



A Smart Cities Challenge initiative

Governing a Digital Circular Economy

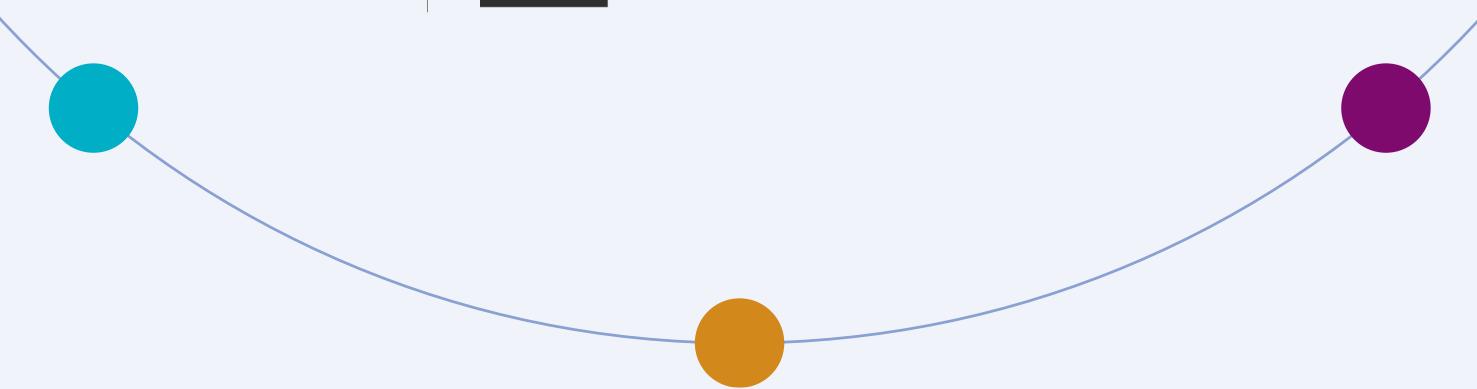
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What is This Concept Paper?

This concept paper introduces Guelph-Wellington's data governance priorities and plans, relating to the Smart Cities Challenge and the agri-food industry.



Background

The City of Guelph/County of Wellington's Smart Cities Challenge proposal is grounded in the creation of a circular economy, and centred on agriculture and food security. As we build out a digital, circular economy we will also be building a mechanism to generate value through shared data resources that serve a shared interest.

With our history of success in innovation and our wealth of agricultural expertise, Guelph-Wellington will provide global leadership by defining a thoughtful and inclusive approach to its use of technology and data. Data, as an asset, creates the potential for non-competitive re-use – meaning that the same information can lead to insights and innovation across the ecosystem. We believe that finding a path to sustainable, participatory public data collection and use is the first step in building a healthy, circular, digital economy. One key piece of this approach is the governance and management of data.

The digitization of the agriculture and food space creates a lot of ways to explore how to achieve these goals. Guelph-Wellington will pursue pilot projects that balance low individual risk, sustainable revenue potential, and large collective benefits. While these are the conditions that lead to the best pilot results,

Guelph-Wellington is aware that its data governance systems, even starting with the most benign data, will have to develop the facility to govern potentially sensitive and commercially valuable data, as it moves to integrated scale.

One of the advantages of working in the agri-food space is that it enables us to focus on the opportunities and challenges involved in data governance, without necessarily taking on the complexity of personal data in every case. Recently, privacy has been a dominant and overshadowing theme in many discussions of data governance. Though privacy is an important topic in data governance work, there are many other issues to explore in practical case studies. These will help unlock opportunities in public service provision, local economic development, research and applied experimentation, and so much more.

To do this, we will shift the dialogue from problem definitions of data governance (who owns it? who can use it? under what terms?) to the solutions stage, and begin having conversations about access, control, and use. These conversations might include exploring how improving the accessibility of statistics and information about food can support the economy.

Public Engagement

How We Got Here

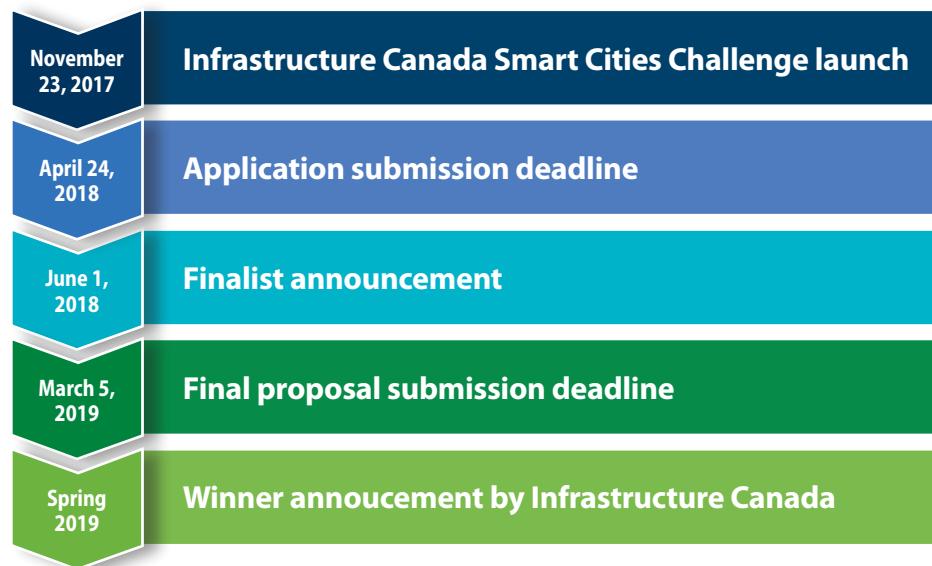
The Smart Cities Canada Challenge was announced in Budget 2017. From the time of Infrastructure Canada's launch, our application matured and developed through many group discussions and idea sharing sessions.

Guelph-Wellington submitted our application to Infrastructure Canada in April 2018. The document can be reviewed on our [engagement site](#). In June 2018 we were selected as a finalist, and received \$250,000

towards the completion of the application. Since that announcement, we've been developing our work-plan and creating engagement phases that will continue to support public dialogue and initiative awareness.

We want to hear from you on the different projects and aspects of this initiative as we move ahead with our implementation. Some questions to support that ongoing engagement can be found at the end of the paper.

Process Timeline



Innovation in Data Governance – The Opportunity

Data governance is emerging as one of the core collective action and institutional design challenges of our generation. And, while there's a lot about data governance that's unique, it is, at its core, governance.

Guelph-Wellington is leading the way on data governance by focusing on elevating the voice of residents, by building engagement mechanisms focused on legitimacy, capacity, and participation. Guelph-Wellington will become Canada's first technology enabled circular food economy, and will achieve three bold goals:

- 50% increase in access to affordable, nutritious food;
- 50 new circular food business and collaboration opportunities; and
- 50% increase in economic revenues by reducing or transforming food waste.

Agri-food is on the cusp of a dramatic digital revolution and is intimately connected to all aspects of our current and future 'smart' lives; health, community, environment, and economy. The City of Guelph and the County of Wellington provide the stage to engage a wide range of agri-food stakeholders and line of sight from farm to consumer, creating an optimal ecosystem for innovative data governance models.

A Process that Starts with People

Since there is considerable pressure from a range of angles to build quick, stable solutions to data governance challenges, that's all the more reason to invest in getting it right. The first step is to engage people in designing new participatory data governance processes.

Guelph-Wellington views the development of smart cities as an opportunity to highlight and build on the value of public participation in public/private markets. This is not an effort to override or supersede existing laws, rather to complement them with public governance – toward improving the feedback loop between stakeholders in the digitization of the agri-food industry.

Part of the appeal of Guelph-Wellington's approach to innovation is tied to its size, and its rural-urban partnership. Mid-sized communities are known for their ability to foster and enable leadership in the implementation of new concepts and practices in government. What this opportunity represents for residents is an exciting space to build new models for how they participate in this work. Part of this work will involve mapping stakeholders and defining their interests and roles in the governance processes.

The wide range of stakeholders at the table in the realm of agriculture and food also provides a range of potential use cases, which is a key condition for innovation in data governance.

Data governance is a generational challenge and opportunity, and it can be difficult to know where to start. Here are a few topics Guelph-Wellington hopes the public will engage on in its work.





Data Governance Challenges and Opportunities

The agriculture and food sectors create tangible and practical use cases for data governance discussions that consider data and its related information and wisdom in the context of balancing public interest with value.

Data Maps and Types

One of the primary challenges in data governance conversations is clearly identifying the type, volume, and quality of data that exists. Data mapping is one way to identify the assets volume and quality of available data – but the most determinative factor is type.

Data is most commonly regulated based on a series of characteristics, all of which have impacts on how and why it might be used, as well as the stakeholders involved and impacted by its use, among other issues. For example, in the agri-food industry, common types of data include: administrative data (data describing assets and related information, including budgets), geospatial data (data describing locations), personally identifiable information or PII (data about people and

their behaviours), statistical and survey data (data collected for research or other purposes).

As part of our governance work, we'll catalogue issues and considerations related to particular data types and usage. A few illustrative examples could include: commercial issues related to a farm or a business, the research considerations of academic partners, or the privacy of people receiving food donations. As we work through cases we'll create an assessment to help support the onboarding process for the data related to new projects. This might include the skill sets, software, hardware, and other resources required to engage with the data and apply it to the 50x50x50 goal.

Economic Development Innovation

Part of the approach will involve a blend of a ‘collision’ model and a ‘challenge’ model for our projects. The collision model involves bringing diverse stakeholders together to identify and define problem opportunities and create new alliances for collaboration, knowledge creation and growth. The challenge model involves expanding the reach of solution generation – to the research community, students, technology entrepreneurs and social innovators.

This blend of models will create repeatable processes for building technology adoption and data use capacity in new projects. Creating data standards and repeatable governance processes will be of immense help in getting new projects up and running. In some cases, the technology used may not be new – it could be as simple as a spreadsheet or a data portal – but the innovation comes in finding new ways to connect and activate data and redefine relationships between stakeholders, particularly the private and public sectors.

A Range of Legislative Frameworks to Consider

Data is subject to a wide range of legal frameworks, which introduces uncertainty into governance conversations. A range of different actors stand to benefit from each approach, so the debates between legislative regimes like privacy, consumer protection, human rights, antitrust, copyright, and torts, are political.

Beyond legislative frameworks, data and digitization are subject to a wide range of other power structures, such as markets, engineered architecture, and social norms, all of which contribute to how data is gathered, used, and managed. Our work will include a comparative analysis and public discussion of these treatments, toward building capacity and understanding in specific applications. They offer a safe space to explore collaborative approaches to find new ways for public and private cooperation and data stewardship.

The Problem with Open-ended Licenses

One of the defining features of current data governance models is a problem with consent and the idea of informed consent. There are so many different and evolving ways data can be used that it’s difficult to keep track of both complicated terms of service and open-ended licensing (anyone can use it for anything).

This type of open licensing has created a lopsided power dynamic where the person or entity generating the data may be losing control or sight of how it is being used. Once this happens it’s very difficult to provide informed consent, which is why one core focus of this new governance work will be to talk about usage in very granular and specific ways with all the parties involved in any data transaction.



Conclusion

Data governance is an emergent, enabling component of building publicly trusted digital markets, institutions, and spaces. Guelph-Wellington believes that the real way to build a smart city is to find innovative ways to ensure that the public and its interest are at the core of its design. Our smart cities proposal, focused on the digitization of the agri-food industry, toward building a more circular data economy, creates an opportunity to lead in both substance and process. In order for any of the projects to be a success, we'll need to engage and educate each other in exploring the way that data and technology can and should be used to meet our 50x50x50 goals.

The first step is starting the conversation – please take a moment to respond to our focus questions:

Focus Questions

1. What challenges or success stories do you have to share about the open data program to date? For challenges, any suggestions on how to address them?
2. Are there particular examples of food and agricultural data use that should be considered as we move forward with our work?
3. Where do you see problem areas in engaging the right stakeholders in these discussions about data governance? Any suggestion on approaches to engage them?
4. Any other advice for us as we continue with the work?

Next Steps

Please send your answers to the focus questions and any other input to foodfuture@guelph.ca by November 30, 2018. We'll share an update mid-December regarding what we heard and how we've used it in our work and where things are headed next in 2019.

Suggested Resources and Readings

- Global Open Data for Agriculture and Nutrition
<https://www.godan.info/>
- Ownership of Open Data: Governance Options for Agriculture and Nutrition
<https://f1000research.com/documents/6-1002>
- Agroknow & Agroknow Open Harvest
<http://www.agroknow.com/>
<http://www.agroknow.com/open-harvest>
- OECD Agriculture data
<https://data.oecd.org/agriculture.htm>
- Innovation Guelph
<https://innovationguelph.ca/>