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National Smart Cities Challenge

Presented by: Gordon Coulman, Director of Innovation and Technology Services and Travis Peter, Smart City and Innovation Manager

RECOMMENDATION(S)

1. That Administration prepare an application to the Government of Canada's Smart Cities Challenge for approval by Council prior to the April 24, 2018 application deadline.
2. That the Smart Cities Challenge application be based upon Intelligent Transportation Systems (ITS) and related technologies.

PURPOSE OF REPORT

To describe Administration's recommended approach to a federal Smart Cities Challenge application.

COUNCIL DIRECTION

At an informal Council workshop on December 5, 2017, Administration presented overviews of the Smart Cities Challenge program, the City's Smart City program, and intelligent transportation systems.

Following the presentation, Council requested that the Smart Cities Challenge be brought before Council at a public meeting in January for formal consideration.

BACKGROUND AND DISCUSSION

Smart Cities Challenge Overview

Within Budget 2017, the Government of Canada announced \$300 million over 10 years for a national Smart Cities Challenge program. The Government described a Smart Cities approach as achieving meaningful outcomes for residents through the use of data and connected technology, and to realize openness, integration, transferability, and collaboration. The Government's definition is very similar to City's definition within its Smart City Master Plan.

The Challenge has four goals:

1. Realize outcomes for residents;
2. Empower communities to innovate;
3. Forge new partnerships and networks; and
4. Spread the benefit to all Canadians (replicability across the country).

The Challenge is split into three intake rounds, with the first running from spring 2018 to spring 2019. Finalists will receive a \$250,000 prize to further develop their proposal with technical details and partners, and two winners of the mid-sized category will receive \$10 million each.

Applicant cities are encouraged to focus on areas of highest need, define measurable outcomes, work collaboratively and inclusively, be transparent, and to think big. Finalists will be selected by a merit-based jury of accomplished individuals from across Canada.

Initial applications will follow a defined template, with a moderate amount of detail required. Finalists will submit proposals that include fully-implementable plans, including all design, planning, partnerships, and project management components such as milestones, measurements, and reporting.

Preparation for the Smart Cities Challenge

Administration has taken a proactive approach to prepare for this opportunity. The need for funding and policy support was referenced in the 2016 Smart City Master Plan, and since then Administration has conducted outreach, research, and stakeholder engagement in this area.

Early in 2017 Mayor Heron and the Smart City and Innovation Manager presented recommendations for the establishment of the Challenge to a Parliamentary Standing Committee. Numerous discussions have followed with Government of Canada program executives, Provincial government officials, regional municipalities, academic institutions, and industry leaders. The City also participated in the national announcement of the Challenge and was specifically referenced as a leading Smart community.

Recommended Challenge Theme - Intelligent Transportation

The theme of Intelligent Transportation meets all Challenge criteria and includes two main elements:

1. *Full-scale Intelligent Transportation System (ITS) implementation.*
 - ☐ Accelerate and expand the implementation of ITS in St. Albert significantly beyond what would be otherwise achieved over time.

- ☐ Install required infrastructure and systems to support adaptive / automated intersection systems, improved traffic management, data collection and sharing, traveler information, advanced vehicle safety systems, etc..
- ☐ The system would be deployed across the whole community, emphasizing open access, integration of connected vehicle and artificial intelligence components, and a platform for regional coordination.
- ☐ Specific components and costs will be identified by the City's ITS Strategy, to be completed in Q1 2018.

2. *Installation of sensors, monitoring systems, and crowd-sourcing platforms to collect, analyze and share mobility data.*

- ☐ Improve the City's ability to collect, analyze and share mobility data. Anonymized mobility data would be collected at intersections, public areas, and movement corridors across the community.
- ☐ Continuous collection would be emphasized for data on traffic and other modes of transportation, noise levels, distracted driving, environmental and pollutant / health data, and more. Data would be used to analyze and plan system improvements, assess health outcomes, reduce collisions, and achieve other social benefits.
- ☐ Communication networks would collect and transmit the data for real-time and later analytics, availability for wayside signage and in-vehicle information, and sharing with neighbouring municipalities, businesses, students, researchers, and others as per the City's open data protocols.

Additional background information is attached regarding intelligent transportation and its common components.

Expected Benefits to Intelligent Transportation Theme

There are numerous advantages to pursuing a transformational initiative related to intelligent transportation - St. Albert will build a transportation network for the future, which optimizes mobility, and collects / analyzes / visualizes / acts on information.

Next Steps / Smart Cities Challenge Timeline

- January 15, 2018: Council approval of Challenge theme. Administration will prepare the initial application and supporting materials and confirm interest of prospective academic or public-sector partners.
- April 16, 2018: Council review and approve draft initial application. Submit prior to April 24 deadline.
- Summer 2018: Finalists announced. If selected, identify required resourcing and commence final proposal.
- Q1 2019: Council consideration of final proposal. Submit prior to deadline (TBC).
- Q2 2019: Winners announced. If successful, begin project implementation (over 2-5 years).

STAKEHOLDER COMMUNICATIONS OR ENGAGEMENT

- ☐ Improvement in local mobility - particularly traffic congestion - was the second highest

resident priority in St. Albert's 2017 Community Satisfaction Survey, and a common theme during the 2017 municipal election campaign.

- ☐ Intelligent transportation was identified as the highest priority for stakeholders in the 2015 Smart City Master Plan consultations (of over 2,000 stakeholders) and a smaller consultation process associated with the development of the ITS Strategy.
- ☐ Intelligent transportation is a Provincial and Federal priority, particularly relating to quality of life, social, environmental, and economic outcomes.
- ☐ If selected as a Challenge finalist, Administration will identify communications strategies to support the application. Tactics will be developed to communicate key messages, engage stakeholders, reference previous consultation results, capitalize on St. Albert's connections through the Alberta Smart City Alliance and other networks, capitalize on St. Albert's Smart City reputation and awards (including recognition as one of the 21 intelligent communities globally), and explore new partnerships.
- ☐ Engagement with federal and provincial officials will continue, along with alignment with Government of Canada's communications protocol for the Challenge.

IMPLICATIONS OF RECOMMENDATION(S)

Financial:

- ☐ Selection as a finalist under the program would result in a \$250,000 prize payment to the City, with final winners receiving a \$10 million prize payment. This funding would have a significant impact on the City's ability to advance a transformational project.
- ☐ Applicants are also encouraged to identify local supports to strengthen an application. There is no specific requirement for matching funding.

Legal / Risk:

- ☐ While the City's application details will be made public by the Government of Canada, any information requiring confidentiality may be attached to the City's application in a confidential annex.
- ☐ If selected as a finalist or ultimate winner, a contribution agreement would be required between the City and the Government of Canada.
- ☐ There are no legal implications for St. Albert if it chose not to participate, however the City's reputation as a leading Smart City in Canada may be impacted. The City could also submit a new or revised application in later Smart Cities Challenge rounds.

Program or Service:

- ☐ A full Intelligent Transportation System in St. Albert is expected to have significant and measurable benefit to the community. These are detailed above.
- ☐ Internally, the City would also realize benefits and new capacity in data collection, data analytics and decision making, land use / public policy design, autonomous vehicle readiness, combined operations centre foundation, artificial intelligence and internet of things system integration, and new / expanded external partnerships.

Organizational:

- ☐ Initial application for the Smart Cities Challenge would be accommodated through existing Administrative resources and is expected to require a moderate amount of staff capacity.
- ☐ If St. Albert is successful in reaching finalist status, additional resourcing would be required, such as a dedicated project manager, cross-functional teams, and / or contracted services.

The \$250,000 finalist prize is intended to cover the costs of developing the detailed final submission and project plan.

ALTERNATIVES AND IMPLICATIONS CONSIDERED

If Council does not wish to support the recommendation, the following alternatives could be considered:

- a) Do Nothing (either do not move or do not pass the recommendations).
 - Administration would not prepare an application for the Smart Cities Challenge, and the opportunity to offset future capital investment with prize funding would not be realized.
 - The pending Intelligent Transportation System Strategy would be unaffected, and the associated implementation plan would be integrated within the City's long-term capital plans as later directed by Council. The implementation of intelligent transportation in St. Albert may also be smaller in scope, and over a longer period of time.
- b) Direct Administration to pursue a different focus for the Smart Cities Challenge.
 - Administration would investigate the revised Challenge focus as defined by Council, and would prepare an initial application with available information. Refinement of the application would occur if the City was selected as a finalist.

STRATEGIC CONNECTIONS

City of St. Albert Strategic Plan (Policy C-CG-02) - Pillars of Sustainability:

- ☐ SOCIAL - We are a friendly and inclusive community of passionate equals, where everyone feels a sense of belonging. We believe that community starts with the person next door.
- ☐ ECONOMIC - We prosper and excel through a strong and diverse economy that is supported by forward-thinking commerce, outstanding local businesses and a dynamic downtown core.
- ☐ BUILT ENVIRONMENT - We build our community towards the future to sustain balanced development, with a reverent eye to the past, honouring our unique settlement history and distinct identity.

Service Delivery Strategy:

- ☐ Council is committed to ensuring that the City of St. Albert is engaging residents to identify opportunities to improve delivery of services to the community.

Long Term Plans:

- ☐ Transportation Master Plan
- ☐ Intelligent Transportation Systems Strategy (pending Q1 2018)
- ☐ Smart City Master Plan
- ☐ Social Master Plan
- ☐ Innovation and Technology Services Long Term Plan
- ☐ Economic Development Master Plan

Corporate Objectives:

- ☐ Deliver programs and services that meet or exceed our standards
- ☐ Exercise strong fiscal management

- ☐ Ensure our customers are very satisfied

Report Date: January 15, 2018

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