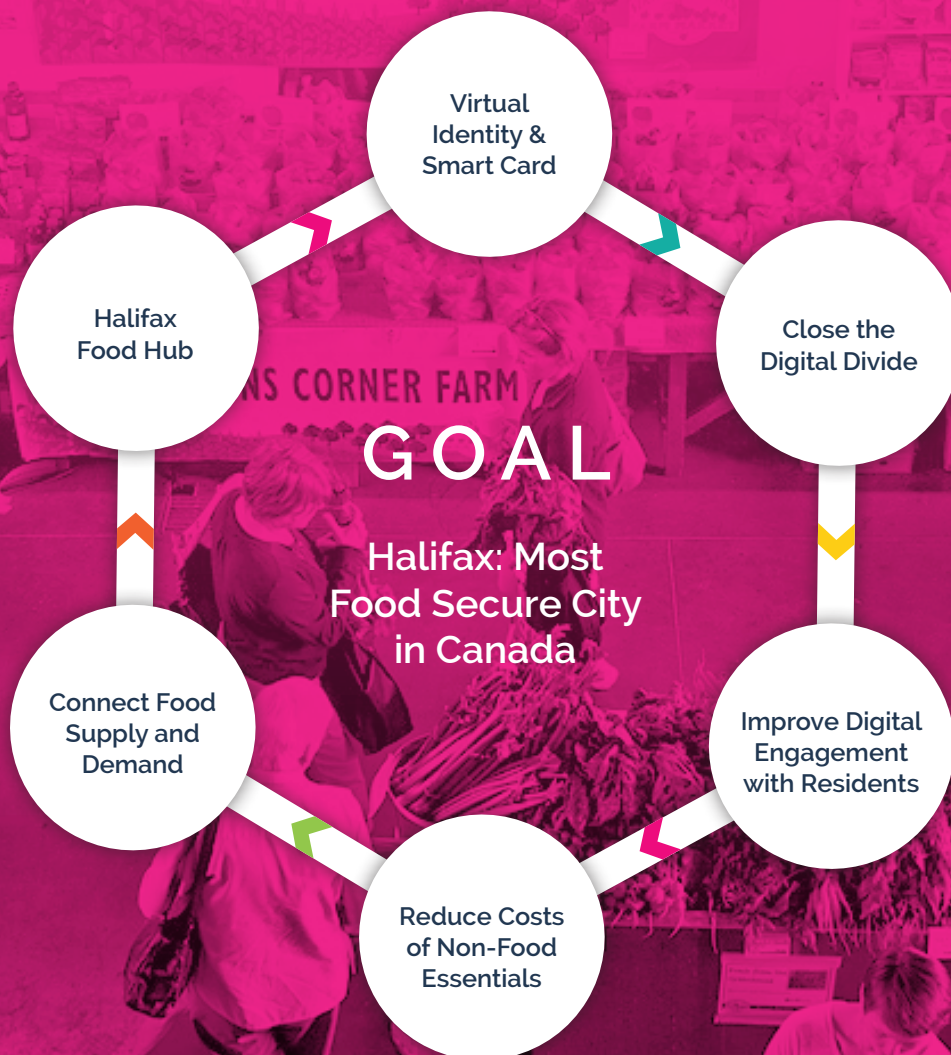HALIFAX

Halifax
Smart Cities
Proposal

PROPOSAL SUMMARY

Though we're surrounded by thriving farmland and sea, and experiencing strong economic growth, 1 in 5 Halifax residents don't have access to nutritious, affordable food. In fact, Halifax is one of the most food insecure cities in Canada.

We're going to change that.

Our community is working together to solve Halifax's food security issue. Good nutrition is one of the greatest contributors to long-term health and prosperity, impacting every aspect of a person's life from education and employment outcomes to physical and mental health. Food plays a huge role in our collective strategy to reduce poverty and lift every resident and community up. We believe technology and data can play a big role in how we bring more food to people, and more people to the food they need to thrive.

From virtual identity cards that improve access to services and reduce exclusion, to technology that helps distribute food from suppliers to those in need, Halifax will make nutritious, affordable food accessible to every resident—helping to close the poverty gap and build equity and inclusiveness into our city and communities.

Virtual Identity & Smart Card

Halifax Food Hub

Close the Digital Divide

GOAL

Halifax: Most Food Secure City in Canada

Connect Food Supply and Demand

Improve Digital Engagement with Residents

Reduce Costs of Non-Food Essentials

Q|01

COMMUNITY INFORMATION

Name of Community: Halifax Regional Municipality

Province/Territory: Nova Scotia

Population: 403,131
(Based on 2016 Census subdivisions.)

Q|02

PRIZE CATEGORY

Please select a prize category

☑ $50 million (all population sizes)

CHALLENGE STATEMENT

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

· ·

Despite record growth, Halifax is one of the most food insecure cities in Canada, so we will improve access to nutritious, affordable food for every person, making this a more equitable place to live, and our community the most food secure in the country.

Q│03

OUTCOMES

Describe the outcome (or outcomes) your proposal seeks to achieve by elaborating on your Challenge Statement.

Current State: Poverty and Food Insecurity Despite Economic Growth

Halifax is a wonderful city. It balances a spirit of transformation and growth with a vibrant, seaside culture, creating a city that's easy to live in and love. As the capital of Nova Scotia and the economic and cultural hub of Atlantic Canada, Halifax generates 56% of the province's GDP and is home to 403, 131 residents (Statistics Canada, 2016)—43% of Nova Scotians and 18% of Atlantic Canadians call Halifax home.

Every year, we welcome thousands of businesses, immigrants, international students, and young professionals, drawn here by our combination of well-educated and creative talent, an exceptional and convenient location, a low cost of living and doing business, and the lifestyle the city and province offers.

Our diverse economy spans many industries, including financial services; aerospace and defence; ICT; ocean technology; energy; life sciences; and, transportation and logistics. With one of the largest concentrations of post-secondary institutions (six universities and three community college campuses) and one of the best educated workforces in North America (close to 70% of the working age population has post-secondary certification), Halifax offers a sustainable, talented workforce for its knowledge-based economy.

Photo Credit: Halifax Partnership

In Halifax, residents can live, work, and study in more than 200 communities spanning 5,490 sq. km, enjoying the city's excellent rural, urban east coast lifestyle. Halifax has the largest rural share of total population (19.8%) among Canadian cities with a population above 250,000. One in five residents live in rural areas which include farming, agriculture, and fishing villages.

Over the past five years, Halifax has become an east coast boom town. The city's strong economy is supporting over $150B in major projects and developments in Atlantic Canada. We've seen healthy economic growth—1.7% growth in 2017 to $18.5B GDP, in 2007 dollars (Conference Board of Canada, 2018)—solid employment and income gains, strong housing and retail markets, record population gains (1.6% in 2017), and substantial growth in technology and innovation, manufacturing, and construction.

But this growth hasn't been shared by all.

Many of our residents do not have the resources and opportunities they need to be healthy and succeed throughout their lives. The average rate of poverty in Halifax is 14.8%, above the Canadian average of 14.2%. There are 58,830 residents living on incomes at or below Canada's low-income measure after tax (LIM-AT). Many are employed, but still struggle to meet their basic needs. Female led lone-parent families, children and youth, and people with disabilities are at higher risk and most impacted by poverty (United Way, 2018: 30).

Every day we see how issues like low incomes and inadequate access to nutrition, education, and housing and social supports impact the health of individuals and families, and the long-term health of our communities and city.

And we believe growth and prosperity without equity is unacceptable.

In 2017, Halifax Regional Municipality (HRM) and United Way Halifax developed a poverty solutions strategy for the city. Created in consultation with over 1,130 residents and public and private stakeholders, the collective experience, wisdom, and expertise of our community informed every aspect of the plan. United Way's *Building Poverty Solutions: Ideas for Action* 2018 report outlines 129 ideas for action to reduce and eliminate poverty in seven theme areas:

1. **Quality Jobs and Livable Incomes**

2. **Transportation**

3. **Food Security**

4. **Homelessness and Housing**

5. **Services Access for Health and Well-Being**

6. **Education and Learning**

7. **Systemic Change**

Through further consultation, food security was identified as one of the most serious poverty and public health issues facing our community. Many of our residents do not have access to the nutritious, safe, affordable, and personally and culturally preferred food they need to thrive. This affects every aspect of their lives, from physical and mental wellbeing, to educational and employment outcomes.

Despite Halifax's record growth and wealth of natural assets, our city is one of the most food insecure in Canada. In 2012, Halifax had the highest rate of household food insecurity of 33 Census Metropolitan Areas across the country at 19.94% (Tarasuk et al., 2014). The report's authors repeated the study in 2014 and found little improvement.

Baseline data and evidence show the seriousness of Halifax's food security issue:

1 in 5 households in Halifax are moderately or severely food insecure (Tarasuk et al., 2014).

Only 25% of Halifax adult residents report adequate fruit and vegetable consumption (Statistics Canada, 2018).

Halifax rates of obesity and diabetes—nutrition-related chronic diseases—are higher than the Canadian average (Statistics Canada, 2018).

Monthly cost of a basic nutritious diet for a household of four in Nova Scotia increased 63% from 2002-2015—from $572.90 to $935.11 a month (FoodARC, 2017: 15).

Food bank use in Nova Scotia increased 40.9% from 2008-2016. In 2015-16, there was 20.9% increase (Food Banks Canada, 2016). Feed Nova Scotia served 7,062 individuals (30% children) from 2,921 households in Halifax in March 2017 (United Way Halifax, 2018: 35).

Throughout extensive community consultation for both Halifax's poverty strategy and our Smart Cities Challenge, residents consistently identified two major food security barriers:

1. **Affordability (cost of food and non-food related expenses)**

2. **Accessibility (having access to nutritious, affordable, and personally and culturally preferred food).**

Photo Credit: Medavie Blue Cross

Residents told us more people could access healthy food if:

- o costs of nutritious food and non-food essential items were reduced;

- o transportation was more convenient and inexpensive;

- o locally grown and harvested food was more readily available;

- o nutritious food was made available in underserved areas (food deserts);

- o more unsellable and surplus food was made available;

- o community and municipal assets (e.g. food banks, community gardens, buses, libraries) were leveraged; and,

- o community programs were enhanced and/or expanded.

Food is often the last priority for those experiencing poverty. It is the $20 left over for the month after paying for expenses such as housing, utilities, childcare, and transportation. People in our community should not be forced to rely on food banks, eat poor quality food, or worse, go hungry.

So we are taking action.

Outcome/Goal: Best Food Security in Canada

Our goal is to make Halifax the most food secure city in Canada by 2028—a 52% reduction in the prevalence of household food insecurity from 15.1% to ≤7.3% (Tarasuk et al., 2014).

We will ensure 100% of residents can access and afford the nutritious and preferred food they need to thrive by leveraging data and connected technologies and our strong partnerships with the private, public, post-secondary, and not-for-profit sectors.

Indicators of progress toward outcomes could include:

- decrease in the prevalence of household food insecurity;

- increase in the amount of affordable, nutritious, preferred food accessible to residents in need;

- reduction in the cost of nutritious food and non-food essentials;

- access to a Virtual Identity and Smart Card system for all residents;

- universal resident access to connective technologies (WiFi, small cell technology, public kiosks, etc.) and digital literacy programs;

- opportunity for all residents to engage in improving Halifax's food system through technology and community partnerships;

- adoption and usage rates of technology solutions such as the Virtual Identity and Smart Card system, supply chain management platform, and online food hub and gamification app;

- increase in usage rates of community facilities for food programs and services; and,

- development and adoption of a Halifax Food Charter and Strategy.

Metrics will be refined into a limited set of key performance indicators (KPIs) in collaboration with partners during phase 2 of the Smart Cities challenge.

Halifax's Smart City Approach to Food Security

For Halifax, being a Smart City means building an intelligent, connected community that uses and leverages data and technology to improve residents' quality of life and to meet the needs of present and future generations. It is rooted in the principles of openness, integration, transferability, and collaboration. The sharing of standardized, usable data and open-source technologies between partners is an example of all four principles at work.

Food security is a complex issue that requires a holistic and inclusive approach. It can be impacted by many compounding factors that must be addressed strategically and thoughtfully. Our city has a strong innovation ecosystem of public, private, post-secondary, and not-for profit organizations that are committed to solving social, economic and environmental issues using a Smart Cities approach.

Experts, advocates, entrepreneurs, non-profits and government, and community leaders are already working together on food security research and policy development, food systems and municipal service planning, and data and technology solutions to address poverty and improve food security. Sample initiatives organized by theme include:

Municipal Leadership:

o Food security priorities are included in HRM's Regional Plan and our integrated mobility, public safety, green network, and economic development plans.

o HRM has invested in smart and digital solutions that could be used to improve food security, including field equipment and sensors with near- or real-time monitoring and control capabilities, some of which can communicate with one another (e.g. Halifax Transit's Automatic Vehicle Location (AVL) and Automatic Passenger Counter (APC) technologies).

o HRM staff are developing a long-term plan to create a robust communications network capable of accommodating a range of smart solutions. Known as the Digital Communications Infrastructure Action Plan, it will enable greater two-way communication between residents and the municipality, as well as real-time service delivery.

Community Partnerships:

o Halifax's poverty reduction strategy, *Building Poverty Solutions: Ideas for Action 2018*, was released in March 2018.

o Halifax's Mobile Food Market, launched in May 2016, is a partnership between government, community organizations, and the private sector that provides fresh, high quality, and affordable food to six Halifax neighbourhoods that need it the most.

o The Halifax Food Policy Alliance is a partnership of 10 organizations and includes representatives from the Mayor's Office and HRM. It is leading the creation of a shared vision and plan to create a healthy, just, and sustainable food system.

Research and Policy Change:

o The Food Action Research Centre (FoodARC) at Mount Saint Vincent University is leading food security research and knowledge sharing, capacity-building, and advocacy and policy change efforts. FoodARC is led by Dr. Patricia Williams, a Tier II Canada Research Chair in Food Security and Policy Change.

Food Innovation and Collaboration:

o Spark Zone Sandbox recently brought together more than 120 industry partners and Nova Scotia university and college students for a food tech hackathon focused on improving food sustainability, safety, and security in Nova Scotia.

Halifax is also researching and learning from other cities and communities including the Food Research Warehouse and online food hub/convener in British Columbia, and technologies developed by the Laurier University Centre for Sustainable Food Systems. In the US, the City of Baltimore has used data visualization to map food deserts through an interactive, cloud-based, open-data mapping platform that plots food production, distribution, and consumption (John Hopkins Center for a Livable Future, 2018). The New York City Food Policy Centre, in its 2017 report *The Food System: Innovation and Technology*, provides insight into how US states and cities use online and mobile technologies to improve food distribution, access, affordability, and education. These are only a few examples of best practices, models, and technology solutions Halifax is exploring.

Strategy for Measuring Progress

We will use collective impact as an organizing principle for the Smart Cities Challenge. Collective impact occurs when groups from different sectors commit to a common agenda, solving a specific problem, using a structured form of collaboration. Key elements for successful collective impact initiatives include:

- **Common Agenda:** A shared vision for change that includes a collective understanding of the problem and a joint approach to solving it through agreed actions

- **Shared Measurement:** Measuring results on a short list of indicators to ensure efforts remain aligned and mutually accountable

- **Mutually Reinforcing Activities:** The power of collective action comes from the coordination of differentiated activities through a mutually reinforcing plan. Efforts and activities are aligned toward achieving the common agenda and shared measures

- **Continuous Communication:** Provides the platform for trust to be developed, concerns to be addressed, and ideas to be discussed between organizations

- **Coordinating Body:** A backbone organization to support collective impact initiatives

An important part of the initiative will be to measure performance, both in terms of results for the overall initiative, as well as individual projects and activities. Shared measurement is the "use of a common set of measures to monitor performance, track progress toward outcomes, and learn what is and is not working in the group's collective approach" (Stanford Social Innovation Review, 2012). At the initiative level, key indicators of success will be focused on broader system-level outcomes.

HRM will work with partners to:

- Improve coordination and collaboration
- Identify quantitative and qualitative metrics and impacts
- Establish a baseline that enables results to be tracked over time
- Agree on data sources and ensure data quality, integrity and reliability
- Track and report on progress toward a shared goal
- Learn and course correct
- Catalyze action

Collectively, we are building a city where everyone can live a healthy, prosperous life. Halifax is committed to being a smart, inclusive, open, and equitable community, one that lifts vulnerable people up, breaks down silos, and collaborates to improve lives of current and future residents.

Q|05

COMMUNITY ENGAGEMENT

Describe how your community residents have shaped your Challenge Statement and plans for continuing to engage and involve residents in your final proposal going forward.

Halifax's comprehensive poverty strategy, *Building Poverty Solutions: Ideas for Action 2018*, was the starting point and foundation for Halifax's Smart Cities application. Collectively, our community identified food security as the most pressing poverty issue which data and connected technology could help solve, and where we could make immediate and long-term impacts in people's lives.

Photo Credit: Medavie Blue Cross

Photo Credit: United Way

The engagement process was extensive and included:

o An Advisory Committee of post-secondary, non-profit, government, and innovation representatives was established. It was supported by a working group of staff from the United Way, the Halifax Partnership, and HRM

o We reviewed existing information, research, and data that organizations across Halifax gathered to create Halifax's poverty strategy. This included an analysis of findings from the United Way's extensive community engagement that took place in 2017

o The Advisory Committee determined that we would focus our efforts on one of the primary social concerns within our community—food security

o Through partner organizations, we engaged with the communities who are most impacted by food insecurity and poverty—this included minority populations such as Indigenous communities, African Nova Scotians, youth, seniors, and newcomers to Canada

o We undertook online, printed, and public in-person consultations, led by the municipality and other partners like Feed Nova Scotia and United Way's many agencies, to engage hard-to-reach communities where and how they wished to participate, as well as the broader community

o Engagement session with post-secondary and technology experts to identify ways data and technology could be used to improve food security

More detail on our community's engagement in shaping Halifax's challenge statement follows.

The Consultation Process

Poverty Solutions Strategy

Halifax's Smart Cities Challenge Statement benefited from a significant community consultation process HRM and United Way led to understand poverty issues and the ideas we could put in place to address immediate needs, create pathways to prosperity, and make the required systemic changes to achieve our vision for a poverty-free Halifax.

The first consultations were held in April 2017 when United Way and community partners hosted community conversations as part of a national engagement initiative. This process informed a submission to consultations for the National Poverty Reduction Strategy.

From these consultations, several early themes emerged which contributed to the ongoing development of 100+ Ideas for Action. More than 1,130 people were engaged in consultations held between September and November 2017. These engagements included:

o **Solutions Task Teams:** Six multi-sector groups dedicated to the themes of income security, food security, homelessness and housing, access and equity, health and wellbeing, and education and learning. Members of these teams included experts by experience, community-based organizations, government and the private sector

o **Focus Groups:** 13 groups met to discuss solutions. These groups leaned into gaps in listening and were used to amplify the voices of groups that are marginalized or at risk of marginalization. Many focus groups were also held throughout rural Halifax

o **Business Alliance:** Engaged business leaders in solutions development

o **Community Meetings:** Two public meetings focused on community feedback to the calls to action

o **Engaged Diverse Community Groups:** Experts by experience, community advocates, and service providers

o Outreach within **municipal, provincial, and federal governments**, and elected representatives

o **A Public Survey:** Survey was available online and paper copies were distributed to ensure all residents had an opportunity to contribute; 621 people competed the survey and within this group, 38% self-identified as currently living in, or having had experiences of living in, poverty

Photo Credit: United Way

The consultation process honoured the significant consultation and engagement that had already occurred in the community around poverty elimination, such as the "600 Voices in '16" consultations in the community of Dartmouth North by Between the Bridges, the work of the Mi'kmaw Native Friendship Centre to develop the Urban Aboriginal Homelessness Community Action Plan, and the "What's Your Recipe for a Better Food System?" Food Secure Canada discussion hosted by the Dartmouth North Community Food Centre, to name a few.

We heard that people often do not have the income to afford nutritious food or to pay for transportation to get to the grocery store or food bank. Food insecurity can seem invisible when it comes to poverty, but there are many barriers to accessing affordable, nutritious, and personally and culturally preferred foods, including income security, transportation, and accessibility.

Smart Cities Challenge Consultation

Findings and perspectives from the poverty solutions consultation were validated during engagement for the Smart Cities Challenge which included significant online, print, and in-person feedback on food security in our communities.

Initiatives and results include:

- o 2,169 online and 170 printed surveys completed
  - 40% higher response rate than average for surveys conducted by HRM

- o 19 public engagement sessions

- o 10 open-access banners throughout the city

- o A hackathon-style engagement session with more than 50 members of the post-secondary and business community in attendance

One of the public engagement sessions was hosted by Feed Nova Scotia, which included 12 organizations closely connected to underrepresented populations, including: Ecology Action Centre, Feed Nova Scotia, St. Paul's Family Resource Institute, United Way Halifax, Bayers Westwood Family Resource Centre, Dartmouth North Community Food Centre, Nova Scotia Health Authority, Family SOS, Halifax Food Policy Alliance, Adsum Centre for Women and Children, Immigrant Services Association of Nova Scotia, and the Canadian Mental Health Association.

Common themes continued to emerge throughout the consultation process. Affordability and accessibility (availability of food in communities and transportation to food) were reinforced as the primary barriers to accessing nutritious food. Residents strongly believe we need to build a city where everyone has enough affordable, nutritious, and preferred food to meet their needs.

Links Between the Challenge Statement and Feedback

Access to enough healthy food is a human right. Canada has ratified the International Covenant on Economic, Social, and Cultural Rights, and must guarantee progressive improvement on the realization of the right to an adequate standard of living, including the right to food.

Photo Credit: Medavie Blue Cross

Our challenge statement was created to address a complex issue, but follows a clear logic:

Poverty is a significant issue in communities across Halifax. Food security is just one part of tackling this greater problem. We clearly see the opportunities for data and technology to address everything from transportation and logistics, to food supply, to education, helping people make the best choices of available options. Improving access and removing barriers to healthy food will have long-term impacts, including health outcomes, learning opportunities for children, and employment stability, that go beyond just food security, but will help contribute to a more equitable community for all.

Plans to Sustain Engagement

The municipality is currently evolving its community engagement model to ensure all residents have an opportunity to participate and contribute. As part of this process we emphasized that, win or lose, the work on increasing access to affordable, healthy food for all in Halifax will continue, as will engagement. Specifically, we will:

Bring communities together. We heard that more people want to play a role in feeding themselves and others. Ideas range from ride-sharing and apps allowing restaurants to sell meals for less than regular price at certain times of day, to empowering more residents to grow their own food, to apps that identify available garden beds for those without stable housing. Our next phases of engagement will invite residents and businesses to contribute to the development of Smart Cities projects and activities.

Target our most vulnerable audiences. Those who have the greatest challenges with food security are often the hardest to reach. We will continue strategic outreach to these groups to ensure no voice goes unheard. This will take time, care, and using partner organizations to their fullest potential. Whatever we do will be through a lens of reducing stigma and reinforcing a person's fundamental right to healthy, affordable food.

Provide access to education. Public engagement highlighted how little is known about the prevalence of food insecurity in communities and how people understand the impact food can have on their life and health. We will ensure people can access information and advice on nutritious food and food choices and decision-making, should they wish to learn about, or interact with, food in different or new ways.
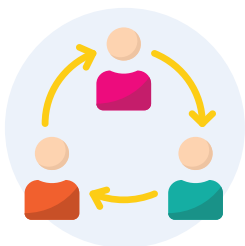
Link arms with partners. We shouldn't have a conversation about food without looking at all the factors and opportunities. That includes engaging farmers, experts in vertical integration, waste reduction, and logistics and storage. Our projects will continue to be shaped by the voices connected to food, from government, to private sector suppliers, to growers and producers, to non-profit and post-secondary organizations.

PROJECTS AND ACTIVITIES

Describe your preliminary proposal and its activities or projects.

· ·

Halifax has identified six Smart Cities projects to achieve our goal of making Halifax the most food secure city in Canada, providing 100% of residents with access to affordable, nutritious, and personally and culturally preferred food.

These projects will result in positive impacts for every resident (403,131 people) throughout Halifax (200+ urban, suburban, and rural communities spanning 5,490 sq km), as well as the long-term health, safety and sustainability of our city.

More importantly, these projects are designed to have positive life-changing impacts for the nearly 59,000 low-income residents in our community who cannot afford or access the food they need to live a full and healthy life.

Q|06

Photo Credit: Medavie Blue Cross

PROJECT 1: IDENTITY MANAGEMENT

Planned Activities and Scope:

o Collaborate with the Province of Nova Scotia to create a single Virtual Identity for every individual in need (58,830), regardless if they have fixed address

o Engage partners to promote and allow access to digital services based on a resident's Virtual Identity

o Develop a Smart Card that will allow residents to access services provided by the municipality and our partners

o Engage security experts to maintain adherence to cybersecurity best practices and privacy legislation and policies

Clear Links to the Challenge Statement:

People with greater access to services and resources to address their social determinants of health (food, housing, employment, education, etc.) are more likely to live longer and healthier lives. On the other hand, those living in poverty are more likely to be ill, injured, or have shorter life spans (United Way, 2018; 41).

This project addresses key food security barriers, as well as the broader issue of residents not having equitable access to services, resources, and opportunities to be healthy. Having a Virtual Identity and Smart Card will improve residents' access to municipal, provincial, and community services, while also increasing dignity for low-income residents who will be able to confidentially register for subsidized programs and services (e.g. free transit passes) using their preferred choice of service channel.

This project will enable Halifax and the Province to refine existing services—and develop new ones—to better support residents in many areas, including education, training, and transportation, all of which will result in increased access to nutritious, affordable, preferred food and greater opportunities for community connections.

Open, Interoperability, Scalability, Replicable

o Will be extended to all Halifax residents

o Virtual Identity Management System could be expanded to other cities, towns, and communities in Nova Scotia

o Solution will integrate with other applications

o Model and system could be replicated by other Canadian communities

PROJECT 2: CLOSE THE DIGITAL DIVIDE

Planned Activities and Scope:

o Work with partners to maximize available connective technologies such as expanded public WiFi and small cell technology (to buses and shared public spaces) to connect more residents to the digital world

o Engage partners to identify and develop areas within Halifax that are not slated for broadband implementations through provincial initiatives and other funding sources

o Increase the availability of digital infrastructure and tools in public spaces (e.g. municipal kiosks, Halifax's public libraries and community centres)

Clear Links to the Challenge Statement:

As our digital world expands, residents without access to the internet are at greater risk of living in poverty and being socially isolated and excluded. Given the geographical footprint of Halifax (5,490 sq. km), a key barrier to digital access is the availability of reliable connectivity across the municipality.

This project will close the digital divide by ensuring all residents have equal and easier access to digital services, and as a result, government and community services (including food and nutrition programs) and employment opportunities. Equally important is ensuring residents have the skills, tools, and ability to use and maximize technology. We will partner with Halifax Public Libraries and community partners to support digital literacy and inclusion for all residents, increasing their access to information and services.

Open, Interoperability, Scalability, Replicable

o Additional WiFi can be scaled up or down with fixed and/or mobile access points

o Could be used as model for other communities

PROJECT 3: IMPROVE DIGITAL ENGAGEMENT WITH RESIDENTS

Planned Activities and Scope:

o Develop Geographical Information System (GIS) applications that can digitally map routes and physical locations of residents in need and available services and programs (e.g. food suppliers, grocers, service providers, etc.)

o Implement a Customer Relationship Management (CRM) solution that will improve residents' access to municipal services, information, and engagement with the municipality through a variety of service channels, including online and mobile

o Implement an Enterprise Content Management (ECM) solution that will enable HRM to quickly locate and share information across systems

o Implement a Mass Notification System (MNS) that pushes notifications to subscribing residents

Clear Links to the Challenge Statement:

Digital Smart City solutions like GIS, CRM, ECM, and MNS:

o Identify underserved areas (food deserts) and low-income households and neighbourhoods with limited access to nutritious, affordable food

o Improve municipal planning and services

o Provide residents with the information they need to access food, programs, and services in their communities

o Enable HRM to improve communication and engagement with residents, partners, and service providers

Open, Interoperability, Scalability, Replicable

o Solutions will integrate

o GIS data will be open to all residents

o Digital engagement model and technologies could be replicated by other cities

PROJECT 4: REDUCE THE COST OF NON-FOOD ESSENTIAL ITEMS THROUGH TECHNOLOGY AND COLLABORATION

Planned Activities and Scope:

o Engage partners to identify available data and develop data sharing agreements to expand access to information for planning

o Collaborate with partners, such as academia and data experts, to develop data analysis tools to support cost reductions of non-food essentials

o Collaborate with energy management partners such as Efficiency Nova Scotia and Nova Scotia Power's Smart Grid program to share data and enhance programs that can reduce home heating costs for those most in need

o Connect with organizations like Habitat for Humanity to support and expand their mandate to provide shelter to families with a combined family income of between $20,000 and $40,000. Collaborate to: a) increase access to shelter, and b) add an open data component to Habitat projects to provide insights into transportation, employment, and food access issues among Habitat users

Photo Credit: United Way

Clear Links to the Challenge Statement:

Reducing the amount of money families spend on shelter, utilities, and clothing puts more money in their pockets to buy the food they need and want.

Open data will directly assist those in need by understanding where services are lacking (e.g. food deserts), improving planning for services, and measuring improvements and changes in access to nutritious, affordable, and preferred food. Working collaboratively with higher levels of government and other third parties—universities and the community college, community groups and organizations, food providers, transportation providers, and other area experts—Halifax will expand municipal open data which can be used by anyone to improve Halifax's food system and residents' access.

Photo Credit: Feed Nova Scotia

Open, Interoperability, Scalability, Replicable

o Data will be open to the public

o Analysis models will be open and will support data from multiple sources

o Models will be scalable from small to large communities and cities

PROJECT 5: COMMUNITY PLATFORM TO CONNECT FOOD SUPPLY AND DEMAND

Planned Activities and Scope:

Halifax and its partners will create an open, distributed transportation and supply chain management platform that will connect food supply with demand.

- o Halifax will work collaboratively to collect and analyze data to:

  - Understand specific barriers to obtaining and distributing food

  - Identify vulnerable residents (demographics, geographic location), food deserts, and hot spots

  - Identify and map (using GIS technology) primary and secondary food sources—grocers, farmers, fishers, restaurants, hotels, etc.—willing to provide food for free or at a reduced cost

  - Gain insights into how best to help food banks, governments, and community organizations plan and deliver programs and services

  - Plan and optimize food distribution

  - Anticipate food supply and demand in real-time

- o Develop a tracking technology solution (such as blockchain) to track surplus food from supplier to service provider and/or those in need

- o Develop transportation supply routes, including vehicle type, using data and evolving technology (e.g. autonomous vehicles) to deliver food safely and efficiently

- o Work with public and private sector partners to expand the mobile food market (dedicated transportation fleet providing fresh produce to vulnerable communities)

Clear Links to the Challenge Statement:

This project addresses both identified food security barriers by connecting residents with nutritious, affordable, and accessible food in their communities. Data, apps, and notification mechanisms will enable HRM and its partners to identify food needs and improve supply chain management, connecting suppliers, residents, and service providing organizations like shelters and food banks.

Photo Credit: Medavie Blue Cross

Open, Interoperability, Scalability, Replicable

o Platform will be based on open data

o Solution will be designed to leverage and work with a broad range of data sources and solution inputs

o Concept could be expanded, adapted, or scaled to any community and network of providers and volunteers and applied to other municipal and community uses

o Platform could be expanded across the province and adopted or modified by other communities

PROJECT 6: HALIFAX FOOD HUB

Planned Activities and Scope:

HRM will work with partners to:

o Adopt a Halifax Charter and develop a Halifax Food Strategy

o Design and develop an online Halifax Food Hub, housing all information related to Halifax's food system

o Coordinate and connect residents to information on municipal and community programs and services and Complete Communities Indicators (CCI)

o Develop gamification apps for individual and community food challenges (e.g. food donation, production, and distribution)

o Develop GIS apps using data, land use bylaws, building codes, and topography of available land to support community garden and other shared food location development and participation

Clear Links to the Challenge Statement:

The Halifax Food Charter, developed by the Halifax Food Policy Alliance (HFPA), presents a vision for a food system that will "strengthen the health of our people, our communities, and our land and water ecosystems" (Halifax Food Policy Alliance, 2018). The Food Charter is a call to action for a coordinated effort to develop a sustainable food system for Halifax. HRM is working with the HFPA to support program and policy initiatives that have the potential to achieve our collective vision of a healthy, just, and sustainable food system for Halifax.

The Halifax Food Hub will support this work, and the work of community partners, by:

o Increasing resident and community awareness of, and engagement in, Halifax's food system (gamification app, food strategy and charter development, community garden participation)

o Streamlining access to municipal and community information, programs, and services

o Supporting partnerships, strategies, policies, programs, and regulations related to Halifax's food system

o Improving municipal land and building use for community gardens and food programs

Open, Interoperability, Scalability, Replicable

o Apps will be developed in an open platform and could be replicated or adopted by other cities/communities

o Data will be open and available to all residents

o Other communities in the province could leverage hub information for their own use

o Links to other websites will be included to maximize information sharing and consistency

o GIS will utilize data available in other solutions or open data

o Could be expanded to support other community specific information

o Model could be replicated by other communities and cities

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SUPPORT OF COMMUNITY GOALS, STRATEGIES, AND PLANS

Describe the ways in which your preliminary proposal supports your community's medium- and long-term goals, strategies, and plans.

This proposal strongly aligns with HRM's Strategic Plan for 2017-21 and builds on work the Municipality has recently sponsored to engage residents in creating a healthy and more prosperous community for all.

From HRM's strategic plan there are three key areas for alignment.

1. **Economic Development:** We want to make Halifax a better place to live and work.

2. **Social Development:** We want Halifax to be a leader in building an accessible community where everyone can participate fully in life. We are also committed to supporting equity and inclusion.

3. **Healthy, Livable Communities:** HRM is committed to be an active partner in supporting community health programs that enable better access and choice for residents and enhance overall quality of life. We envision a Halifax where every resident has access to nutritious, affordable, and preferred food.

Food security and poverty are complex issues that require a collective, holistic approach. Working with all sectors, and at a neighbourhood level, our proposal also builds on important work that is already underway.

o The *Building Poverty Solutions: Ideas for Action 2018* report outlines 129 ideas for action to reduce and eliminate poverty in Halifax. United Way Halifax and HRM will continue to steward this work, including developing targeted goals and indicators to measure change. With respect to food security, the immediate ideas for action range from increasing the dignity of accessing affordable fresh food, to innovative approaches to reduce food waste. Longer-term, our approach is to work with partners, including the Halifax Food Policy Alliance, to adopt a Food Charter and develop a Food Strategy for Halifax which includes creating new public-private food service models, expanding urban agriculture on public land, investments in food centres, and more efficient and effective procurement practices.

o HRM's Regional Plan recognizes the importance of preserving agricultural land and requires that food security is considered when designing communities. Food security priorities are also included in HRM's integrated mobility, public safety, green network, centre and economic growth plan.

o Community gardens on municipal properties have flourished for more than 10 years with 20+ gardens to date and many more thriving on privately owned land.

o In 2015, HRM Regional Council endorsed the Healthy Environments Declaration (blue dot) which includes "the right to safe food".

o The support of the Mayor's office, Halifax Regional Council, Halifax Transit, and municipal staff was pivotal in the realization of the Halifax Mobile Food Market and showcased that a collaborative approach to food systems issues, like accessibility and affordability, was not only possible, but very successful.

o Aligns with and supports United Way Halifax's vision—Halifax. United by compassion. Rich in opportunity. Free of poverty.—and their work to create more equity, dignity, and opportunity in our community.

o Aligns with and supports the Halifax Food Policy Alliance's vision—Halifax: where no one is hungry and everyone has nutritious food that they enjoy, for generations to come, sustained by local producers.

Halifax's Smart Cities proposal aligns to, and supports, a number of municipal and community visions and plans, including:

o Building Poverty Solutions: Ideas for Action Report

o Halifax Economic Growth Plan 2016-21

o Halifax Food Policy Alliance HRM Food Charter

o Halifax Regional Municipality Regional Municipal Planning Strategy

o Halifax Regional Municipality Centre Plan

o Halifax Regional Municipality Strategic Plan 2017-21

o Halifax Regional Municipality Green Network Plan

o Halifax Regional Municipality Integrated Mobility Plan

o Halifax Regional Municipality Public Safety Plan

o Halifax Regional Municipality – Relevant Regional Council Motions

READINESS AND ABILITY TO SUCCEED

Describe your community's readiness and ability to successfully implement your proposal.

HRM is already developing and implementing Smart Cities projects and is collaborating with partners to ensure success today and in the future.

Halifax's Portfolio Management and Project Management Offices, with input from its business units, are currently in the process of refining Halifax's 10-year technology plan which supports HRM's smart city goals. Identified technology initiatives will be delivered by project management professionals leveraging established project management methodologies, tools, and techniques.

We have established a collaborative Smart Cities Advisory Committee comprised of various stakeholders within the community and city staff. HRM is also expanding its internal technology team to meet the demands for smart technology projects, such as business intelligence and smart administration.

HRM is meeting with innovators and experts to learn more about smart cities and how technology can improve the lives of residents, advance economic development, and improve government administration and decision making. Conversations and connections are ongoing with key stakeholders. This includes collaborations with the provincial government on an identity management project for all residents, and working with post-secondary, community, and government partners to research and develop food security policies, tool, data, and technology solutions.

A key to Smart Cities is innovation and HRM business units are working together to understand how the municipality can develop innovation partnerships while continuing to ensure fair and transparent procurement. We are committed to advancing Halifax's smart technology and furthering community collaborations and partnerships.

Smart City Priorities and Experience

When evaluating HRM's past performance in Smart City focus areas, Halifax has made significant investments and progress in smart transportation through LED street light and traffic signal technology as well as real-time transit monitoring and alerting. HRM is also increasing its focus on smart services, administration, and decision making. For example, Emergency Services staff are leveraging real-time vehicle data streams to measure accurate service response times.

Examples of Smart City projects underway include recreation, permitting and licensing, ePayment, and situational awareness, to name a few. These complex multi-business unit projects will provide enhanced digital experiences for residents, making it easier to register and pay for recreation services and programs online, apply for permits, submit plans and pay online, and provide real-time information regarding events and emergency situations for fire, police, and emergency management. This sample of inflight projects speaks to Halifax's ability and commitment to smart city development.

HRM has been a Canadian pioneer in adopting open data technology and developing supporting policy, governance, and legislation. The municipality is now in the process of adopting smart decision making by leveraging municipal and provincial open data and the use of standardized benchmarks through Municipal Benchmarking of Canada KPI's and the development of HRM business intelligence. We are identifying opportunities for collaboration among HRM business units, community partners, other municipalities, the provincial government, and our vendor community.

Recently Halifax re-launched its primary public website, Halifax.ca, after completing a redesign with a 'mobile-first' focus supported by a new modern content management system. While all municipal business units were engaged during the process, there was a greater emphasis placed on public consultations, with focus groups taking place from initial information gathering through to website launch. This project provided many lessons learned in the areas of change management, community engagement, and working across multiple business units.

Organizational Strengths and Weaknesses

From a business planning perspective, HRM has created technology plans for business units and has engaged an executive steering committee to prioritize technology investments and apply a corporate lens to technology-intensive activities.

HRM is developing a Digital Communications Infrastructure Action Plan, a long-term plan to create a robust communications network capable of accommodating a range of "smart" solutions. It will improve two-way communication between residents and the municipality and enable real-time service delivery. In the coming years, HRM will undergo a transformation of many of its foundational systems, providing opportunities to enhance our smart cities capabilities. This will require additional expertise in smart cities technologies and innovation.

Photo Credit: Feed Nova Scotia

While Halifax has experience implementing complex multi-business unit projects, additional Smart City projects may exceed HRM's resource capacity. HRM will need to ramp up staffing through use of both internal staff and consultants where appropriate. This would include the creation of a Smart City Digital Office to support the expansion of technology and collaboration with partners. We may also need to extend the functionality of our smart city technology (e.g. additional components/modules) to address specific poverty and food insecurity issues and needs. A strong partnership with the Province of Nova Scotia, as well as research, data, and technology partners, will be imperative to ensuring alignment, integration, and success.

PLAN FOR THE SMART CITIES GRANT

Describe your plan for using the $250,000 grant should you be selected as a finalist.

HRM will use the $250,000 Smart Cities grant to support the development of its final application in the following manner:

Project Team

Assemble a project team comprised of a Senior Project Manager, Business Analyst, and subject matter experts. This will include one or more individuals with extensive knowledge and expertise in poverty and food security and the associated barriers residents face. The Project team will be tasked with spear-heading activities identified in this phase, including the development of the final proposal.
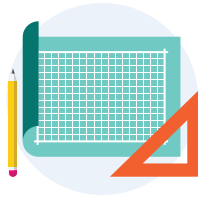
Plan Development

The Project Team will engage the community and key partners in the development of the final proposal.

The Project Team will work with partners to develop a structured project plan including scope confirmation, time, resources, costs, and deliverables.

Pilot/Prototype Activity

Resources for one or more limited prototype projects to test proposed concepts including:

Public WiFi on Halifax Transit buses servicing areas experiencing food insecurity. This pilot will allow HRM to understand the impact to bus service, including AVL and security connectivity, ridership impacts, and usage and other data that can be analyzed under privacy laws.
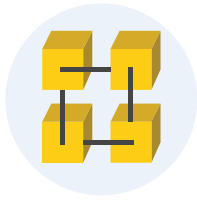
Research and Learning Activity:

To better inform HRM and its partners, funds will also be used to initiate food security research and learning activities. Initiatives will include:

- o Best practice research related to food security and food system technology and innovation

- o Research on supply chain management and potential use of blockchain for food distribution

- o Focus groups with residents experiencing poverty and food insecurity (past and present), subject matter experts, service providers, and potential technology partners

Awareness Building and Engagement Activities:

Execute public awareness and engagement activities described in question 5 to generate excitement and enthusiasm and engage partners, business, and residents in developing Halifax's final Smart Cities proposal.

Examples of activities:

- o Digital and social media campaigns

- o Public engagement sessions

- o Online and printed surveys

- o Open-access banners/boards

- o Service provider sessions with clients

- o Traditional advertising and earned media

Proposal Development:

Development of a comprehensive Smart Cities Challenge final proposal.

PARTNERS

Describe the partners that are or will be involved in your proposal.

HRM will collaborate with other levels of government, the private sector, and post-secondary and community partners to develop and execute its Smart Cities plan. A critical success factor will be strategic alignment and strong collaboration with the Province of Nova Scotia.
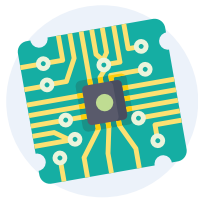
Innovation and Technology:

In the heart of Halifax is an emerging Innovation District, a place where entrepreneurs, private sector, venture capital, post-secondary institutions, and government are colliding to create new and better ways of doing things. Our universities, colleges, and companies are undertaking cutting-edge R&D in machine learning, AI, and data analytics.

Innovation and technology partners will be engaged to support the development and execution of Halifax's Smart Cities proposal, including pilot and prototyping activities outlined in question 9. HRM will leverage its existing Procurement Policy which is governed by the Trade Act. Within this policy, there are options for engaging technology vendors and services, including RFIs, RFQs, and RFPs. Any procurement for Smart Cities will comply with HRM's procurement policy and processes.

Data:

In addition to HRM's own GIS and Open Data, we will leverage various sources of data from partners such as the Federal Government (Statistics Canada, etc.), the Provincial Government, community agencies, and private and post-secondary sources to facilitate the development and execution of Halifax's Smart Cities plan. These data sources could be utilized by HRM, tech innovators, vendors, and other developers to build apps and technology solutions, track and measure progress, and improve programs and services.

Research and Policy:

HRM will partner with Halifax's post-secondary institutions to undertake food security research and learning activities. This will include best practice research related to food security and food system technology and innovation. HRM will also work with the Halifax Food Policy Alliance to further food policy and strategy initiatives.
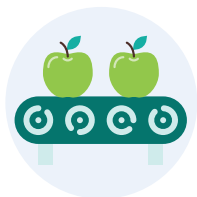
Food Production:

HRM will identify potential food suppliers (e.g. hospitals, restaurants, hotels, distributors, grocers, fishers, and farmers) and explore partnerships.

Supply Chain Management:

Halifax is a global gateway for the movement of goods and people. Our port, airport, rail, and trucking companies have expertise in transportation and supply chain management we can draw on. We will also work with our IT companies and post-secondary institutions to explore data analytics, AI uses, and the development of a supply chain management platform. Additional food distribution partners could include Halifax Transit, licensed providers (e.g. taxi or charter buses), delivery companies, ride sharing services, and community volunteers.

Health and Social Services:

Through the virtual identity management program, data sharing agreements, and strategic partnerships (e.g. community agencies, Halifax Libraries, Provincial Government), we will improve residents' access to information, services, and programs.

SYSTEMIC
CHANGE

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CONFIDENTIAL ANNEX

Provide (only if required) confidential third-party information

HRM has not submitted confidential third-party information.

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