

SMART CITIES CHALLENGE
ANNOTATED APPLICATION GUIDELINE
SECTION I: APPLICANT INFORMATION

QUESTION 1:

Please provide the following information on your community.

ANSWER:

- Name of community: City of Guelph and Wellington County
- Province/Territory: Ontario
- Population: 222,726 (2016 census)
- Indigenous community: No

QUESTION 2:

Please select a prize category.

- \$50 million (all population sizes)
- \$10 million (population under 500,000 residents)
- \$5 million (population under 30,000 residents)

ANSWER:

Guelph/Wellington are applying to the \$10 million prize category.

Section II: Preliminary proposal

Sub-section 1 – Problem definition (Total of 55/100)

Question 3:

Please define your Challenge Statement in a single sentence that guides your preliminary proposal. It should describe the outcome (or outcomes) you hope to achieve. (50 words max)

ANSWER:

Guelph/Wellington will become Canada's first technology-enabled Circular Food Economy, reimagining an inclusive food-secure ecosystem that increases access to affordable, nutritious food by 50%, where "waste" becomes a resource, 50 new circular businesses and collaborations are created, and circular economic revenues are increased by 50%: 50x50x50 by 2025.

QUESTION 4:

Please describe the outcome (or outcomes) your proposal seeks to achieve by elaborating on your Challenge Statement. (2,500 words max) |

Weighting 40/100 (questions 3-4)

ANSWER:

Summary of outcomes

- 1. Cultivating access to nutritious food within our community:** by 2025, Guelph/Wellington will become Canada's first data- and technology-enabled circular food community, better ensuring food security and healthy outcomes by making affordable, nutritious, local food 50% more accessible.
- 2. The creation of new circular collaboration partnerships, businesses and jobs:** by 2025, Guelph/Wellington will become Canada's first data- and technology-enabled circular food community, creating new opportunities with 50 new circular businesses and collaborations.
- 3. Valuing waste as a resource:** by 2025, Guelph/Wellington will become Canada's first data- and technology-enabled circular food community, creating new opportunities and sources of revenue by valuing waste as a resource, resulting in a 50% increase in circular revenue across our diverse community.

Understanding the issue: A complex, interconnected, wicked problem.

Food is a fundamental requirement of life on this planet. However, the basic structure of food provisioning systems around the world is unsustainable — economically, socially and environmentally. Our "linear" economic model of "take-make-dispose" has produced a paradoxical situation of over-abundance and waste, coupled with environmental depletion, poor health outcomes and inequitable distribution.

Globally, we see the impact of this linear model through:

- Environmental degradation. Each year 7.5 million hectares of forests are cut down for unsustainable agriculture production, and 75 billion tonnes of topsoil are lost.
- Inefficient and wasteful food production. On average 30% of all food produced does not make it to the plate.
- Poor health outcomes. Almost 1 billion people are hungry or undernourished, while at the same time 2.1 billion people are obese or overweight.

In our country and our community, we see many local manifestations of these global food problems. Social impacts include:

- From 2012 to 2014, approximately 14% of households in Wellington-Dufferin-Guelph experienced food insecurity (5% marginal, 6% moderate and 3% severe).

- The number of children living in poverty is too high (13% in Guelph and 17% in Canada). These numbers are even higher for children of new immigrants, where 47% live in poverty.
- The cost of food is high and growing: there has been a 27% increase since 2009 for a family of four.
- The negative health impacts of inadequate access to healthy food are significant, including obesity levels (15.1% in Guelph and 20% in Canada).
- From 2011 to 2014, 50.7% of adults in Guelph were overweight or obese; in Wellington County, the number was 60%.

Environmental impacts include:

- In Canada, \$31 billion worth of food is wasted each year. Just under half that waste occurs in households. The rest occurs throughout the supply chain, from production and processing to transportation and sales. To put that in perspective, \$31 billion is almost equal to the entire annual GDP for New Brunswick. In Ontario, food and organic waste comprise one-third of the province's waste stream.
- When food and organic waste is disposed of in landfills, it creates methane as it breaks down. This powerful greenhouse gas is 25 times more harmful to our environment than carbon dioxide. Increasing Ontario's organic waste diversion by 10% would reduce 275,000T of greenhouse gas emissions (equal to removing 64,000 cars from the road).

The current path is not sustainable — we need to bring food systems and our communities back into healthy balance. And the problem is urgent: if consumption and population growth trends continue, by 2050 the global population will increase to 9 billion, caloric demand will increase by 70%, and crop demand for human consumption and animal feed will increase by 100%.

A global transformation has already begun in the way we think about food, and there are many projects underway in communities around the world to address various aspects of these problems. However, no community to date has implemented a circular food community model.

The solution: A circular food economy

Guelph/Wellington will become the “Food Community of the Future”: Canada’s first data- and technology-enabled circular food community. We will create new opportunities and improve the health and food security of our community by re-imagining and re-inventing our food provisioning system — inspired by nature’s own circular system — and provide a practical roadmap for others to follow.

The Ellen MacArthur Foundation describes circularity as being able “to preserve, restore and regenerate natural, social and financial capital.” We will achieve this within our local food ecosystem.

Our vision will transform our community's food ecosystem into a connected "living lab" that supports new collaborations, applying our vast food resources, expertise, social innovation, data analytics, technology and smart citizens to solve food problems.

Catalyzed by a shared purpose and a vision of the many social, environmental and economic benefits of a circular food economy, our community will re-imagine and re-invent how we produce, distribute and consume food. In so doing we will:

- Create new and vibrant economic opportunities within *a circular, collaborative ecosystem approach* as we re-imagine the conventional linear, waste-producing model.
- Ensure everyone in our community has *access to affordable, nutritious food* required to live healthy, productive lives.
- Solve food problems with strategies to *repurpose and find value in the outputs* our current system treats as waste — the by-products of the unsustainable linear food economy.

Our vision for a circular food community will measure success based on the balanced quadruple bottom line outcomes of:

- Prosperity – economic growth
- Planet – environmental sustainability
- People – greater social equity
- Purpose – a clear vision of an inclusive green economy of the future, valuing nutrition, health, diversity, equity and dignity

Guelph/Wellington already has many key elements required to achieve this vision

The Guelph/Wellington region will leverage an existing cluster of talent, resources, expertise and leadership to solve community — and ultimately global — food problems. Our community has a unique value proposition:

- We represent a partnership — a bridging — between an urban centre (the City of Guelph) and a rural farming/production/local manufacturing/distribution hub (Wellington County).
- We are located in the heart of the "innovation corridor" stretching from Toronto in the east to Kitchener-Waterloo in the west, encompassing seven universities, 15,000 high-tech companies, a critical mass of incubators, a high-quality talent pool and access to significant capital.
- Guelph/Wellington is an established advocate of the food movement, with many community agencies actively addressing social challenges related to food, and a significant concentration of food entrepreneurs.
- The University of Guelph is world-renowned for its work in agriculture and agri-innovation.
- Conestoga College provides food technology and processing programs.
- The Ontario Ministry of Agriculture, Food and Rural Affairs and most provincial agriculture and food organizations are headquartered in the region.

This project will also make use of collaboration opportunities with national and provincial agri-food industry partners (e.g., Provision Coalition, Bioenterprise, Ontario Federation of Agriculture) who are already leaders in supporting the application and development of technology solutions in the sector.

In addition, we can further leverage our unique value proposition to work with national and international partners to make greater contributions to the circular economy with knowledge, technology development and leadership. The project will collaborate with leading cities (e.g., Glasgow, Amsterdam), foundations (e.g., Ellen MacArthur Foundation, Natural Step Circularity Lab) and think tanks (e.g., Arrell Food Institute) around the world to leverage their knowledge and expertise and contribute to the international body of knowledge and tools for the development of circular economies.

In short, Guelph/Wellington is uniquely positioned to develop a new circular relationship with our food system, creating positive quadruple-bottom-line outcomes to share with communities across the country and around the world.

Leveraging a Smart Cities approach will help us bring those pieces together

The Smart Cities Challenge is an important catalyst to achieving our vision of establishing a “living lab” — a place where social innovators, farmers and food and technology entrepreneurs collaborate to solve food problems.

A circular food economy requires collaboration and awareness, as well as social and technological innovation. Smart technologies are already helping farmers produce more food with fewer inputs — by optimizing seeding, fertilizer use, herd health and more. But we see the opportunities to use smart technology *throughout* the food system.

The municipal sector has an important role to play in creating and supporting collaboration, engaging citizens, leveraging existing resources and ensuring processes and policies are in place to support the transition to the new economy. A smart cities approach enables us do that, better coordinating our efforts as we work toward building a circular food economy.

AI, data analytics and visualizations can help us better design urban areas to ensure access to healthy, nutritious food. For example, our Asset & Behaviour Mapping project (described in Question 6) will provide accessible, evidence-based information to identify gaps and opportunities and better direct public resources. This project will also supply the detailed baseline data we will use to measure progress towards our three outcomes.

Meanwhile, connected technology enables us to measure and track food and other organic material flows with more precision. This information can help with the design of new circular food flows, improving business sustainability and uncovering

new economic opportunities for creating value from waste. Connected technology also underpins collaboration platforms and spaces that help diverse stakeholders and citizens to identify challenges and effectively work together to solve local and global food system problems.

In Question 6, for example, we discuss how connected technologies will allow us to create tools such as a digital carbon offset marketplace, interactive maps connecting citizens to food resources, transparent agri-food supply chains and more.

With this initiative, Guelph/Wellington will consolidate its reputation as a hub of food innovation and environmental sustainability. Our ambition is nothing less than becoming for food what San Francisco has become for IT.

Strategy for measuring progress

We believe the following goals lay the foundation for our circular food community. The goals are interrelated and synergistic, leading in the short term to a thriving food innovation ecosystem, which has the power to realize an inclusive green economy and improve health and food security outcomes.

In addition, we will measure transformation to a robust circular food community. Using data and connected technology — including the baseline data from the mapping project described in Question 6 — we will evaluate the progress against our Challenge Statement through metrics that contemplate economic, social and environmental benefits for the community as a result of embracing a circular food economy.

1. Cultivating access to nutritious food within our community.

The challenge: *by 2025, Guelph/Wellington will become Canada's first data- and technology-enabled circular food community, better ensuring food security and healthy outcomes by making affordable, nutritious, local food 50% more accessible.*

This initiative involves re-imagining a “smart” food system that better ensures food security and healthier outcomes — a system that also implicitly recognizes equity and dignity for all, better manages food resources to serve a diverse and vibrant community and celebrates the importance of good food in our everyday lives.

The metrics we intend to employ to measure success involve using data and connected technology to track:

- The increase in local food production.
- Greater access to nutritional food sources — for example, participation in urban agriculture and new models for circular producer-consumer relationships.
- Expanded access to affordable, nutritious food sources through new initiatives that create equitable distribution.

- Greater awareness of food and nutrition issues through local programs focused on food education and health.

2. The creation of new circular collaboration partnerships, businesses and jobs

The challenge: by 2025, Guelph/Wellington will become Canada's first data- and technology-enabled circular food community, creating new opportunities with 50 new circular businesses and collaborations.

Our ambition is to develop a circular innovation ecosystem that leverages social innovation and technology to advance new business models and collaborations to tackle local and global food problems. This will be accomplished by establishing collision spaces to promote new business collaborations and innovations to solve food system challenges and a collaboration technology-enabled platform to identify challenges and seek solutions. We will combine the existing expertise and institutions with our location in the tech corridor and expand our impact exponentially through the use of data and connected technology. The metrics we intend to employ to measure success involve:

- Tracking the number of food challenges entering Guelph/Wellington technology-enabled collaboration platform, the response rate and the new solutions that move to implementation.
- Tracking the number of new businesses, partnerships and jobs created in the region that align with the circular food economy model.

3. Valuing waste as a resource.

The challenge: by 2025, Guelph/Wellington will become Canada's first data- and technology-enabled circular food community, creating new opportunities and sources of revenue by valuing waste as a resource, resulting in a 50% increase in circular revenue across our diverse community.

Our vision is to re-imagine, re-use and revalue food ecosystem inputs and outputs by maximizing their use, eliminating waste, optimizing economic value and reducing negative environmental impacts. A circular food economy will design waste out of the system, repurposing it to create new inputs that produce both nutrition and energy.

The metrics we intend to employ to measure success involve:

- Tracking the volume of food "waste" that is diverted, where it goes, when it is repurposed and the revenues that are generated by its new use.
- Reporting on new business/economic opportunities and social enterprises created from the revalued resources.

QUESTION 5:

Please describe how your community residents have shaped your Challenge Statement. Describe your plans for continuing to engage and involve them in your final proposal going forward. (1,500 words max) |

This section should include:

- *Descriptions of previous engagement with residents, businesses, organizations, and other stakeholders on topics related to the Challenge Statement.*
- *Descriptions of feedback that came to light through past engagement processes.*
- *Links between the Challenge Statement and engagement feedback.*
- *Evidence of efforts made to be inclusive and to represent the community's diversity.*
- *Plans to sustain engagement through the development and implementation of the final proposal.*

Weighting
15/100

ANSWER:

As the food centre of Canada, Guelph/Wellington is constantly working with our citizens and community partners to understand and overcome food challenges together. Our Challenge Statement articulates how our community wants to take a leap forward by leveraging data and connected technology to become Canada's first circular food community. We arrived at this ambitious goal based, in part, on many years of engaging our citizens, businesses, non-profit organizations and other governments on these issues.

What follows is a review of the most relevant engagement initiatives undertaken in and by our community both prior to and during the development of this application.

A. Highlights of Our Food-Related Community Engagement Story

In recent years, the Guelph/Wellington community has engaged in several significant visioning projects that either focused on food or included a significant food component.

The Guelph Wellington Food Roundtable

- *Description:* The Guelph Wellington Food Round Table held a Food Strategy Engagement Series to help determine regional food policy, investment and development priorities with a diverse group of stakeholders—including public officials, community organizations, farmers, restaurateurs, entrepreneurs

and engaged citizens—to begin the process of developing a community-led Food Strategy for Wellington County and Guelph.

- *Outcome:* Accomplishments include the Guelph-Wellington Food Charter in late 2011 and the GWFRT Food Charter Toolkit in 2013 for engaging and educating community stakeholders — documents that we drew on in the process of articulating our Challenge Statement.

Community Wellbeing Initiative

- *Description:* Guelph's Community Wellbeing Initiative was initiated in 2011 to help establish a Community Wellbeing Plan that would:
 - unite and engage the community around a shared vision of wellbeing
 - forge a stronger relationship between the City and the community through a new model of civic engagement
 - increase the effectiveness of service delivery
 - provide a platform for proactive advocacy with other levels of government
 - support innovative partnerships committed to community-wide wellbeingThe initiative was guided by a Leadership Group representing multiple community sectors. It was rooted in a Collective Impact approach and aligned with the Canadian Index of Wellbeing.
- *Outcomes:* Guelph/Wellington made notable strides in the measurement of social indicators, including food security, and printed a 2014 report on local food security that has informed our Challenge Statement.

Toward Common Ground

- *Description:* Toward Common Ground is a partnership of social and health service organizations that developed a collective planning model for Guelph and Wellington, focusing in particular on effectively using data to resolve social challenges, including food challenges.
- *Outcomes:*
 - Toward Common Ground has created a data dashboard that tracks indicators and measures of local well-being and has developed strategic planning processes on social challenges that include food security. These significantly influenced our current vision.

Taste Real

- *Description:* This County of Wellington initiative promotes local food businesses, processors and producers
- *Outcomes:* Taste Real has fostered learning, partnership opportunities and networking among local food and beverage value chain members.

In addition to the engagements noted above, we drew on material from:

- The Guelph Wellington Poverty Task Force
- The Guelph Chamber of Commerce Food and Agriculture Committee
- Innovation Guelph (offering programs and workshops to food businesses and innovators)
- The Ontario European Agri-Food Forum

B. Smart Cities Challenge Community Engagement

The Smart Cities Challenge has been an important catalyst to broaden and deepen our community's engagement, focusing in particular on how we can increase our community's use of data and connected technology so we can become Canada's first circular food economy.

Stakeholder Engagement

Our community undertook several streams of consultation starting in early 2018 to inform our application. Over the course of several months, we held a series of facilitated sessions that involved a broad diverse representation of stakeholders, including:

- neighbourhood associations
- leaders at the University of Guelph
- business entrepreneurs
- technology experts and start-ups
- ag-tech organizations and businesses
- social sector leaders
- health and well-being experts
- community organizations and other public agencies
- agri-food stakeholders such as primary producers, farm organizations, agri-businesses and commodity organizations

Our approach incorporated continuous validation and dialogue with interested community members, including media entrepreneurs, agriculture and business consultants, foodies and community builders through one-on-one discussions and small group meetings.

We also united more than 50 community leaders to review our vision and approach. This session included "TED talk" presentations by business, social, academic and environmental trailblazers, followed by a facilitated discussion to sharpen our circular food economy concepts.

Over 100 individuals and organizations, including indigenous, Métis and aboriginal community leaders, were contacted to provide input regarding the vision to transform Guelph/Wellington into a leading centre to solve food problems and create a Circular Food economy. These stakeholders included the following:

- | | |
|--|--|
| 10 Carden | Family Counselling and Support |
| Ag Energy Co-operative Ltd. | Services for Guelph/Wellington-Wellington |
| Beef Farmers of Ontario | Farm and Food Care Ontario |
| Bioenterprise Corporation | Grain Farmers of Ontario |
| Chalmers Community Services Centre | Green Table Foods Inc. |
| Cisco Systems | Greenbelt Microgreens |
| Conestoga College | Guelph and Wellington Task Force for Poverty Elimination |
| Family and Children's Services of Guelph/Wellington and Wellington | Guelph Chamber of Commerce |
| | Guelph Community Foundation |

Guelph Community Health Centre
Guelph Family Health Team
Guelph Neighbourhood Support
Coalition
Innovation Guelph
Katan Kitchens
Lakeside Hope House
LeanDog
Long View
Mann Made Ltd.
Ministry of Agriculture and Rural
Affairs
Ontario Agri-Food Technologies
Ontario Federation of Agriculture
Ontario Fruit & Vegetable Growers
Association
Ontario Pork
Oreka Solutions
People and Information Network
(PIN)

Provision Coalition
Syngenta Canada Inc
Synthesis Agri-Food Network
Taste Real
The Cornerstone
Toque
Toward Common Ground
TruLeaf Sustainable Agriculture
United Way Community Services of
Guelph and Wellington
University of Guelph
Upper Grand District School Board
WDG Public Health
Wellington County
Wellington-Dufferin-Guelph Public
Health
Welo
Workforce Planning Board
YMCA-YWCA of Guelph

We are also engaging our residents through a website focused on our Smart Cities Challenge application, where they are invited to provide input on specific ideas for achieving each goal. City and county council were both involved throughout the process to ensure that the views of their constituents were reflected in the application, while Guelph MP Lloyd Longfield held a public meeting to discuss food security as part of the Government of Canada's plan to develop a national food policy.

We also brought together an advisory group of core partners including the University of Guelph, public health experts, agriculture organizations and community leaders to refine the vision and application details.

Engagement moving forward

To this point, we have focused our outreach efforts on working with stakeholders and citizens to define a broad vision for our Circular Food Economy initiative.

With our partners, citizens, entrepreneurs, and businesses, we will enhance our engagement efforts by further developing and refining our plan. During the summer, we will raise awareness of our goal to become a Circular Food Economy and solicit input on how to achieve the three key goals we have defined. Activities include media outreach, an expanded web presence to share information and solicit community input, social media campaigns, fact sheets, events and promotional videos.

SUB-SECTION 2 – PRELIMINARY PROPOSAL DETAILS (Total of 45/100)

QUESTION 6:

Please describe your preliminary proposal and its activities or projects. (2,000 words max) |

Weighting 15/100

ANSWER:

For each of the three outcomes we have established to make Guelph/Wellington the Food Community of the Future, we have planned several projects.

Outcome 1. Cultivate access to nutritious food within our community

Target: Affordable, nutritious, local food is 50% more accessible in Guelph/Wellington by 2025

This initiative involves re-imagining a “smart” food system that better ensures food security and healthier outcomes. Such a system will also implicitly recognize equity and dignity for all, better manage food resources to serve a diverse and vibrant community and celebrate the importance of good food in our everyday lives.

The following projects will support Outcome #2 by:

- Identifying opportunities for collaborators to work together to solve challenges related to food access, nutrition and affordability
- Better directing public resources (community gardens, kitchens, etc.) to areas of need
- Developing an Urban Agriculture plan and supporting policies and bylaws
- Better connecting citizens with farms, markets, retailers, restaurants, breweries, and other businesses that feature food grown in Guelph/Wellington through an interactive, online map and supporting programs

Project 1A: Asset & Behaviour Mapping

This critical project will provide baseline data mapping of the state of access to nutritious food and community food assets to calibrate what we have and where the gaps lie. As a result, it will allow us to identify geographic and demographic priorities within the community. The analysis of multiple layers of data, including behaviour, will also provide new insights for public health interventions and a platform for community-wide evidence-based decision-making. The mapping process will entail:

- undertaking a Public Health Study to map the availability, access, utilization and stability of nutritious food within our community.
- overlaying existing data from partner sources to gain new insights. These sources include:
 - City/County economic and planning data

- the University of Guelph Family Health Study longitudinal data
- Greater Golden Horseshoe Food and Farming Alliance Asset Mapping
- Taste Real Local Food Map data of locations where local food can be purchased (farmers, farmers' markets, restaurants and retail outlets)
- 2018 Social Determinants of Health report
- StatsCan data
- The Canadian Council on Social Development's Community Data Program
- New agri-food assets to be developed as local food program/collaboration space hubs (e.g., community kitchens planned for 10 Carden in Guelph and the Hillsburgh Library in Wellington County)

Feasibility: As indicated above, a wealth of data already exists that we can tap into. Additionally, the University of Guelph has the capacity to support the application of big data analytics to this project.

Impact/Scalability: This project can serve as a model for other communities.

Project 1B: Circular Action Plan

Once the mapping is complete, we will apply big data analysis and use the resulting insights to develop a Food Security & Health Action Plan. The Action Plan will combine the data, knowledge, expertise of diverse collaborators to develop new intervention models and evidence-based policy development and decision-making regarding asset and resource distribution and program development.

Feasibility: As described in Questions 6 and 8, we can tap the expertise of several well-established agencies in Guelph/Wellington to craft well-informed collaborative programs and interventions.

Impact/Scalability: Significant local impact, thanks to highly targeted interventions informed by granular data.

Data/Technology Enablers

- Big data analytics — data from multiple sources will be combined and analyzed to better understand the complex relationship between health, assets and access to nutritious food.
- Open data portal technology — all data will be made available through an open data portal with open APIs to encourage use by researchers and entrepreneurs.
- Geographic Information System (GIS) technology, spatial data analytics technology — interactive maps and visualizations will be developed to make the information accessible to the public and support decision-making and strategy development.

Outcome 2. Create new circular collaboration partnerships, businesses and jobs

Target: 50 new circular businesses and collaborations are created by 2025

How might we better collaborate to solve food system challenges to create a circular food economy? How can we identify outcomes and measure progress based on the quadruple bottom line of people, prosperity, planet and purpose? How do we create new circular collaborations, businesses, jobs and social enterprises? How might we educate and train people (particularly women, youth and marginalized population) to work in the new food economy?

Our approach is to establish a technology-enabled collaboration ecosystem and create collision spaces that bring together diverse expertise, talent and resources. The resulting community-driven solutions would be replicable in other communities nationally and globally.

The following projects will support Outcome #1 by:

- Building a living lab ecosystem for ongoing circular innovation and implementation.
- Creating an inclusive green economy.
- Facilitating repeatable projects built out of our community's unique food problem-solving environment.
- Delivering community-driven solutions to broad-based linear food problems.

Project 2A: Circular Food Economy Lab

We plan to establish a Circular Food Economy Lab of partnerships and collaborations that applies data, technology and social innovation to re-invent local food systems and solve local food problems that are globally relevant.

This project will be anchored by one or more "collision" spaces, creating hubs for collaborators in the agri-food, clean tech, social innovation and other sectors to address circular food challenges and drive quadruple bottom line outcomes. It will include a "food project concierge" responsible for shepherding problem-solvers through the development process, identifying potential collaborators and connecting them with local resources.

Feasibility: We have already identified a number of potential spaces with our partners. Elements of the supporting virtual collaboration platform are also well scoped.

Impact/Scalability: Model can be replicated in other communities.

Project 2B: Impact Fund

This project will bring together, better coordinate and promote existing funding programs and funders. By offering a comprehensive array of grants, loans, prizes and/or venture capital, it will enable new partnerships, support start-ups and facilitate innovations that apply circular ideas to identified food challenges. It will also identify gaps in funding needs in this sector.

At the same time, we will utilize the successful Guelph Civic Accelerator model (<http://open.guelph.ca/accelerator/>) to identify citizen and stakeholder challenges and broadcast food-related challenges through the collaboration platform. The solutions proposed by collaborators would in turn attract funding to develop prototypes and accelerate implementation.

Impact/Scalability: Collaborative funding program models and challenge approaches can be scaled up and/or replicated in other communities.

Project 2C: New Food Economy Skills and Training

Leveraging the institutional resources, skills and talent in our community, we will provide food innovation education and training, as well as public learning labs to promote and innovate on food policy and ideas. This investment will help ensure the ongoing development of circular innovation thinkers and doers.

Feasibility: The University of Guelph is prepared to build on programs such as the Feeding 9 Billion Challenge, the Ideas Congress, the Food from Thought Initiative, the Centre for Business and Student Enterprise, the Accelerator Program and the Community Engaged Scholarship Institute. Together, this suite of initiatives is poised to develop and offer a holistic set of programming opportunities to ensure that the skills of social innovation and entrepreneurship unlock the potential of the circular food economy.

Impact/Scalability: Training approaches, including community-based learning opportunities, can be adapted and used in other communities.

Data/Technology Enablers:

- Connection platform involving collaboration technologies.
- Online learning delivery tools.

Outcome 3: Value food waste as a resource

Target: 50% in new circular revenue across our diverse community is generated by 2025 by valuing waste as a resource.

How might we better:

- Design waste out of the food system?
- Reduce the environmental impact of food waste?
- Revalue “waste” as energy, nutritious food and other resources?
- Discover new business and economic value from “waste”?

Our vision is to re-imagine, re-use and revalue food ecosystem inputs and outputs by maximizing their use, eliminating waste, optimizing economic value and reducing negative environmental impacts.

The following projects will support Outcome #3 by:

- Reducing waste.
- Creating new revenue streams from what used to be considered waste.

- Producing fewer negative environmental externalities: GHGs, water depletion and other ecological issues.

Project 3A: Business Tools and Services

We will develop, curate and share a suite of tools, business diagnostics and services to help public organizations and businesses reinvent their processes and business models. This project will support the creation of value from “waste” by-products that are currently under-used or discarded, recovering chemicals, nutrition, medicinal compounds and energy.

Feasibility: This project will involve Guelph’s Provision Coalition, an organization that works with food and beverage manufacturers to assess their sustainability challenges and implement solutions to increase efficiencies and minimize food waste. The intent is to leverage the Provision Coalition's pre-competitive data platform (and potentially other mapping/diagnostics/system design platforms) for redesigning business processes to either reduce/eliminate waste or divert waste to new inputs or revenues. The project would involve applying blockchain technology to the agri-food supply chain to increase transparency and reduce waste, developing new tools and business models that can be shared with others.

In doing so, we would draw on the experience gleaned through the Coalition's CASI initiative, a collaboration of farm organizations and food/beverage processors, manufacturers and retailers working together to create a transparent and sustainable agri-food supply chain.

Impact/Scalability: Business models, tools and services can be used in other communities across Canada and globally.

Project 3B: “Re-imagine Food” Awareness Campaign

By educating consumers on the importance of revaluing waste, we will boost demand for the products of a circular economy and build stronger relationships between food producers and consumers. As a result, we will support the outcomes of reducing the waste associated with transport, creating local jobs and strengthening resilience as well as urban-rural links.

Feasibility: We have extensive experience educating residents on sustainability issues. Furthermore, we can draw on the resources of a number of organizations (noted in Question 8) to amplify our message.

Impact/Scalability: Public education materials can be adapted and used by other communities and awareness campaign can be replicated.

Project 3C: Circular Carbon Credits

For the past seven years, the City of Guelph has been selling greenhouse gas offsets produced by its Eastview Landfill Site and Organics Waste Processing Facility on the voluntary market to BMO. To help other local businesses buy and sell their own carbon offsets, Guelph is exploring the potential of developing a secure, open and accessible digital marketplace powered by blockchain technology. Having

access to this system will encourage more companies to reduce their carbon footprint by buying offsets generated from food waste. Meanwhile, companies that generate carbon offsets can find local buyers for those credits, keeping the monetary and social value circulating in the Guelph/Wellington community. This project will both reduce waste and create new revenue streams out of wasted resources. In addition, it will create new circular businesses in the community.

Feasibility: This project builds on an existing initiative and experience in carbon offset credits.

Impact/Scalability: The model and results of applying fintech and increasing the value and benefits of carbon offset credits can be shared with other communities, as can the technology.

Project 3D: Value Mapping

This project will identify and map the food cycle for selected undervalued food items that have the potential for greater usage and a current high degree of waste. The City of Guelph currently employs residential waste collection carts equipped with RFID technology capable of providing key insights into community waste dynamics and opportunities related to food waste reduction, distribution and accessibility. Approximately 48,000,000 data points are generated annually, offering a wealth of information that can be analyzed to develop metrics and identify key intervention points to help drive a circular food economy.

Feasibility: This project leverages existing technology and data and draws on the expertise of the Provision Coalition (mentioned in Project 3A, above).

Impact/Scalability: Learnings can be shared with other communities, and the project can serve as a model for other communities.

Data/Technology Enablers

- Sensors/blockchain technology for verification/traceability.
- Business diagnostic and analytics technology — providing a platform to evaluate current business models and processes in food production and identify opportunities to reduce systemic waste.
- City of Guelph residential waste carts equipped with RFID transponders.

QUESTION 7:

Please describe the ways in which your preliminary proposal supports your community's medium and long-term goals, strategies, and plans. (500 words max)

To supplement your response, please provide any relevant documents and make clear linkages and references. Weighting 5/100

ANSWER:

Guelph/Wellington and key stakeholders have identified agri-food as a strategic priority for the region. Over the years, several strategies and plans have been developed that build on this priority, including:

Guelph on the Corridor, 2018

(https://guelph.ca/wp-content/uploads/info_items_031618.pdf#page=15)

The City of Guelph, Wellington County, the University of Guelph, the Chamber of Commerce and other key stakeholders identify agri-food and clean technology innovations as Guelph's differentiating factor on the Toronto-Waterloo Innovation Corridor.

Vital Signs, 2017/2018

(<http://www.guelphcf.ca/LinkClick.aspx?fileticket=oxM6x3HX8Hw%3d&tabid=100>)

Vital Signs provides a meaningful, high-level snapshot of strengths and challenges in Guelph and Wellington County, including employment, income, food, and housing.

The Green Energy and Technology (GRE&T) Centre, 2017

The GRE&T Centre is envisioned as an accelerator site to evaluate and develop emerging, green and customer-friendly energy solutions, supporting businesses in bringing green technologies to market.

Solid Waste Management Master Plan, 2014

(<http://guelph.ca/wp-content/uploads/2014SWMMPPFinalReport.pdf>)

Guelph's 25-year strategy sets a path to achieve ambitious waste minimization, diversion and disposal targets.

Guelph as Location for Agri-Food and Agri-Tech Headquarters and Knowledge-Oriented Offices, 2014

This report concludes that Guelph is uniquely suited as a premiere agri-food and agri-tech cluster in North America.

Guelph Innovation District Secondary Plan, 2014

(http://guelph.ca/wp-content/uploads/OPA54_GuelphInnovationDistrict_08102017.pdf)

Designed to guide and regulate the sustainable development of the Guelph Innovation District, this planning framework includes the need to reduce food-related waste and carbon emissions.

Guelph Community Wellbeing Initiative, 2011–2014

(<https://guelph.ca/plans-and-strategies/guelph-community-wellbeing-initiative-cwi/>)

This extensive, three-year community engagement initiative identifies food security as a core priority for Guelph.

Wellington County Economic Development Strategic Plan, 2012

(https://www.wellington.ca/en/business/resources/2016EcDev/MeansBusiness/Wellington_County_Economic_Development_Strategy.pdf)

Food and agriculture are identified as major priorities for Wellington County's economic plans, including supporting a sustainable agriculture sector and promoting local food networks.

Guelph-Wellington Food Charter, 2011

(<http://www.cog.ca/pww/documents/GuelphWellingtonFoodCharter.pdf>)

Endorsed by Council, this document identifies the key priorities for creating a just and sustainable food system for all.

Strategic Plan for the Guelph Agri-Innovation Cluster, 2010

(http://guelph.ca/wp-content/uploads/Strategic_Plan_for_the_Guelph_Agri-Innovation_Cluster.pdf)

Prepared by the Chamber of Commerce, the University of Guelph, Guelph Partnership for Innovation, the City of Guelph and other stakeholders, this strategic plan guides the growth and development of Guelph's food and agri-business sectors.

Prosperity 2020, 2009

(http://guelph.ca/wp-content/uploads/Prosperity_2020_Phase1-Economic_Base_Analysis_Report.pdf)

The City of Guelph's economic development strategic plan identifies "Agri-food and Innovation" as one of its three key sectors for adding value to the local economy and a strategic advantage to Guelph.

Wellington County BR+E Project, Business Interview Findings and Action Plan, 2014

(<http://www.centrewellington.ca/dobusiness/Documents/FINAL%20Centre%20Wellington%20BR+E%20Report.pdf>)

Drawing on insights gained from a Business Retention and Expansion retreat, the Wellington Economic Development Group prepared an action plan based on a number of identified strategic opportunities, including developing the local food sector.

This proposal also aligns with the Sustainable Development Goals and Canada's emerging Food Policy, the themes of which mirror the pillars of our application:

- increasing access to affordable food
- improving health and food safety
- conserving our soil, water, and air
- growing more high-quality food

Finally, we are collaborating with the Ellen MacArthur Foundation as participants in their Cities in the Circular Economy project, exploring how to leverage digital technology to unlock the potential of circular food systems (<https://www.ellenmacarthurfoundation.org/assets/downloads/Cities-in-the-Circular-Economy-The-Role-of-Digital-Tech.pdf>).

QUESTION 8:

Please describe your community's readiness and ability to successfully implement your proposal. (1,000 words max)

This section should include:

- *Experience with implementing complex projects (i.e. multi-stakeholder, multi-dimensional) that span multiple business lines and functional units.*
- *Structures, processes, and practices in place or planned for managing and implementing complex projects that span multiple business lines and functional units.*
- *Organizational strengths and potential weaknesses for managing and implementing a smart city proposal, and plans to address weaknesses to ensure successful proposal management and implementation.*

*Weighting
10/100*

ANSWER:

Current readiness

This project will draw on the expertise of a broad range of organizations based in Guelph/Wellington. These include:

- a university recognized as a global leader in agriculture and food issues, with initiatives that include:
 - The Food From Thought program, which aims to exponentially increase the ability to leverage big data for the benefit of food production and biodiversity
 - The Guelph Food Waste Research Group — a group of experts from the University of Guelph who are advancing groundbreaking research to reduce the environmental impact of our food systems and improve food security
- the provincial Ministry of Agriculture, Food and Rural Affairs
- a successful municipal Civic Accelerator model that enables collaborations between the City of Guelph and innovative startups, entrepreneurs, student teams and companies to solve complex problems in the community
- a strategic location in the middle of the Ontario Innovation Corridor, a technology and innovation supercluster
- many agricultural industry associations and organizations

- a large community of entrepreneurs in the areas of bio-tech, clean-tech, agri-tech and food processing
- countless innovative community partners tackling food security challenges, including
 - Toward Common Ground — an action-focussed group of social and health service organizations
 - Guelph Wellington Poverty Taskforce — a collaboration of diverse partners addressing poverty in our community
 - Guelph Community SEED Hub — a Guelph Community Health Centre project aiming to overcome food insecurity
- Taste Real, a County of Wellington initiative that has brought together local businesses, farms and producers to create one of Ontario's most vibrant food economies and food tourism destinations

The City of Guelph is a leader in environmental stewardship, already implementing food waste diversion and reduction strategies. Our Solid Waste Management Master Plan includes the establishment of a food waste reduction campaign to avoid unnecessary waste and preserve resources associated with food production, packaging and transport.

Our Community Energy Initiative, developed in 2007 as one of Canada's first community energy plans, focuses on reducing local greenhouse gas emissions. The plan has a baseline emissions inventory — essential data that will be incorporated into our food data mapping, fintech carbon credits and circular flow mapping projects. Meanwhile, the City's Climate Change Office and Sustainability Board were created to prioritize environmental sustainability and climate adaptation and resilience.

Finally, we have the connectivity base required for a Smart Cities initiative. Wellington County is part of the SouthWestern Integrated Fibre Technology (SWIFT) Network — an initiative to bring reliable internet to rural communities. In 2018, SWIFT will begin investing nearly \$300 million to connect almost 3.5 million people across Southwestern Ontario.

Experience implementing complex projects

Over the years, the City of Guelph has brought a number of complex projects to successful conclusion, working with numerous stakeholders and managing significant budgets.

A recent example is the Victoria Road Recreation Centre Renovation. This \$15.1M, tier 1 capital project transformed an aging and outdated recreation centre to an updated, more inclusive and accessible community centre that meets all building code and legislated requirements. It was completed last June on time and on budget, thanks in part to an internal governance structure that included a project manager, technical project team and steering committee.

Additionally, the City-led Guelph Wellbeing project showcases our ability to collaborate with numerous community stakeholders. The project, which ran from

2011 to 2014, identified food security, physical connectivity, affordable housing and social connectivity as important Guelph issues. The initiative engaged the community in the development of vision and goals, garnering 3,000+ inputs and an ongoing stakeholder list of 400 collaborators. It resulted in enhancement in strategies and programs (e.g., community grants, Older Adult and Youth strategies, Cycling and Transportation master plans, Community Garden and Community Paramedicine programs, and the Affordable Housing Strategy).

Our community's Smart Cities Challenge initiative will be implemented, as many other important and complex initiatives have been, by working closely with the University of Guelph. The University has extensive experience managing major initiatives, including partnering with the Ontario Ministry of Agriculture, Food and Rural Affairs on Food from Thought. This initiative, funded through the federal government's Canada First Research Excellence Fund, is designed to apply the tools of big data to create a more sustainable food system.

Plans to address potential weaknesses

To ensure we have both the bandwidth and the necessary expertise to ensure the smooth running of this initiative, we will work with our partners to create a project secretariat, as described below. Additionally, we have reached out to create collaborations with national and international experts in the circular economy field.

Project management structure

Building on the assets and experience described above, and backed by strong political support (see Question 14), we will create the structures and accountability required to succeed.

Specifically, the City will create a Circular Food Economy Secretariat with the mandate to build on community expertise and support the implementation and growth of the Guelph/Wellington Smart Cities initiative to achieve 50x50x50 by 2025.

Because of its scale, complexity, and community impact, we will take a multidisciplinary approach to managing this project, including collaboration of staff from the following areas: Infrastructure, Development and Enterprise, Finance, Risk Management, Legal, Procurement, Community Services, Intergovernmental Affairs, Community Investment, Community Energy, and Information Technology.

The City of Guelph, working closely with Wellington County and the University of Guelph, will implement a project management system that extends the rigour and risk analysis that is part of our normal operating procedures. This structure includes public communications, financial analysis, risk analysis and stakeholder analysis.

In doing so, we will draw heavily on the expertise of the Project Management Office. This City of Guelph office is utilized as a regular governance and operating structure for all complex City projects and offers rigorous best practices in risk analysis, reporting and transparency.

To provide strategic direction for the initiative as a whole, we will establish an Advisory Council. A seat on this Council will be reserved for a County of Wellington representative, ensuring smooth communications between the City and the County.

QUESTION 9:

Describe your plan for using the \$250,000 grant, should you be selected as a finalist. Provide a high-level breakdown of spending categories and an accompanying rationale. (500 words max) |

Weighting 5/100

ANSWER:

Guelph/Wellington is well situated to hit the ground running, having, as we do, a number of expert partners, committed to achieving the outcomes described above. However, an initiative of this scope and ambition will require detailed planning, significant human resources and good baseline data. To that end, here is an overview of the approach we will take to maximize our community's use of the \$250,000 grant:

1. Formalize a Secretariat and an advisory council
 - Based at the City of Guelph, a Circular Food Economy Secretariat will be created and led by an official in the City government.
 - An Application Advisory Group was established in Q1 2018 as an oversight group for the development of the Smart Cities application. Moving forward, an Advisory Council will be established with representation from the partner organizations listed in Question 10. We recognize that the complexity of this initiative and the breadth of the anticipated outcomes will require all of these voices.
 - Agreements for long-term commitments with partner organizations will be completed, including determining in-kind contributions and staffing.
2. Plan and execute a public engagement strategy
 - We will finalize the details of a comprehensive public communications and engagement plan to ensure broad awareness of the Smart Cities Challenge in Guelph/Wellington, building more momentum for our circular food economy and inviting more good ideas and potential collaborations.
3. Establish project charters and a performance measurement management strategy
 - We will work with our partners, , to develop clear and robust systems to measure our performance. This will require comprehensive definitions of the three goals that are specific, measurable, actionable and realistic and that have clear time frames attached to them.

- Working with data experts across our community, we will develop a rigorous approach to collecting and using data so that we can measure our progress towards our goals of cultivating nutritious food, valuing waste and creating circular economy jobs.
- Comprehensive strategic and operational plans will be developed to define the scope of work and milestones for Q2 to Q4 2018.

4. Initiate Asset and Behaviour Mapping project

- Because this project will provide the baseline data that will inform all the other projects we have described in Question 6, we envision launching this project during the business case phase of this initiative.

Spending categories

- Project development (development of project charters, metrics etc.): \$75,000
- Communications and engagement: \$50,000
- Create a data management plan (to establish baseline and support performance tracking): \$75,000
- Initiate critical components of Asset and Behaviour Mapping project: \$50,000

QUESTION 10:

Describe the partners that are or will be involved in your proposal. Where partners are not yet determined, describe the process for selecting them. (500 words max) |

This section should include:

- *A description of existing partners (what type of organization, what they do, etc.), their relevance, and expected contribution to the outcome (or outcomes).*
- *Where partners are not yet determined or where it is anticipated that additional partners are required, describe the process for selecting them.*

Weighting

10/100

ANSWER:

Our community has engaged extensively with our residents and stakeholders of all kinds (see Question 5). However, there is a core group of partners, outlined here, that have been the creative and intellectual force behind our application.

Core Partners

- City of Guelph (municipality)
 - Contributions: Overall project management, project identification, subject matter expertise

- Wellington County (municipality)
 - Contributions: Strategic counsel, subject matter expertise
- University of Guelph (post-secondary institution)
 - World-renowned university in the fields of agriculture and agri-innovation
 - Contributions: Strategic counsel, project management support, data expertise, subject matter expertise (cultivating nutritious food; valuing food waste)
- Conestoga College (post-secondary institution)
 - Leading Canadian Institute of Technology and Advanced Learning
 - Contributions: Subject matter expertise (cultivating nutritious food; valuing food waste; food production and processing)
- The SEED Community Hub (not-for-profit)
 - Community food project that aims to help overcome food insecurity through programs and services that tackle the root causes of poverty
 - Contributions: Strategic counsel, subject matter expertise (cultivating nutritious food)
- Oreka Solutions (business)
 - Insect producer that uses surplus foods from grocery stores, beverage and food manufacturers to feed black soldier flies, which are then used as a feed product for livestock
 - Contributions: Strategic counsel, subject matter expertise (valuing food waste; creating circular jobs)
- Mann Made Ltd. (business)
 - A design and construction firm with expertise in vertical farming
 - Contributions: Strategic counsel, subject matter expertise (cultivating nutritious food; valuing food waste; creating circular jobs), data expertise
- Innovation Guelph (business accelerator)
 - Offers programs and workshops to help food businesses and innovators thrive
 - Contributions: Subject matter expertise (creating circular jobs)
- Ontario Federation of Agriculture (industry association)
 - Farmer-led organization that advocates for sustainable agriculture and food

- Contributions: Subject matter expertise (cultivating nutritious food; creating circular jobs)
- Sygenta (business)
 - Agriculture company that offers crop services and advice to help Canadian growers maximize yields and make better use of resources
 - Contributions: Subject matter expertise (valuing food waste; creating circular jobs)
- Wellington-Dufferin-Guelph Public Health (public sector)
 - Delivers programs and services to promote healthy behaviours and protect the health of individuals, families and communities
 - Contributions: Subject matter expertise (cultivating nutritious food)
- Guelph Community Health Centre (public sector)
 - Provides health-related services and community programs
 - Contributions: Subject matter expertise (cultivating nutritious food)
- Guelph Neighbourhood Support Coalition (not-for-profit)
 - A network of neighbourhood groups and program partners working to meet the needs of children, youth and families in Guelph
 - Contributions: Subject matter expertise (cultivating nutritious food)
- Michael Keegan & Associates (consulting firm)
 - Guelph-based public affairs and strategy consultants
 - Contributions: Strategic counsel, project management

Future Partners

As the initiative grows, our Core Partners will identify additional collaborators to ensure our community is maximizing our use of data and connected technology. Specifically, we will add partners who are able to create and track data to measure progress and innovators who will find solutions to our identified challenges.

QUESTION 11 (CONFIDENTIAL ANNEX):

Please provide, if and only if required, confidential third party information. Information provided in this section will be exempt from the requirement to be posted online. (500 words max)

Third party information in this section should be supplemental to the information provided elsewhere in the application and be limited to those details that are

deemed confidential. Please clearly indicate which question(s) the information provided in this section relates to.

- *INFC said this refers to whether an applicant wants to include proprietary information, but they are encouraging all applicants to provide as much information as possible that can be shared publicly. This will provide a more accurate public representation of the applications and, related, more transparency in how they are evaluated.*

SECTION III: OTHER REQUIREMENTS

This section has no bearing on the evaluation, but is required to complete the application. This section is not required to be posted online with the exception of questions 12 and 13.

QUESTION 12:

Provide a 200-word summary of your preliminary proposal. You may also provide an image that represents your preliminary proposal.

This summary, along with your Challenge Statement, will be posted online in both official languages.

You have the option of providing the summary in both official languages. If you provide it in one official language, Infrastructure Canada will translate it prior to posting online.

ANSWER:

Food is a fundamental requirement of life on this planet. However, the basic structure of today's linear "take-make-dispose" food system is unsustainable — economically, socially and environmentally.

Guelph-Wellington aims to become Canada's first circular food economy, bringing our food system and communities back into healthy balance. Through our rural-urban partnership, we will enhance access to nutritious food, turn "waste" into valuable resources and create new economic opportunities.

Situated in the heart of Ontario's Innovation Corridor, Guelph/Wellington is a hub of food innovation and environmental sustainability, making us uniquely positioned to achieve this vision. Leveraging local expertise, big data and the latest technology, we will transform our food ecosystem into a connected "living lab" where researchers, social innovators, farmers, entrepreneurs and other community partners collaborate to solve complex food problems.

The Smart Cities Challenge is an important catalyst, enabling us to fund impactful circular food projects, create collaboration spaces, undertake baseline data mapping to guide programs and planning, create a suite of digital tools, and more.

Together, we will build the “Circular Food Community of the Future,” creating positive quadruple bottom line outcomes — prosperity, planet, people and purpose — and share the roadmap with the communities across the country and around the world.

QUESTION 13:

Provide a link to the online location where you will post the full version of your application.

ANSWER:

<https://guelph.ca/city-hall/city-administrators-office/smart-cities-challenge/>

QUESTION 14:

In accordance with your governance structure, provide evidence of the commitment to your preliminary proposal from your community's leadership. This can be a letter of support with signatures from your mayor(s), chief(s), or equivalent or a council resolution, a band council resolution, etc.

ANSWER:

Provided INFC with supplementary information via link - ck

QUESTION 15:

Please identify the point of contact for the application.

ANSWER:

- Name: Cathy Kennedy
- Title and affiliation: Manager, Policy and Intergovernmental Relations, City of Guelph
- Phone number: 519-822-1260 X 2255
- Email address: cathy.kennedy@Guelph.ca

QUESTION 16:

Read the Privacy Notification, Consent and Release form, and Communications Protocol and indicate your agreement.

ANSWER:

- *This is just a box to tick on the application.*

SECTION IV: SURVEY QUESTIONS

This section has no bearing on the evaluation, but is required to complete the application. This section is not required to be posted online. This information is meant to help Infrastructure Canada better understand the profile of applicants, collect baseline data about communities, and improve and adjust the Smart Cities Challenge process in the future. This information may be publicized for statistical analysis and reporting purposes, but only aggregates will be used (i.e. communities will not be identified). You may provide estimates wherever information is approximate or unavailable.

QUESTION 17:

Please provide the following information about your organization.

- *2017 full-time equivalents (FTEs):*
 - *Number of total FTEs*
 - *Percentage of total FTEs devoted to innovation*
- *2017 operating and capital budgets:*
 - *Total operating budget*
 - *Percentage of total operating budget devoted to innovation*
 - *Total capital budget*
 - *Percentage of total capital budget devoted to innovation*

ANSWER:

- **2017 full-time equivalents (FTEs):**
 - **Number of total FTEs**
City of Guelph: 1,211
Wellington County: 639
Total: 1850
 - **Percentage of total FTEs devoted to innovation**
City of Guelph 2.7%
Wellington County: 0.9%
Total: 2.1%
- **2017 operating and capital budgets:**
 - **Total operating budget**
City: \$306,397,590
Wellington County: \$200,063,100
Total: \$506,460,690
 - **Percentage of total operating budget devoted to innovation**
City: 1.72%
Wellington County: 1%
Total: 1.4%
 - **Total capital budget**
City: \$90,308,062
Wellington: \$96,390,200

- Total: \$186,698,262
- o Percentage of total capital budget devoted to innovation
City: 5.42%
Wellington: 32%
Total: 23%

QUESTION 18:

Please select the focus area of your preliminary proposal.

If your preliminary proposal seeks to achieve outcomes that span more than one area, you may choose up to two.

ANSWER:

- **Economic opportunity**
- **Empowerment and inclusion**
- Environmental quality
- Healthy living and recreation
- Mobility
- Safety and security

QUESTION 19:

Select all the community system/service areas expected to be implicated in your preliminary proposal.

There is no limit to the number of community systems/service areas you may select.

ANSWER:

- Arts and culture
- **Economic development**
- **Education and training**
- Emergency services and enforcement
- **Environment**
- **Land use planning and development**
- **Public health**
- Recreation and parks
- Roads and transportation
- **Social services**
- **Waste**
- Water and wastewater
- Other: please specify

QUESTION 20:

Select all the technologies expected to be implicated in your preliminary proposal.

There is no limit to the number of technologies you may select.

ANSWER:

- **Artificial intelligence (AI)**
- Assistive technology
- Augmented reality (AR) or Virtual reality (VR)
- Autonomous and connected vehicles
- **Big data analytics**
- **Cloud computing**
- Enterprise solutions
- **Environmental monitoring**
- **Geospatial**
- Health or Medical technology
- **Internet of Things (IoT)**
- **Mobile applications**
- **Networks**
- **Open data platforms**
- Payment platforms
- **Sensors**
- **Video analytics**
- Wearables
- Other: please specify