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EXPLORING MUNICIPAL INNOVATION FOR THE 2017 MUNICIPAL INNOVATORS COMMUNITY CONFERENCE

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Contributors

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SUMMARY

The project sought to characterize different typologies of municipal innovation and to provide examples of each type. It involved the creation of an infographic that offered a closer view of what innovation can look like in a municipal context: within this infographic, the processes and impacts of nine distinct examples of municipal innovations were outlined. Processes involved in municipal innovation included: collaboration; technology; civic engagement; and governance. The impacts of municipal innovations were categorized into: environmental improvements; economic benefits; enhanced community well-being; and improved service management and provision.

In addition to the infographic, two case study reports were created to showcase and provide more detail descriptions of two additional examples of municipal innovations. The Hydrocut Trail System in Waterloo and Guelph's Waste Management system were chosen, both of which were local examples of municipal innovations that involved multiple processes and have widespread impacts in their respective communities. These materials were presented at the Municipal Innovators Community (MiC) Conference 2017 in Guelph, Ontario.



PROJECT GOALS

Background

This project was brought to the Research Shop by the 2017 Municipal Innovators Community (MiC) Conference Steering Committee Co-Chair, Suzanne Holder. Suzanne is also the Advisor for Corporate Strategy and Reporting at the City of Guelph. The City partners with the Community Engaged Scholarship Institute and the University to run the Guelph Lab, a collaborative civic innovation lab that works on projects that reflect the interests and needs of both the City and the University. It was through this partnership that Suzanne reached out to the Research Shop to develop research and case studies for the MiC Conference.

MiC conferences are held annually, and offer opportunities for municipal employees from across municipalities to connect and discuss innovation as it relates to their work. The 2017 MiC conference was held in Guelph, and the theme was “*Collaborate, Create, Accelerate*” (MiC, 2017).

Innovation has been identified as a problematic term to define, as it has various definitions and types, and is often framed as an abstract concept that is difficult for many individuals to relate to. “Innovations” are also largely understood as radical changes (Kahn et al., 2003), with little acknowledgement paid to the incremental changes that occur throughout the process of developing the innovation. Additionally, there are many different kinds of innovations described in the literature, including products, processes or technical innovations (Baregheh, Rowley & Sambrook, 2009). This leads to confusion over the concept, and prevents those who are in a position to innovate from seeing themselves as innovators or to label their innovations as such.

The MiC conference organizers and the Guelph Lab partnered with the Research Shop to prepare materials for the conference that would be used to enable attendees to see themselves as “innovators,” and encourage discussion among attendees surrounding their respective experiences with and perspectives on innovation. The community partners identified a need for conference attendees from diverse professional backgrounds to be able to identify different kinds of innovation in order to recognize their work as innovative.



This project involved an exploration into the definitions, processes, and impacts of “municipal innovation” to characterize what innovation looks like in municipalities across Canada. Within this goal were two main objectives:

1. Characterize different typologies of municipal innovation, and provide examples of each typology identified.
2. Describe two case studies of municipal innovation to illustrate the typologies discovered within the research.

METHODS

Two main methods were used to achieve the goals of this project: 1) an environmental scan; and 2) key informant interviews.

Environmental Scan

Search Strategy

- Searches were conducted by the Research Shop interns and project manager.
- Resources were provided by the community partner to use as starting points from which to identify examples. These resources included: [Public Sector Digest](#); [Municipal World Magazine](#); and a list of previous [Municipal Innovation Awards](#) project winners.
- Additional searches were conducted in generic search engines using key terms such as: “municipal innovation examples;” and “innovation case studies.”
- Each individual involved in the search strategy was responsible for identifying 5 examples of municipal innovations that provided sufficient quality and quantity of information.



Selection and Categorization of Examples

- The selection and categorization process was developed based on several different resources provided by the Guelph Lab, including:
 - Online learning modules on “Social Innovations for Complex Problems” offered through the [Waterloo Institute for Social Innovation and Resilience](#);
 - Peer-reviewed articles on defining innovation (Baregheh et al., 2009; Sergeeva, 2017); impact metrics for social innovation (Antadze & Westley, 2012); as well as the types of outcomes governments can hope to achieve through innovation (Bourgon, 2011); and
 - Resources from the [Social Innovation Generation \(SiG\) Knowledge Hub](#).
- A list of questions was used to extract information on each of the examples retrieved through the scan:
 - What makes it innovative?
 - What was the intent of the innovation?
 - What was involved in the process of this innovation?
 - What were the outcomes of the innovation?
 - What was the scale of the innovation (e.g. micro, macro, meso)? and
 - What were the impacts of the innovation (e.g. incremental, transformative)?
- A spreadsheet was created that listed the examples and corresponding information that pertained to each of the above questions. This spreadsheet was then shared at project meetings with the research team and community partner to discuss key themes and potential ideas for categorizing these examples.
 - Through these discussions, the team noticed four common processes of municipal innovation within the examples: collaboration; technology; civic engagement; and governance. As such, the examples were categorized based on these processes, as this was the easiest, most cohesive way to display the information within the infographic.



Key Informant Interviews

- These interviews helped to gather background information to profile two key, local examples of municipal innovation that did not fit neatly into the categories identified above.

Identification of Case Studies

- Case studies were selected by the community partner, who subsequently connected the research team with key informants.

Interview Strategies

- Following initial background research on the case studies, interviews were conducted with key informants to provide more in-depth information. These interviews were informal, and were completed over the phone and/or via email.
- A similar list of questions was used to the one that was used in the environmental scan to gather information on the processes, outcomes, and impacts of the innovations.

RESULTS

This project helped to illustrate what innovation can look like within a municipal context. It was found that innovations can take many different forms in creating a new, evolving an old, or reproducing, a service, program, product, process or policy.

A multitude of municipalities and their respective innovations were found, and 9 examples were summarized in an infographic. This infographic can be found in Appendix A of this report.

Municipal Innovation Typologies Infographic

Rather than creating an exhaustive list of the various forms of municipal innovation, an infographic was produced that summarized the potential impacts of, and different processes involved in, municipal innovations.

For focusing on potential impacts of municipal innovation, four were identified. The impacts include:



- Environmental improvements, such as reduced carbon emissions;
- Economic benefits, such as lower costs for municipalities;
- Enhanced community well-being, such as increased availability of affordable housing and medical care; *and*
- Improved service management and provision, such as increasing efficiency of services at lower cost.

The examples of municipal innovation identified through this research were categorized based on the processes that were involved in the development of each innovation. Four main processes were characterized and defined as:

1. **Collaboration processes:** include partnerships between municipalities, organizations, institutions, and individuals that would allow for mutually-beneficial impacts;
2. **Technology processes:** include the designing or improvement of technological products, processes and services that would benefit social, environmental, and/or economic functions within a municipality;
3. **Civic engagement processes:** include creating an environment where citizens can be active participants in decision-making of programs and policies that directly affect themselves and their community; *and*
4. **Governance processes:** include examples of strengthening efforts to coordinate goals, divide resources, and resolve social conflicts within a specific municipality.

The nine examples of municipal innovation were categorized based on these four main processes. Within each example, three main questions were addressed:

1. *What* is it?
2. *Where* is the innovation? *and*
3. *What* are the impacts?

The examples and corresponding descriptions can be found within Appendix A of this report.



Case Study Reports

Additionally, this project involved the creation of two case study reports. The first case study highlighted the municipal innovation of the Hydrocut Trail System in Waterloo, Ontario. This project was chosen as a case study to showcase how civic engagement and governance processes can be used within municipal innovation.

The Hydrocut innovation arranged a 25 year legal Stewardship Agreement in which the Waterloo Cycling Club manages and maintains the trail system, while the Region of Waterloo retains liabilities. It is considered an innovation as it allows citizens to become active decision-makers of a regional property, allows for a divisions of resources within the municipality itself, and resolved social conflict. The impacts of the Hydrocut innovation included improved service management and provision, enhanced community well-being, and economic benefits. This case study can be found in Appendix B of this report.

The second case study highlighted the municipal innovation of the Waste Management in Guelph, Ontario. This project was chosen as a case study to showcase how processes of collaboration and technology can be used within municipal innovations. It was also used to demonstrate how innovations can seem commonplace once they have been implemented for a number of years, and demonstrate how Guelph was a leader in waste management innovation.

The City of Guelph-Wellington created a 'wet-dry' recycling program that was reproduced from European models in which 'dry' recyclables can be collected with 'wet' compostable materials. This allowed for more landfill diversion and saved the municipality costs by selling compost and recyclables after processing. It is considered an innovation as it allows the City of Guelph to be an example for reproducing a service for other municipalities, and improves technological/environmental functions within the municipality. The impacts of the Waste Management innovation include improved service management and provision, economic benefits, and environmental benefits.



Secondary Products

In addition to the infographic and case studies, a handout was created that offered an example of a municipal innovation that did not fit neatly into the categories identified for the infographic. Below this example, discussion questions were provided to demonstrate that municipal innovations are complex and often don't fit into one neat category. These questions were also intended to engage attendees in further discussions to identify additional examples, and brainstorm alternative ways of categorizing municipal innovations. This handout can be found in Appendix C of this report.

CONCLUSIONS

This project was successful in completing the two goals it set out to accomplish. An infographic with 2-3 examples of each process involved in municipal innovation, and 2 in-depth case studies were created and presented at the MiC. Copies of the infographic and the Hydrocut case study were printed and placed on tables at the conference, and a booth was set up where a large version of the infographic was displayed.

Project Challenges:

- Finding a clear, simple definition of 'municipal innovation'. This was a new concept for the authors that required additional research in order to understand innovation within a municipal context
- The "Waste Management" case study was not shared at the conference, and may be used by the community partner at a later date.

Project Impact:

- Conference attendees engaged in discussion of materials to better understand municipal innovations and how innovation can be applied to their municipality
- Examples of different kinds of innovation helped to demonstrate that there are many ways for municipalities to be innovative





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APPENDIX A: MUNICIPAL INNOVATION INFOGRAPHIC






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TECHNOLOGY: Designing or improving technological products, processes, and services that benefit social, environmental, and/or economic functions within a municipality.





LED Street Light Conversion
Kitchener, ON

WHAT IS IT?
Many municipalities have converted, or are in the process of converting, to LED street lights. The City of Kitchener is one example of a municipality that is replacing all its streetlights with energy-efficient LED bulbs as part of an updated control system.

WHERE'S THE INNOVATION?
The LED lights will be part of a narrowband adaptive control network that will use digital wireless technology to offer "smart control" over City infrastructure in Kitchener, supporting more effective, efficient services.

WHAT ARE THE IMPACTS?
The control network will: improve navigation services and traffic control; give residents access to real-time gas meter data; and help monitor sound pressure levels. The lights will also last 2-4 times longer and use less energy, saving the City about \$1 million a year in maintenance costs.






East Channel Water Treatment Plant
Inuvik, NT

WHAT IS IT?
The Town of Inuvik opened a new water treatment plant that utilized innovative technologies and infrastructure to address challenges associated with being located 200km north of the Arctic Circle.

WHERE'S THE INNOVATION?
Among the many innovative features of its final design, the new treatment plant in Inuvik utilizes modular rectangular wastewater storage tanks, a first for Northern Canada.

WHAT ARE THE IMPACTS?
The new treatment plant provides the community with safe drinking water. It also eliminates the need for two separate water sources and allows for a single source to be used year-round, reducing costs of switching between sources. Filtration, disinfection, and storage systems are integrated into its design, saving the Town on transportation and building costs.





Mississauga Open Data Catalogue
Mississauga, ON

WHAT IS IT?
Mississauga is one of municipalities that has implemented an Open Data Catalogue. This online database contains public information about services, community centres, cycling lanes, parks, and trails that can be easily accessed and used by anyone several.

WHERE'S THE INNOVATION?
The Catalogue is an innovation that changes who gets access to data, and who decides what will be done with it in this municipality (i.e. residents can do their own data analyses).

WHAT ARE THE IMPACTS?
The growing Catalogue promotes greater civic engagement, trust, and transparency in the data that are being collected. Residents have greater access to data that they can use in decision-making processes for innovative solutions to municipal issues they care about.



CIVIC ENGAGEMENT: Creating a supportive environment where citizens are actively involved in decision-making processes and the development and delivery of programs and policies on issues that directly affect them.



City of Reconciliation
Vancouver, BC

WHAT IS IT?
Vancouver was deemed a City of Reconciliation in 2014 and has since committed to cultivating relationships of mutual respect and understanding by engaging with local Indigenous communities.

WHERE'S THE INNOVATION?
The City developed a framework using guiding principles identified by local Indigenous communities to make sure that Indigenous peoples are better supported and reflected in City services, making changes to the framework as needed.

WHAT ARE THE IMPACTS?
The City is holding itself accountable to strengthening relationships with local Indigenous communities through annual progress reports that collect, track, and collate all City initiatives and actions related to the framework. The long-term goal of this framework is to continue to create more inclusive City services that respect and embrace all cultures.





Lewisham Time Bank
London Borough of Lewisham, UK


WHAT IS IT?
Time Banking is a form of exchange where neighbours share their services with each other for every hour of services they give, they receive an hour worth of services in return. As part of The Lewisham Time Bank project, the municipality is supporting the development of six individual Time Banks.

WHERE'S THE INNOVATION?
Time Banks operate on the principle that everyone's skills and experiences are valued equally (i.e. an hour of time has the same value no matter what the service). Time Banking is a form of co-production, which allows citizens to share the responsibility of delivering public and/or voluntary services.

WHAT ARE THE IMPACTS?
This two-way exchange of time and services is growing social capital, enabling self-organization, and reviving sense of community among residents. Particularly, when integrated with healthcare service provision, Time Banking has been shown to improve community health outcomes.



GOVERNANCE: Strengthening efforts within and across different municipal departments to align goals, divide up resources, resolve social conflicts, and work towards improved decision-making.




Regreening Program
Greater Sudbury, ON

WHAT IS IT?
Since 1978, the City has been coordinating regreening and tree planting efforts in response to the environmental impacts of mining and smelting in Sudbury as part of their ongoing Land Reclamation Program.

WHERE'S THE INNOVATION?
This program serves as a model for municipalities around the world that are working to repair damaged environments through locally-driven efforts.

WHAT ARE THE IMPACTS?
In addition to restoring the region's landscape, the Regreening Program has improved environmental conditions that impact human health, such as air quality.





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APPENDIX B: THE HYDROCUT TRAIL SYSTEM CASE STUDY



Municipalities can involve citizens and community benefit organizations in the design and delivery of an innovation.

WHAT WAS THE CHALLENGE THAT NEEDED TO BE SOLVED?

The first single-track mountain biking trails in Waterloo Region's Petersburg Forest and Waterloo Landfill Woodlot were created in 1997 and 1998. They were unsanctioned offshoots from the original multipurpose public trail in this woodlot. The initial cycling-specific trails were built gradually, by a variety of trail users in a fragmented way without any long-term planning. While developed with good intentions and much enthusiasm, trees were cut to create these unauthorized offshoots, earth was excavated and piled to create jumps, and unsafe structures were built. During the early 2000s, the Region was concerned by the level of trail users, their safety and the Region's liability.

WHAT IS THE INNOVATION?

In 2009, the Region of Waterloo and the volunteer-run Waterloo Cycling Club (WCC) arranged a 25 year legal Stewardship Agreement where the WCC manages and maintains the trails system, while the Region retains all liabilities for its operations.

WHAT MAKES IT INNOVATIVE?

Through the Stewardship Agreement, the Region has granted authority for making decisions about the woodlots to citizens, enabling them to manage and maintain a regional property.

WHAT DID THE INNOVATION PROCESS LOOK LIKE?

The development of The Hydrocut began in 2002 when the Region of Waterloo reached out to the WCC for help in maintaining the trail network. Since 2009 when the legal Stewardship Agreement was established, collaborative efforts between volunteers from the WCC Trails Committee and the Region have been successful in sustaining high levels of public usage.





Case studies in **MUNICIPAL INNOVATION**



THE HYDROCUT TRAIL SYSTEM IN WATERLOO

WHO WAS INVOLVED?

The Region of Waterloo, the Trails Committee of the Waterloo Cycling Club, and many community volunteers.

WHAT WERE / ARE THE IMPACTS OF THIS INNOVATION?

Known as "The Hydrocut," the WCC and the Region of Waterloo have grown a network of over 30km of trails that allows the public to freely use a large, densely forested piece of regional property that was previously unsafe and difficult to access.

Improved service management & provision

The WCC maintains trails to international standards, documents accidents and overall visitor numbers, surveys users, has risk management policies and plans, and has an emergency action plan for use by emergency services. Since signing the agreement, unauthorized trail construction has stopped, protecting environmentally sensitive areas. It has also decreased regional costs to maintain the property through the volunteer efforts of WCC's Trails Committee.

In 2016, the Hydrocut was voted best mountain-biking trails in Ontario by Singletracks magazine and is now consistently ranked as one of the top destinations for mountain biking in Ontario.

Enhanced community well-being



The Hydrocut draws in over 40,000 visitors per year, has engaged large numbers of volunteers who have collectively logged 1000s of hours of work, and contributes significantly to a vibrant cycling community in Waterloo Region.

Economic benefits

Local cycling businesses run events at the Hydrocut and provide sponsorship. The trails and events attract customers to surrounding businesses.



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APPENDIX C: DISCUSSION QUESTIONS HANDOUT



Discussion Questions:

- 1** What type of innovation is your city focused on? Where should you be focusing?
- 2** Share an example of a municipal innovation project. What impacts did you see?
- 3** What does your city need to keep innovating?



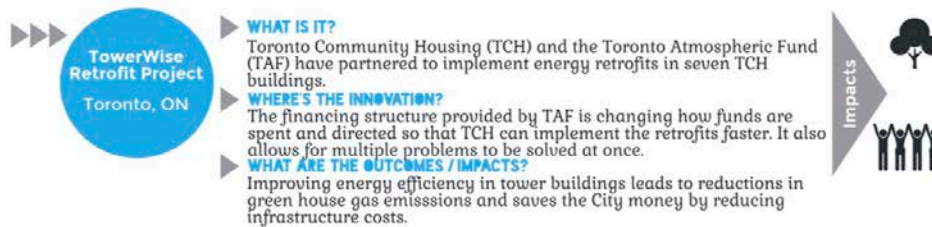


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WE PROVIDED SEVERAL EXAMPLES OF MUNICIPAL INNOVATION AND GROUPED THESE EXAMPLES INTO CATEGORIES.

However, there are many more examples of municipal innovation that may fall under multiple categories, or none at all. The City of Toronto's "TowerWise Retrofit Project" is one instance where the innovative processes involved fell outside of the categories we defined:



4 How would you categorize this example of municipal innovation?

5 Can you think of any other examples of municipal innovations that don't fit neatly into the categories we defined?

