HALIFAX

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TO: Chair and Members of Executive Standing Committee

SUBMITTED BY: Original Signed by _____

Jane Fraser, Director, Corporate and Customer Services

DATE: January 2, 2018

SUBJECT: Smart Cities Challenge

ORIGIN

March 22, 2017 – The Government of Canada announces the Smart Cities Challenge as part of its 2017 federal budget.

August 1, 2017 – HRM staff outline the Smart City Challenge and the municipality's related work in an [information report](#) and [presentation](#) to Regional Council.

November 23, 2017 – Government of Canada releases Smart Cities Challenge application details.

LEGISLATIVE AUTHORITY

Halifax Regional Municipality Charter, S.N.S. 2008, c. 39

s. 2   The purpose of this Act is to
…
(c)   recognize that the functions of the Municipality are to
(i)   provide good government,
(ii)   provide services, facilities and other things that, in the opinion of the Council, are necessary or desirable for all or part of the Municipality, and
(iii)   develop and maintain safe and viable communities.

s. 74(1) The Municipality may agree with… the Government of… Canada or a department or agency of… them… to provide or administer municipal or village services

RECOMMENDATION

It is recommended that the Executive Standing Committee recommends that Halifax Regional Council:
1. Direct the CAO to partner with the Halifax Partnership in order to develop an application to the Smart Cities Challenge program based on poverty reduction, on behalf of HRM, in partnership with the United Way and in cooperation with the Mayor's Office; and
2. Allocate up to $50,000 from ICT's consultation budget (A721-6399) to fund the project.

BACKGROUND

The Smart Cities Challenge

The Smart Cities Challenge is a $300M, 11-year project that was announced in the 2017 federal budget. Managed by Infrastructure Canada, the program is a merit-based competition among communities across Canada to develop and implement plans that leverage technology to meet their challenges. This pan-Canadian competition is open to communities of all sizes, including municipalities, regional governments and Indigenous communities (First Nations, Métis and Inuit).

The first round of the Smart Cities Challenge was launched on November 23, 2017, with the following prizes to be awarded in 2019:

- one prize of up to $50 million open to all communities, regardless of population;
- two prizes of up to $10 million open to all communities with populations under 500,000 people; and,
- one prize of up to $5 million open to all communities with populations under 30,000 people.

Indigenous communities are eligible to compete for all the prizes in the current competition. Infrastructure Canada has indicated that the competition will favour transformative projects that address significant social issues and include substantial buy-in from the private sector and the community at large.

The 2018-19 competition includes four phases:

1. **Application Process (with applications due April 24, 2018).** Considered the problem definition stage, municipalities will be invited to work with a range of stakeholders to identify a social challenge to address, in part, using technologies. Applicants will be required to create a challenge statement, that in a single sentence guides the preliminary proposal and describes the outcome the municipality hopes to achieve. There must be a compelling, measurable goal and associated outcomes to be achieved through data and connected technology.

2. **Selection of Finalists (early summer 2018).** Summaries of eligible applications will be posted online. An independent Jury will select up to five finalists per prize category in early summer 2018. Finalists will receive a $250,000 grant to develop a final proposal.

3. **Final Proposal (due in winter 2018).** Finalists will submit fully-implementable plans that outline all design, planning and project management details. Governance, partnerships, and contracts with the private sector and community groups will be formalized in the final proposals.

4. **Selection of Winners (spring 2019).** Final proposals will be evaluated on their feasibility and links to proposed outcomes established in the Challenge Statement. Funding to winners will be provided through outcomes-based contribution agreements with Infrastructure Canada.

Projects will be implemented over two to five years. Lessons learned will be shared with other communities.
The challenge may be repeated in the coming years. Infrastructure Canada expects that unsuccessful applicants will work to implement their proposals by other means.

Infrastructure Canada released its Smart City Challenge application details on November 27, 2017, and it and the Atlantic Canada Opportunities Agency hosted a related information session in Halifax on December 12, 2017. Federal staff indicated at the briefing that, during the first phase of the competition, communities should focus on telling a compelling story about the social issue they intend to address rather than detail the technology solutions they propose to implement.

HRM's Current Smart Cities Work

According to Infrastructure Canada, a smart city approach is one that delivers meaningful outcomes for community residents through the use of connected technology and data, and 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.

As outlined in the Smart Challenge information report and presentation that went before Regional Council in August 2017, the municipality has invested in various "smart/intelligent" or "digital" solutions, including field equipment and sensors with near- or real-time monitoring and control capabilities, some of which can communicate with one another. Examples include HRM's traffic signal and LED streetlights control systems[1] and Halifax Transit's Automatic Vehicle Location (AVL) and Automatic Passenger Counter (APC) technologies.[2]

From a business planning perspective, HRM has created technology plans for each Business Unit and has engaged an executive committee to prioritize technology investments and apply a corporate lens to HRM's technology-intensive activities. Furthermore, 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 citizens and the municipality, as well as real-time service delivery.

Since June 2017, ICT staff leading HRM's smart city technologies work have also reviewed HRM's various technology roadmaps under development, as well as its technology projects at all stages of planning and implementation, in preparation for the release of the Smart City Challenge program criteria. A scan of HRM partners' smart technology capabilities and plans (e.g. Halifax Water smart meters) was also undertaken to better understand opportunities for interconnectivity.

Staff have been operating on the premise that any HRM application to the Smart Cities Challenge must be aligned with one of Council's approved priorities, and technology solutions must be supported by HRM's underlying communications infrastructure.

DISCUSSION

The Smart Cities Challenge is not intended to support communities' deployment of broad technology roadmaps such as HRM's Digital Communications Infrastructure Plan. Instead, the competition is focused on communities' identification of a pressing social issue that can be addressed, in part, using smart technologies.

Based on a review of HRM's current strategies and activities, staff recommend that HRM submit an application focused on poverty reduction since poverty is an acute issue in different segments of HRM. Such an application would leverage HRM's poverty solutions partnership with the United Way, advance Regional Council's social development priority, further portions of HRM's public safety strategy and Integrated Mobility Plan, and be potentially transformative in the community.

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[1] The municipality is converting its 43,789 streetlights to LED technology and adding a central management system and supporting communication network that enables the streetlights to be remotely monitored and controlled. The conversion project is anticipated to provide operational savings from energy efficiency gains and lower maintenance costs, as well as opportunities for improved public safety and service delivery.

[2] While still in the early stages, Transit's objective is to have their data displayed in electronic dashboards and reports that will enable management to analyze the right information and make smart decisions on the services they are delivering. One example of this would be analysing ridership and bus routes, to help determine route optimization.

Proposed Poverty Reduction Focus

A recent United Way analysis of census data has found that fifty thousand people in HRM – one in eight people -- struggle to meet their essential needs.[3] While HRM's poverty rate of 14.8% is consistent with the national average of 14.2%, it masks the severity of poverty among disparate communities and groups in Halifax.[4] High rates of poverty exist in urban, suburban, and rural neighbourhoods. Dartmouth North (with a poverty rate of 33.6%), Fairview (30.3%), Spryfield (28.7%), Preston area[5] (22%), and HRM Rural East[6] (19%) are cases in point. Female-led lone-parent families, children, people with disabilities, LGBTQ2SIA+[7], Indigenous people, African Nova Scotians, and immigrants are overrepresented in the experience of poverty in HRM.

At its meeting on April 25, 2017, Regional Council directed that HRM collaborate with the United Way Halifax and other partners to develop an Anti-Poverty Strategy for the municipality. A Poverty Solutions Advisory Committee co-chaired by the Mayor and President & CEO of United Way is overseeing the strategy's development. In December 2017, *Poverty Solutions: Ideas for Action* was released to the public, a community-developed compendium of ideas to address poverty in the municipality. The document is based on feedback from more 1000 people who were engaged in discussions on poverty solutions including participation in engagement sessions organized by the United Way, and input through HRM's Shape Your City website. A comprehensive community report on poverty in HRM is scheduled to be released in the coming months. It will include a plan to implement *Ideas for Action*.

The poverty solutions work above advances Regional Council's social development priority area, which includes the following priority outcomes: social infrastructure, accessible community, housing & neighbourhood, and equity & inclusion. A Smart Cities Challenge application focused on poverty reduction within the framework established by the social development priority area would do the same. It would also advance HRM's public safety strategy and Integrated Mobility Plan, as outlined below.

Public Safety Consideration

Crime and public safety are challenges confronting all Canadian municipalities. The traditional approach of responding to those challenges through policing and criminal justice is gradually being complemented by a larger notion of community safety that calls for a diversity of preventive initiatives, the mobilization of local stakeholders, and public engagement.

In October 2017, Regional Council adopted a new public safety strategy for the municipality. *Public Safety Strategy 2018-22* is informed by Halifax Regional Police's 2011 Public Safety Strategic Plan, two reports from the Mayor's Roundtable on Violence, and secondary research and targeted consultations completed by HRM's Public Safety Office. The strategy has four strategic priorities:

- **Build resident resilience** – help people to reduce their sense of isolation, build resilience, and improve their quality of life.
- **Ensure safe places** – reduce the opportunities for crime and social disorder at places where people live, work, and play.

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[3] Draft Community Report by United Way. *100+ Ways to End Poverty in Halifax Regional Municipality*. December 2017. Page 14.

[4] Ibid. Statistics are based on the Low Income Measure – After Tax (LIM-AT) measure -- a relative measure of poverty that determines poverty thresholds set at 50% of the median Canadian income. After taking taxes and benefits into account and adjusting for family size and composition, those with incomes below this threshold, are considered low-income.

[5] Preston area includes North Preston, Cherry Brook, and the Northern tip of Westphal.

[6] HRM East includes: Two census tracts that includes part of Musquodoboit Harbour, Meaghers Grant, East Petpeswick, Middle Musquodoboit, and all points east of these to the border of HRM.

[7] Lesbian, gay, bisexual, transgender, queer, two spirit, intersex, asexual.

- **Strengthen communities** – increase local participation and social interaction, and develop ways to deal with conflict in non-violent ways.
- **Prevent and reduce crime** – protect citizens, organizations, and institutions against threats to their well-being and prosperity.

The strategy calls for a multi-sectoral approach, one that includes the involvement of other levels of government, the corporate sector, the non-profit sector and communities. Its implementation will be reported to Regional Council on an annual basis.

Like the public safety strategy, the proposed Smart Cities Challenge application would address poverty, one which is one of the major risk factor associated with increased crime and victimization at the individual and community levels.

Integrated Mobility Consideration

On December 5, 2017, Regional Council approved the Integrated Mobility Plan (IMP), a 15-year plan to achieve the mobility targets stipulated in the Halifax Regional Plan (adopted in 2014) and to identify the two-way inter-relationship between growth patterns and investment in mobility. The plan examines a variety of scenarios and tests the ability of each to address the need to link people and communities with each other and with the goods, services and employment opportunities which they seek, in an environmentally sensitive, socially beneficial and fiscally responsible manner.

The IMP lays out a series of initiatives necessary to achieve the mobility targets by the year 2031. These initiatives include:

- Providing a level of accessibility to all users, regardless of physical disabilities or limitations, for mobility in the Halifax Region.
- Designing streets to accommodate people of all ages and abilities, including those with physical, visual, auditory and cognitive disabilities.
- Integrating a Complete Streets approach into street planning and design process, including neighbourhood planning and streetscape improvement projects.
- Wherever appropriate, prioritizing walking, bicycling and transit when allocating road right-of-way space and integrating the needs of people with disabilities into street design.
- Establishing a network of Transit Priority Corridors to enable transit vehicles to bypass congestion using methods ranging from traffic signal priority to dedicated bus lanes.
- Designing and implementing dedicated bus lanes along Bayers Road, Young Street, and Robie Street to provide Bus Rapid Transit between Mainland North and Peninsula campuses and hospitals.
- Continuing discussions with potential partners with a view to implementing a commuter rail service between Cobequid Road, Bedford, and Halifax as a catalyst for higher-density suburban Transit Oriented Development and downtown employment. There are also long-term recommendations to consider a potential in-street downtown rail extension.
- Reviewing land use regulations to encourage compact, pedestrian-supportive, mixed use "Complete Communities" clustered around existing and potential transit terminals, including potential commuter rail stations in the Bedford-Halifax corridor.

An IMP implementation plan is being developed. A poverty-focused Smart Cities Challenge application could advance some of the IMP's strategic objectives, including increased access through public transit and active transportation to social services and secure food, the provision of complete streets to improve the comfort and safety of all users regardless of background, and the development of complete communities where all segments of the population can live, work, and play.

Proposed Project Management and Governance

HRM does not have the expertise in-house to turn its technology and strategy ideas into a compelling challenge statement and vision of what HRM wants to achieve. Staff, therefore, propose using the Halifax Partnership to develop a persuasive storyline and application ahead of the April 24, 2018, deadline.

The Halifax Partnership (the Partnership), the United Way, the Mayor's Office, the Public Safety Officer and the CAO would play key roles in the application's development. Governance-wise, the Partnership would manage the application's development on behalf of HRM, since it has the capacity and expertise to deliver time-sensitive projects like Halifax's Amazon bid, and is represented on the Poverty Solutions Advisory Committee. The Partnership would also provide statistical analysis and benchmarking support to the project, and act as the primary link to the private sector and post-secondary institutions, as well as the Halifax Innovation District work it is overseeing.

The United Way would provide subject matter expertise and act as the primary link to community groups in the municipality. It would help gather input from members of the Poverty Solutions Advisory Committee and others.

The Mayor's Office would be the visible municipal leader and a municipal connection to the members of the Poverty Solutions Advisory committee and poverty solutions strategy.

Regardless of which initiative Council approves for application under the Smart City Challenge and the governance structure used, HRM would provide a technical, reporting (to Council), and implementation perspective. HRM would also officially submit the bid (it will include a letter of support with multiple signatories).

A final draft of the Smart Cities application will be submitted to Regional Council for approval before it is forwarded to Infrastructure Canada ahead of the April 24, 2018 application deadline.

FINANCIAL IMPLICATIONS

Up to $50,000 from ICT's consultation budget (A721 – 6399) would be allocated to the Halifax Partnership to oversee the application's preparation. Should HRM be selected as a finalist in the competition, it will receive $250,000 from Infrastructure Canada to develop a final proposal to be submitted in winter 2019. The final proposal will have financial implications. It will be presented to Regional Council for approval before it is submitted to Infrastructure Canada.

RISK CONSIDERATION

There are no significant risks associated with the recommendations in this report.

COMMUNITY ENGAGEMENT

While there was no community engagement in the development of this report, HRM has undertaken significant community engagement to develop the public safety strategy, draft integrated mobility plan, and, in partnership with the United Way, the forthcoming poverty solutions strategy. ACOA has indicated that Smart Cities Challenge applications can be based on previous community engagement exercises. As the application process continues, staff will undertake additional engagement to ensure that the problem statement (challenge statement) has been properly defined.

ENVIRONMENTAL IMPLICATIONS

There are no environmental implications at this time.

Alternative 1: That Regional Council decline to make an application to the Smart Cities Challenge.

Risk	Likelihood (1-5)	Impact (1-5)	Risk Level (L/M/H/VH)	Mitigation
That HRM fails to secure federal Smart Cities Challenge funding to reduce poverty.	5	3	Very High	• Seek to continue to advance HRM's poverty solutions work by other means.

Alternative 2: That Regional Council direct the development of a Smart Cities application focused on another social issue (not poverty).

Risk	Likelihood (1-5)	Impact (1-5)	Risk Level (L/M/H/VH)	Mitigation
Lack of time to develop a robust application ahead of the April 24, 2018, deadline.	5	3	Very High	• None.

Alternative 3: That Regional Council direct the development of a Smart Cities application for a later round of funding (possibly 2019-20).

Risk	Likelihood (1-5)	Impact (1-5)	Risk Level (L/M/H/VH)	Mitigation
HRM failure to secure immediate federal Smart Cities Challenge funding.	5	3	Very High	• Advance Council priorities through existing means.

ATTACHMENTS

None.

A copy of this report can be obtained online at halifax.ca or by contacting the Office of the Municipal Clerk at 902.490.4210.

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