there are over ninety municipalities in Canada that release open data, a relatively small number of them have both an independent portal or catalogue and an open data policy instrument. The municipalities were selected to represent a range of population sizes - three small municipalities (population <200,000), three medium municipalities (pop. between 200,000 and 500,000), and four large municipalities (pop. >500,000). Municipalities were selected to represent a range of geographic locations, however, the higher concentration of open data programs in Ontario, Alberta, and British Columbia is reflected in our selections.
    - **Small:** Greater Sudbury, Ontario; Grande Prairie, Alberta; Guelph, Ontario
    - **Medium:** Kitchener, Ontario; Regina, Saskatchewan; Surrey, British Columbia
    - **Large:** Ottawa, Ontario; Edmonton, Alberta; Montréal, Quebéc; Vancouver, British Columbia
- **Provinces:** There are currently eight provinces in Canada that publish open data to their own portal or catalogue, and of these, six have an open data policy tool. Four provinces - Ontario, British Columbia, Alberta and New Brunswick - were included in our study.

## *Interviewee Selection*

The target interviewee for this study was open data 'leads' at the selected provinces and municipalities. However, many of the jurisdictions selected do not have a designated open data lead, and may manage their open data as a component of a larger initiative, such as an open government program, or under the jurisdiction of a separate department, such as Geospatial Services or Office of the Chief Information Officer. In these cases, we reached out to existing contacts within government to enquire what staff member would be most knowledgeable of components of their open data policy tool, its associated outcomes, and about the future directions of open data initiatives in their jurisdiction. Some of the interviewees invited additional open data managers from their jurisdiction to join the interview. Of the jurisdictions that opted to have multiple interviewees, they were all conducted conference-style. The exception to this was the two interviewees from the Province of British Columbia, who for scheduling reasons were unable to participate in the interview on the same day. A list of the interviewees for this study can be found in Annex Two.

## *Interview Process*

Following confirmation, interviewees were sent an abbreviated version of the interview questions to review before conducting the interview. The complete version of the questions is provided in Annex Three. Interviews were semi-structured and conducted over the phone. The exception was made if a jurisdiction could schedule a phone interview, in which case they were able to submit their responses via a Google Form. With the permission of

interviewees, all interviews were recorded and transcribed. Interviewees were sent an audio file of the recordings and a copy of the transcript in follow-up. In general, interviews took between thirty and forty-five minutes to conduct. Interview participants were given the opportunity to verify the sections of this report pertaining to their jurisdiction prior to publication.

### *Limitations for Consideration*

Interviewees were not given a closed list of responses as a part of the interview process, so there is a possibility that responses are biased towards the interviewee's impressions of what the best practices, challenges, and future directions of their open data program are. There are likely outcomes of open data use, barriers to the release and use of data, and concerns regarding the adoption of the ODC that were not identified during the interview process. We hope that this report and its conclusions serves to inform an ongoing discussion.

## *C. How do current practices that enable the release, access, and innovative use of open data align with the Open Data Charter?*

When adopting the Open Data Charter, governments are committing to six principles: Open by Default, Timely and Comprehensive, Accessible and Usable, Comparable and Interoperable, For Improved Governance and Citizen Engagement, and For Inclusive Development and Innovation. In the Charter document, each principle is accompanied by "We recognize" and "We will" statements that indicate how jurisdictions are expected to uphold the principles.

Through our interview process, we found many of the policy components and practices that interviewees identified as enabling the release, access and innovative use of open data align with principles of the international Open Data Charter. While the degree to which the open data policy tools in this study align with ODC principles and actions varies, all jurisdictions have either formal or informal practices that uphold Charter principles.

It should be noted that the province of Alberta and the cities of Greater Sudbury, Grande Prairie, stated that their policy had been influenced in language or in content by the G8 Open Data Charter that was created in 2013**,** which was a predecessor to the International Open Data Charter. The City of Regina created their open data policy tool after the launch of the International Open Data Charter and stated that the ODC was used as a reference in their policy's creation. This can explain some of the alignment between the Charter principles and the provincial and municipal open data policies included in this study.

## *Principle One: Open by Default*

**How do Current Open Data Policy Tools Align?** Of the jurisdictions included in this study, seventy-five percent of provinces and fifty percent of municipalities included the principle of Open by Default in their open data policy instrument. Of the jurisdictions that include the principle of Open by Default, Alberta, Ontario and Greater Sudbury are the only governments that also include the language "culture of openness" in their policy instrument.

- Included in Policy Instrument:
    - Provinces: Alberta, New Brunswick, Ontario
    - Municipalities: Edmonton, Greater Sudbury, Guelph, Kitchener, Montréal
- Not Included in Policy Instrument:
    - Provinces: British Columbia
    - Municipalities: City of Grande Prairie, Ottawa, Regina, Surrey, Vancouver

**Principle in Practice:** Having a policy-mandated principle of open by default increases the utility of open data policies as leveraging tools. It is common practice in the jurisdictions included in this study to approach data owners using the content of their policy tool to validify their request.

- The **City of Greater Sudbury** stated that the Open by Default principle has been essential in their ability to release open data. Like many smaller jurisdictions, Sudbury does not have a full-time body designated to open data so the role of the principle of Open by Default in decreasing the resistance from data owners is important in decreasing the pressure on their already limited resources.
- The **Province of New Brunswick**'s Open Data Policy grants the Office of the Chief Administrative Officer the authority to make final decisions on whether a dataset is to be opened under Open by Default. Should a data owner refuse to release a dataset, New Brunswick's open data team can take it to the Office of the Chief Administrative Officer to make a determination on whether the data owner can be overruled. This is extremely valuable in New Brunswick's ability to reduce resistance to the release of datasets that qualify to be open under Open by Default.

## *Principle Two: Timely and Comprehensive*

**How do Current Open Data Policy Tools Align?** Timeliness and Comprehensiveness are guiding principles or policy objectives in seventy-five percent of provinces and fifty percent of municipalities included in this study. However, there are few formal policy-mandated mechanisms in place that jurisdictions use to govern the timeliness of open data release, and even less to address the comprehensiveness of data. While timeliness is prioritized, there is little guidance within policy tools for how this will be achieved.

**Principle in Practice:**

- As mandated by their Open Data Policy, the **City of Montréal** is conducting a complete inventory of their data holdings, and all datasets that meet the criteria to become open data (as per their principle of Open by Default) must be made available by 2018. Maintaining and releasing the full inventory of datasets increases transparency by allowing users to see all of their government's data assets, and in creating a timeline for this action, the City of Montréal has made a policy-mandated commitment that can be used as a metric to measure progress against.
- The **Province of Ontario** is in the process of publishing a complete inventory of all ministries' data holdings. In making this viewable by the public, Ontario is making their data collection and management practices more transparent, and ministries are able to better prioritize their data to release. In 2013/2014, Ontario ran an exercise that allowed the public to vote for which datasets they wanted to be made available and committed to releasing the twenty-five most voted on datasets. By using public consultations to identify highly-sought after datasets, resources can be directed towards ensuring that priority datasets are released as quickly as possible.
- All jurisdictions included in this study solicit feedback from the public on data quality. For jurisdictions that use Socrata or CKAN portals, there are built-in comment and contact links for users to report any concerns or questions about the data. Jurisdictions that do not have these features on their portal, such as the **City of Vancouver**, use online forms, social media and their 311 line to field data user feedback. By having a direct line of communication to data owners or data managers, users are able to interact with the government to clarify and report on any problems they see in the data.

## *Principle Three: Accessible and Usable*

**How do Current Open Data Policy Tools Align?** Accessibility is a policy objective or guiding principle in the policy tools of seventy-five percent of provinces and sixty-percent municipalities that were included in this study. Usability was referenced in policies to a lesser extent, however, through the interview process we found that jurisdictions have both formal and informal mechanisms that address the usability of open data.

**Principle in Practice:**

- All jurisdictions included in this study release their data to a central portal or catalogue. The most popular software platform, used by two provinces and five municipalities, is CKAN. Two municipalities use a Socrata platform, two municipalities use ArcGIS Open Data, one province uses the Ontario.ca platform, and the remaining two jurisdictions have a list-based catalogue.
- All jurisdictions in this study have their open data available for no charge under an open and unrestrictive license. Of the jurisdictions included in this study, ten have

used the federal government of Canada's Open Government Licence and adapted it for their own jurisdictions. For example, the **City of Vancouver**'s Open Government License is based on version 2.0 of the **Province of British Columbia**'s Open Government Licence, which was adapted from the federal Open Government Licence. Synchronizing terms of use across jurisdictions allows data users to expect common liberties and restrictions for open data use.

- The **City of Greater Sudbury** partners with and supports Ladies Learning Code, which is an organization that runs workshops to increase data literacy for women and youth across Canada. Educational initiatives like this raise the capacity for meaningful interactions and innovative uses of open data within the community.
- The **City of Edmonton** has created and published a series of videos to their portal that guide data users through basic data interactions. Providing instructional resources can make open data accessible to less technical data users and allows a wider audience of data users to be able to effectively use government open data.

## *Principle Four: Comparable and Interoperable*

**How do Current Open Data Policy Tools Align?** All jurisdictions included in this study stated that they release their open data in accordance with common open formatting standards. Jurisdictions commonly looked to the Open Knowledge Foundation's open format definition, the Sunlight Foundation's open data policy guidelines, the G8 Open Data Charter and what is common practice in other jurisdictions for guidance on what format open data should be released in. While there is widespread effort to follow best practices for open data formats, there is still variation in what formats data actually gets released in.

**Principle in Practice:**

- The Public Sector Open Data group (PSOD) in a network of approximately fifteen municipalities in the **Province of Ontario**, the provincial government and the federal government. In working towards common format standards, the PSOD group is ensuring that data collected within the province of Ontario is comparable across jurisdictions and creating opportunities for easier coordination.

## *Principle Five: For Improved Governance and Citizen Engagement*

**How do Current Open Data Policy Tools Align?** Improved governance and citizen engagement is a common policy objective or guiding principle in the majority of policy instruments in the jurisdictions included in this study. There are numerous examples of specific actions that jurisdictions take to improve governance and citizen engagement.

**Principle in Practice:**

- The **Province of Alberta** has co-sponsored Open Data Areas, which are six geographical regions where data collected by government and the private sector will be made open. Opportunities and grants will be made available based on use of the open data. Compiling data from multiple sources will provide a clearer understanding cumulative environmental impact and can allow for better-informed land management policy.
- Three years ago, a select group of ministers of the **Province of New Brunswick** participated in a trip to Estonia to learn from their Digital government program. This experience is used to educate high level government officials on international Digital government best practices, who are then able to come back and disseminate what they've learned throughout their respective departments and with their peers.
- The **City of Ottawa** has informal, but valuable partnerships with community organizations like Open Data Ottawa and HubOttawa. By participating in or supporting their events, the City is able to network with data users in the community to understand what datasets the community would like to be released, as well as promote Ottawa's open data.
- The **City of Edmonton** has created the Open Science program, which is a collaboration between the Open Data team, the City's Analytic Centre of Excellence (ACE) and the local academic community. Collaborating with researchers and academics from Edmonton's multiple post-secondary education institutions both increases public engagement in policy and planning decisions and allows for data-driven decision-making.

## *Principle Six: For Inclusive Development and Innovation*

**How do Current Open Data Policy Tools Align?** The mention of development and/or innovation in the current open data policy tools of the jurisdictions interviewed is quite common. There are numerous examples of cross-sector and cross-jurisdictional initiatives for innovative use of open data.

**Principle in Practice:**

- In October 2015, the Metro Edmonton Open Data Group was launched, which brings together data from the **City of Edmonton**, the Edmonton Police Service, Edmonton Public Library, Edmonton International Airport, certain utility companies, and others with the idea of creating a common portal. Creating an open data ecosystem that is fueled by multiple sources of data provides data users with greater context and a more holistic base to understand open data from.
- The are numerous civic accelerators and innovation centres that have been created in both provinces and municipalities included in this study. By connecting data users to government resources, the public and private sectors are able to collaborate on

creating innovative solutions to shared civic problems. Among other valorisation initiatives, The **City of Montréal** supported the creation of InnocitéMTL, a start-up accelerator that creates solutions for smart cities, including civic issues, and provide mentors to help growing business to understand the context of local governments. Similarly, the **British Columbia** Developers Exchange connects developers, entrepreneurs and the public sector to create products and services that can be used by the public. By connecting with the technology sector, governments are able to derive economically viable solutions to common problems.

- Nine of the fourteen jurisdictions interviewed in this study have either organized or supported hackathon events. The **City of Guelph** is one of the municipalities that has hosted hackathons to develop civic apps. One of the applications developed through their hackathon is currently being developed into a full city service that is preparing to be launched.

## *What is the added value of adopting the Open Data Charter?*

As outlined above, there are many existing alignments between the current open data policy instruments of Canadian provinces and municipalities and the Open Data Charter. Given this existing alignment, many of the interviewees in this study questioned what the added value of adopting the Charter would be, versus maintaining their current policies or informally following ODC principles.

We have identified three key opportunities for the adoption of the Open Data Charter to provide value to jurisdictions beyond just those associated with upholding Charter principles.

### Opportunity One: Inter-governmental Coordination

The Open Data Charter provides common principles written in a common language to guide open data programs. In committing to common format standards in Principle Four, and to exploring innovative partnerships in Principle Six, governments that adopt the Charter could facilitate better coordination. Innovative uses of open data do not happen within the confines of government boundaries, and cross-sector and inter-jurisdictional initiatives, such as PSOD or Alberta Open Data Areas mentioned above, could benefit from members working from a common framework towards common goals.

### Opportunity Two: Increase Leveraging Power and Accelerate Cultural Change

The role of a policy instrument in leveraging for open data release was common across jurisdictions in this study. Adopting the ODC has the potential to strengthen the leveragability of open data policies not only through its principles, but also by placing the weight of an international agreement behind it. As part of the process for adopting the Open

Data Charter, a high-level public statement by an appropriate head-of-state, minister, secretary or comparable figure articulating the adoption of the Charter must be made. Making a highly-visible commitment to upholding the principles of the Open Data Charter has the potential to disseminate awareness of what is expected from data owners throughout government bureaucracy, and shift a greater focus on opening data.

### Opportunity Three: Remove Legwork from Policy Creation and Action Planning

As open data policies are naturally amended and replaced, there is an opportunity to turn to the Open Data Charter as an established set of guiding principles. There is no need to reinvent the wheel when creating open data policies, and adopting the ODC is a way of reducing the resources required for policy creation, while ensuring that international best practices are being followed. This is particularly valuable for jurisdictions with resource constraints. The ODC also provides a detailed breakdown of what actions can be taken to uphold its principles, which provides open data programs with direction on how to translate the principles into action and outcomes. Simply creating a policy may not translate into action and outcomes, so in adopting the ODC jurisdictions have a clear set of actions that should be taken in order to ensure that principles are being upheld to the maximum possible benefit. For jurisdictions that already align closely with the Open Data Charter, committing to adopting the Charter can supplement their existing policy tool with detailed actions to guide their efforts to uphold the principles.

## *D. Challenges: What barriers inhibit the release, access, and innovative use of open data in Canadian sub-national governments, and what role could the Open Data Charter have in minimizing these?*

### *Legacy IT systems*

The most common barrier to the release of open data uncovered through this study is the restrictions presented by legacy IT systems. Many historical data storage systems were created and maintained without any intention of data being shared. Converting data and information to open formats is time consuming, and data owners may not have the expertise on how it can be done.

- The **City of Edmonton**'s data regarding chemical-spraying in parks had historically been stored in a paper-based system. The resources required to move data from physical file boxes to an open, online format are extensive, and inhibits the efficiency of data release.

- The **Province of British Columbia** stated that in order for their data to be released as open by default, there would need to be significant retooling at a systems level, and that retroactively releasing data may be impossible given it was collected and stored without that ever being the intention.

### What role could the Charter have in reducing this barrier?

Antiquated data storage systems presented a significant challenge to the provinces and municipalities interviewed in this study. While there is no principle or solution in the Open Data Charter that directly addresses the retroactive storage of data, upholding international format standards (**Comparable and Interoperable**) and embedding a culture of openness (**Open by Default**) into government operations can facilitate a transition towards data collection and storage systems that are designed for open data. Providing training programs and raising awareness of open data best practices as part of establishing a culture of openness has the potential to inform public servants of how they can transfer their data to open formats.

## *Lack of Data Inventory*

All government processes are systematically captured and stored by some mechanism. As a result, government data holdings are vast and it can be challenging to know what datasets exist and where they are held. Without a clear understanding of what data assets are available, governments are less capable of prioritizing datasets for release and data users are less informed on what datasets they have the potential to use which inhibits the potential for innovative use.

- The **Province of New Brunswick** has an active community of data users and developers that participate in hackathons and make up the nb+ network. However, at this point in time, New Brunswick does not have a comprehensive inventory of their data assets. This inhibits the ability of interested data users to make knowledgeable requests for data to be released, which in turn, makes it difficult for the Province to identify and prioritize which datasets will have the most impact.
- Similar to the Province of New Brunswick, the **City of Greater Sudbury** noted that a lack of comprehensive data inventory makes it difficult to solicit input from the community on which datasets are in highest demand and would have the greatest impact.

### What role could the Charter have in reducing this barrier?

Adopting the Open Data Charter could have a direct impact on the ability for Canadian provinces and municipalities to prioritize the release of datasets, and engage citizens in this process. As a part of Principle Two (**Timely and Comprehensive**), jurisdictions are required

to complete and maintain a comprehensive inventory of their data. While this is a resource intensive action, a comprehensive list of data holdings is an essential step in facilitating requests from data users, and ensuring that high-impact datasets are identified and released to the public.

## *Usability*

Releasing open data to a central portal or catalogue does not necessarily translate to innovative use, or use at all. In order for open data to achieve its possible impact, data users from civil society and all sectors should not only have access to the data, but also to the resources necessary to understand and use the data.

- The **City of Grande Prairie** is a small city located in rural Northern Alberta. While Grande Prairie's data is made available on a Socrata portal, this has not translated into usership by the community. The physical distance from active communities of open data and lack of post-secondary institutions in the area impacts the number of citizens with the technical background to reuse open data for innovative purposes.
- As of November 2016, the **Province of British Columbia** has over 3,400 datasets available on their online catalogue, and there is an active community of data users and developers. However, the release of datasets with highly technical, sector-specific jargon in their metadata descriptions decreases discoverability and usability by a wider audience.

### What role could the Charter have in reducing this barrier?

The importance of usability is emphasized throughout the Open Data Charter. In Principle Two (**Timely and Comprehensive**), data should be, to the extent possible, linked to the appropriate supporting documents and guidelines. Principle Three (**Accessible and Usable**) supports the creation of initiatives that raise awareness of open data, promote data literacy, and ensure data users have the tools and resources needed to understand open data. Principle Four (**Comparable and Interoperable**) requires that the information that accompanies datasets be written in clear, plain language and that users have the information required to understand the strengths and limitations of the data. Principle Six (**For Inclusive Development and Innovation**) supports the creation of initiatives that lead to the development of visualization and applications, and incorporating open data into educational institutions to empower future generations of data users. The Charter provides valuable guidance on how open data usability can be maximized, and in adopting the ODC, jurisdictions are taking steps towards making their data usable by the widest possible range of users.

## *Resistance to Organizational Change*

Historical data management practices are greatly misaligned from current open data best practices, and changing the attitudes and practices around opening data can be a slow, difficult process. While all jurisdictions included in this study reported some degree of internal hesitation around fully embracing principles of open data, the underpinning reason may vary.

- The **Province of British Columbia** noted that there is a correlation between the departments that express the most apprehension to embrace open data and the departments that have historically generated revenue through the sale of data. While the monetary benefits of selling government data are immediate, the economic benefits of making data open are less direct and can be difficult to quantify to the same degree.
- The **City of Guelph**'s open data program is guided by their Open Data Action Plan, rather than through a council-mandated policy as is the case in other jurisdictions. Without the leveragability of a council policy, it is difficult to move people and technology towards releasing open data.
- The **City of Edmonton** has nearly 10,000 permanent employees. Given the size of their organization, they noted that it is difficult to bring all employees up to speed on best practices for data management and release. The sheer number of offices through which information must be disseminated presents a significant barrier to efficient change management.

### What role could the Charter have in reducing this barrier?

In adopting the Open Data Charter, jurisdictions are recognizing the significant societal and economic value to making government data free to access and use. By adopting the principle of **Open by Default**, governments are agreeing to work towards the establishment of a culture of openness. Part of this process is raising awareness of the benefits of open data in the government, civil society and the private sector through the creation of tools, guidelines and communication strategies. Adopting the Open Data Charter also creates a visible and strong mandate for the release of open data which can raise awareness within the organization. Making a high-level commitment to adopt the Open Data Charter has the potential to accelerate the dissemination of open data best practices throughout the organization and reduce the internal opposition to open data release.

## *E. Feasibility: What is the Process of Adopting the Charter, and Are Canadian Provinces and Municipalities Equipped To?*

While the International Open Data Charter is not currently adopted by any Canadian subnational governments, the lack of visible traction does not mean there is a lack of awareness of the ODC amongst open data managers in the provinces and municipalities included in this study. Of the fourteen jurisdictions interviewed, one made the commitment to adopt the Charter between the time of the interview and the time of this report's publication, two stated there had been at least internal discussion around adopting the Charter, seven stated their government was fairly familiar with the ODC, and only four jurisdictions stated they were unaware of the Charter prior to our request to participate in this study. Amongst the respondents that considered themselves familiar with the Charter, there was widespread support of Charter principles and a recognition of the potential benefits to adopting the Charter.

### *What is the Process of Adopting the Open Data Charter?*

To adopt the Charter, there are specific requirements that governments must meet. As posted on the Open Data Charter website, the Adoption Mechanism for the Open Data Charter states that "Institutions seeking to adopt the Open Data Charter should release a high-level public statement (issued by the Head of State, Minister, Secretary, Deputy Secretary, or other appropriate official) that articulates the adoption of the Open Data Charter and defines the following four key elements:

1. Appointment of a key ministry, department, or agency, including a direct individual, to serve as point of contact responsible for implementing the Open Data Charter's principles.
2. Delivery mechanism(s) through which the Open Data Charter will be operationalized by the institution. The specific activities, methodologies, tools, and processes of the mechanism(s) that will be used to deliver the Open Data Charter should be defined.
3. Time-bound actions that outline specific, realistic deadlines by which progress toward implementation can be demonstrated.
4. Means of verification of the specific actions that will be taken by the institution to track the progress of the Charter's implementation."

The criteria for the maintenance of governments as adopting members of the Open Data Charter, as taken from their website, are as follows:

"While adherence to the Open Data Charter is on a non-binding, voluntary basis, and with recognition that countries are at different stages in their efforts to promote open data, **it is paramount that adopting institutions uphold the principles of the Charter,** so as to maintain its credibility and promote greater impact.

Institutions are eligible to become adopting parties of the Open Data Charter when they meet the requirements of the Adoption Mechanism of the Open Data Charter outlined above. Institutions will maintain their eligibility by **demonstrating continuous commitment to and progress with implementation of the Charter.**

Transparency and accountability are vital to promoting efficient implementation of the Charter's principles. To demonstrate transparency and accountability, institutions should **participate actively with recognized external accountability and impact evaluation mechanisms** in regard to open data. In addition, they should publicly follow up on their own progress on a yearly basis."

## *What is the Readiness of Canadian Provinces and Municipalities to Adopt the Open Data Charter?*

While the specifics of open data policy and practice vary between the provinces and municipalities included in this study, and there is great variation in the scale of open data programs, the general content of existing open data policy tools places jurisdictions in this study in a sound position to adopt the Open Data Charter:

**Requirement One:** Appointment of a key ministry, department, or agency, including a direct individual, to serve as point of contact responsible for implementing the Open Data Charter's principles.

- **Provinces:** All provinces included in this study are well equipped to designate a specific ministry or department, and an individual for point of contact. Existing organizational structure would not have to be altered, though some may chose to do so.
- **Municipalities:** The resource base and structure of open data programs varied between jurisdictions. Smaller cities, like **Guelph**, **Grande Prairie** and **Kitchener**, operate most of their open data as a 'side-of-the-desk' project with a dedicated, but small team. Jurisdictions with less structured open data administration will need to ensure that an appropriate department can be identified to task with the implementation of Charter principles.

**Requirement Two:** Delivery mechanism(s) through which the Open Data Charter will be operationalized by the institution. The specific activities, methodologies, tools, and processes of the mechanism(s) that will be used to deliver the Open Data Charter should be defined.

- **Provinces:** All provinces in this study have an existing policy that governs their open data. To reduce legwork, existing policies could be retrofitted to align with the ODC. Given the existing parallels to the ODC, the difference in commitments between current open data policies and the Charter principles could be easily overcome. For the **Province of British Columbia,** the largest alteration would be the adoption of the principle of Open by Default.
- **Municipalities:** As previously outlined, there are already many practices and initiatives occurring in the municipalities included in this study that align with the Charter principles. As with the provinces, the gap between the guiding principles of current open data policies and the ODC is relatively small. For municipalities like **Ottawa** or **Kitchener** that manage open data under the umbrella of larger policy(s), creating a policy that is specific to open data could be a helpful measure in streamlining the operationalization of ODC principles.

**Requirement Three:** Time-bound actions that outline specific, realistic deadlines by which progress toward implementation can be demonstrated.

- **Provinces:** Adopting the Charter does not require governments to immediately implement the ODC principles. All provinces in this study are already planning or implementing innovative initiatives that align with the ODC, and existing initiative timelines could be incorporated into time-bound actions under the Charter.
- **Municipalities:** As with provinces, adopting the Charter does not require immediate implementation of principles and their associated actions. Governments already have timelines for open data initiatives, and these could easily be established as time-bound Charter deadlines.

**Requirement Four:** Means of verification of the specific actions that will be taken by the institution to track the progress of the Charter's implementation.

- **Provinces:** Tracking progress and outcomes of open data use can be difficult. However, having established time bound commitments provides obvious metrics to measure progress against.
- **Municipalities:** As with provinces, the establishment of time-bound commitments provides obvious means of progress measurement.

## *What Barriers Did Jurisdictions Identify to Adopting the Open Data Charter?*

### Objection to ODC Language

The majority of interviewees in this study did not express any objection to the principles or content of the Open Data Charter. However, for select jurisdictions, apprehension over certain principles could prevent them from adopting the Charter. For example, the **Province**

**of British Columbia** is the only province in this study that has not included Open by Default in their principles. However, while they do not have Open by Default explicitly stated in their policy, British Columbia's current policy instructs ministries to expand public accessibility to government data by releasing it online unless restricted by others laws, contracts or policies. Given the similarities between the Charter's Open by Default principle and the statement that currently directs the release of BC's open data, there is little reason for British Columbia's hesitation over committing to Open by Default. As more and more open data programs across Canada and the world continue to adopt the principle, fear of how Open by Default would change what is required of data managers has the potential to be resolved.

### Resources

The organization of open data programs varies greatly across jurisdictions. For many smaller municipalities, such as the **City of Kitchener** or the **City of Greater Sudbury**, open data is run as a side-of-the-desk operation, and there is a hesitation to approach adopting the Open Data Charter if they are not confident they have the resources to uphold the Charter. Aside from Ontario, which has committed to adopting the ODC, the provinces included in this study also expressed hesitation in their resource capability to adopt the Charter. However, as outlined above, current open data initiatives and the content of open data policy instruments are already aligned with Charter principles and requirements, and the overwhelming concern over resource capabilities is relatively unfounded.

## *F. Conclusions*

### *Key Findings*

While the tools and practices used to manage open data in Canadian provinces and municipalities vary, this study revealed several key findings on the potential role of the Open Data Charter in Canadian provinces and municipalities.

- There is an existing overall alignment between current open data policy tools in Canadian provinces and municipalities and the International Open Data Charter.
- Adopting the Open Data Charter presents opportunities to magnify existing outcomes of open data in Canadian provinces and municipalities. For example, adopting the ODC can facilitate better coordination among existing inter-jurisdictional partnerships.
- There is a need for support package for municipalities that includes guidelines and best practices on a range of issues, including open data policies, data inventory methodologies, use cases, evaluation matrixes.
- Many of the common barriers identified that inhibit the release, access and innovative use of open data in Canadian provinces and municipalities could be minimized

through the adoption of the International Open Data Charter. For example, adopting the ODC can accelerate change management and reduce internal resistance to open data release.

- Canadian provinces and municipalities are well-positioned to adopt the International Open Data Charter. The adoption of the ODC by subnational and federal governments enhances interoperability and can bring a range benefits for Canadians, including greater inclusion, data literacy, job creation.

## *Future Directions*

As the International Open Data Charter moves beyond its first year, we expect it will continue to gain traction and possibly be adopted more broadly. The Federal Government of Canada and the Province of Ontario's recent commitment to adopting the Charter and is indicative of increased awareness of the Charter in Canada. Increased discussions surrounding the ODC in Canada presents the opportunity for provinces and municipalities to join the growing international momentum.

From the International Open Data Charter, further documentation on ODC use cases detailing the resource requirements and outcomes could guide the efforts of Canadian provinces and municipalities in adopting the ODC. The leveraging of peer networks and creation of a working group of open data leads amongst subnational governments could also help guide jurisdictions through the process of adopting the Charter, as well as facilitate sharing of knowledge and experience.

Should Canadian subnational governments begin adopting the Charter, it will be important to report on the opportunities and challenges they face, and measure these against those challenges identified through this study. This type of comparative research would create a more robust understanding of the issues that constrain adoption of open data policies, leading to a stronger community of practice across Canada.

Don't forget to visit the International Open Data Charter's Resource Center:
http://opendatacharter.net/resource-centre/

Email Open North to share your feedback about this report or how we can help support open data initiatives, programs, and communities: info@opennorth.ca.

## *Acknowledgements*

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# *G. Annexes*

## *Annex One: Background Information*

### Background on The International Open Data Charter

The Open Data Charter is a Global Multi-Stakeholder Action Network composed of Stewards and Lead Stewards that are responsible for participating and collaborating in the development, launch, and expansion of the Charter. The principles established by the Charter are to "provide governments with a common foundation upon which to realise the full potential of open data for their own jurisdiction."

The six principles of the Open Data Charter are:

- Open by Default
- Timely and Comprehensive
- Accessible and Usable
- Comparable and Interoperable
- For Improved Governance and Citizen Engagement
- For Inclusive Development and Innovation

The current International Open Data Charter arose as a refined and improved version of the five core open data principles signed by G8 leaders in 2013 as part of the G8 Open Data Charter. The ODC was developed through the engagement of governments and civil society from around the world, through a broad participatory process. The International Open Data Charter was officially launched at the margins of the United Nations General Assembly, and rolling launches for the adoption of the ODC took place at the OGP Summit in Mexico, the G20 Leaders' Summit in Turkey, and COP21 in France in late 2015.

As of October 2016, forty-one governments have adopted the Open Data Charter. Sixteen of these are national governments, and the remaining twenty-five are made up of local or other sub-national governments.

### Background on OpenNorth & Geothink

Established in 2011, OpenNorth is Canada's leading nonprofit organization specialized in open data and civic technology. Through applied research, strategic consulting services and the development of civic tech tools, such as its online CitizenBudget simulator deployed by more than 75 municipalities across North America, OpenNorth is committed to improving government transparency and accountability, and increasing public participation in democracy. OpenNorth has contributed to open data standards initiatives, such as

OpenContracting, OpenCorporates, and Popolo, developed the Open511 standard for road events deployed by provinces and cities in Canada, and co-chaired the standards stream of the open data working group of the Open Government Partnership. OpenNorth is a Steward of the International Open Data Charter, a member of the implementation working group, and co-founder of the Canadian Open Government Civil Society Network. Open North's Open Cities Strategies offers tailored support to meet the needs of cities in planning, executing, and evaluating their open data programs and growing their local open data communities.

**Geothink** is an interdisciplinary research partnership led by McGill University Associate Professor Renee Sieber that explores how technologies are shaping civic governance and participation. As a five-year, $6.5 million Partnership Grant from the Social Science and Humanities Research Council of Canada (SSHRC) and from grant partners, Geothink has involved 27 partners (including OpenNorth), 26 researchers and over 90 students from universities across Canada and the United States. Geothink has previously collaborated with OpenNorth on other research projects, *How can we improve urban resilience with open data?* (Commissioned by the Open Data Institute UK and funded by the International Development Research Center) and *Legislative openness across Canada*.

University of Waterloo Associate Professor, Dr. Peter Johnson, is a Geothink researcher whose research focuses on understanding how governments, citizens, and private companies share information through geospatial technology, including open data, the Geoweb, social media, mobile devices, and the process of crowdsourcing.

## Background on Open Data in Selected Provinces and Municipalities

The adoption of open data policy tools and release of open data to a central portal or catalogue in Canadian sub-national governments began in the City of Vancouver in 2009. As of December 2016, the number of jurisdictions that release open data to a central portal or catalogue has risen to eight provinces and over ninety municipalities. Of these, six provinces and a relatively small portion of municipalities have some form of policy tool that guides their open data management. Specifics about about the open data policy tools and portals of the jurisdictions included in this study are outlined below:

| | *Policy Name* | *Policy Tool* | *Policy Adopted* | *Portal/ Catalogue Launched* | *Portal/ Catalogue Platform* | *License* |
|---|---|---|---|---|---|---|
| **Provinces** | | | | | | |
| *Alberta* | Open Information and Open Data Policy | Deputy minister-approved policy | 2014 | 2013 | CKAN | Open Government Licence - Alberta |

| | | | | | | |
|---|---|---|---|---|---|---|
| *British Columbia* | Open Information and Open Data Policy | Deputy minister-approved policy | 2011 | 2011 | CKAN | Open Government License - British Columbia |
| *New Brunswick* | Open Data Policy | Deputy minister-approved policy | 2016 | 2009 | List-based Catalogue under GeoNB | Open Government License |
| *Ontario* | Open Data Directive | Management Board of Cabinet Directive | 2016 | 2012 | Ontario.ca platform | Open Government Licence - Ontario |
| **Municipalities** | | | | | | |
| *Edmonton* | Open City Policy | Council-approved policy | 2014 | 2010 | Socrata | City of Edmonton Open Data Terms of Use |
| *Grande Prairie* | Open Data Policy | Council-approved policy | 2014 | 2014 | Socrata | Open Data License - City of Grande Prairie v.1 |
| *Greater Sudbury* | Open Data Policy | Council-approved Policy | 2015 | 2015 | ArcGIS Open Data | The City of Greater Sudbury Open Data License v.1 |
| *Guelph* | Open Data Action Plan | Council-approved Action Plan | 2014 | 2016 | CKAN | Open Government License - City of Guelph v.1 |
| *Kitchener* | Corporate Accountability and Transparency | Council-approved policy that contains a section on open data | 2013 | 2014 | ArcGIS Open Data Portal | Open Government License - The Corporation of the City of Kitchener v.1 |
| *Montréal* | Open Data Policy | Council-approved policy | 2011; 2015 | 2011 | CKAN | Creative Commons Attribution 4.0 International Public License |
| *Ottawa* | Accountability and Transparency Policy; Routine Disclosure and Active Dissemination Policy | Both are council-approved policies that contain a section referencing or addressing open data | 2007; 2013 | 2010 | CKAN | Open Government License - City of Ottawa v.2 |
| *Regina* | Open Government Policy | Chief Legislative Officer and City Clerk-approved Policy | 2016 | 2012 | CKAN | Open Government License - City of Regina v.2 |
| *Surrey* | Corporate Report | Corporate Report that includes an open data policy document | 2014 | 2014 | CKAN | Open Government License - City of Surrey v.2 |
| *Vancouver* | Open Data, Open Standards and Open Source Motion | Council Motion of Notice | 2009 | 2009 | List-based catalogue | Open Government License - Vancouver v.1.0, Archived Open Data License |

## *Annex Two: List of Interviewees*

### Provinces

- Alberta: Mark Diner (Chief Advisor, Open Government, Government of Alberta)
- British Columbia: Elaine Dawson (Director, Enterprise Data Services, DataBC), Greg Lawrance (Team Lead, Metadata and Catalogue Services, DataBC), David Wrate (Director, Citizen Engagement, DataBC)
- New Brunswick: Andrew MacNeil (Director, Land Information Infrastructure Secretariat & Director, E-Services, Service New Brunswick)
- Ontario: Paul Vet (Team Lead, Open Data, Government of Ontario)

### Municipalities

- Edmonton: Scott Hardy (Senior Strategic Analyst, Open Data, City of Edmonton), Soumya Ghosh (Program Manager, Smart City Program, City of Edmonton)
- Grande Prairie: Shawn Tucker (Project Lead, Open Data & Supervisor, Corporate Web Management Supervisor, City of Grande Prairie)
- Greater Sudbury: Renée Higgins (Web Administrator/Developer, Information Technology, City of Greater Sudbury)
- Guelph: Andy Best (Program Manager, Open Government, City of Guelph)
- Kitchener: Dianne Adams (Open Data Lead & Manager, GIS, City of Kitchener), Marilyn Santos (Manager, Corporate Records and Archives Services, City of Kitchener)
- Montréal: Stéphane Guidoin (Team Lead, Open Data, City of Montréal)
- Ottawa: Robert Giggey (Open Data Lead & Program Manager, Content Design and Development, City of Ottawa)
- Regina: Linda Ungar (Manager, Corporate Information Governance, City of Regina), Cindy Howden (Privacy and Freedom of Information Officer, City of Regina)
- Surrey: Bill McKay (Manager, GIS, City of Surrey)
- Vancouver: Linda Low (Open Data Coordinator, Technology Planning, City of Vancouver)

## *Annex Three: Interview Questions*

1. What kind of policy instrument does your government use to manage your open data?
2. Has your open data policy been influenced by the experiences of other governments?
3. In your words, please describe what it would mean for your government's data to be 'open by default'?
4. What policy tools does your government use to ensure that comprehensive open data is released in a time-efficient manner?
5. How do you ensure that data released is easily accessible to data users?
6. What are aspects do you consider when choosing the format standards you release open data in?
7. How does your open data policy influence government accountability? Please provide an illustration.
8. Does your government have any initiatives that encourage innovative uses of open data?
9. As you know, governments adopt open data policies and choose to put in place open data programs for various reasons. What did you hope that open data would accomplish?
10. Let's turn to the actual outcomes that your open data policy has had. What are some of the outcomes that you are seeing?
11. Did your open data policy directly help to generate any of these outcomes? Please specify/explain.
12. Knowing what you know today, what would your jurisdiction do differently in adopting an open data policy?
13. How familiar are you with the international Open Data Charter?
14. What do you see as the potential benefit to adopting the Charter?
15. What would be holding you back from adopting the Charter?