



Applicant information

Question 1

Please provide information on the community that is submitting this application. If this application is being submitted by a group of communities, add each community separately using the button. If this application is being submitted by a regional entity, please include the name of the regional entity with each individual community (e.g. City of Dunn/Smith Region). Do not include the regional entity as a separate, stand-alone community.

Community (Regina)

Name of community **Regina**
 Population based on **215016**

Province or Territory **Saskatchewan**
 Indigenous community **No**

Question 2

Please select a prize category.

\$10 million (population under 500,000 residents)

Problem definition

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.

By integrating innovative connected data and new, cutting-edge technology applications, our mid-sized City will improve road safety while promoting a vibrant community life. Better- connected, technology-enabled mobility options will reduce incidences of impaired driving by 40% and vehicle collisions by 25%, saving human and financial costs.

Question 4

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

This section should include:

- Specific goals you hope to achieve by implementing your proposal, justifying both the level of ambition and the achievability of the outcome (or outcomes) sought.
- Baseline data and evidence to establish the current state with respect to the metrics used in your Challenge Statement, and context around the outcome (or outcomes) sought.
- Evidence to support the selection of this/these outcome (or outcomes) over others, in reference to the needs of the community.
- Rationale for applying a smart city approach to achieving the identified outcome (or outcomes).
- Strategy for measuring progress toward outcome (or outcomes) and achievement of outcome (or outcomes).

As a mid-sized city, Regina is uniquely positioned to test integrated transportation and technology solutions that can be replicated in similar and smaller-sized cities across the country. These solutions can significantly reduce and alleviate social issues; specifically, as stated in the Challenge Statement, a reduction in incidences of impaired driving by 40% and vehicle collisions by 25%.

The City of Regina is the Capital City of the Province of Saskatchewan. It is a land-locked urban community of approximately 225,000 residents, with a close-knit, small-town atmosphere, surrounded by rural agricultural areas.

Over the past decade, Regina has undergone significant growth and change, as our young Indigenous population continues to grow, and we welcome newcomers to our community. Regina is one of the fastest growing urban centres in Canada, with one of the youngest populations.

The City has a diverse economy – as the provincial banking and government services centre, boasting large agricultural and natural resource sectors. Regina is also home to first-class secondary education institutions including the University of Regina, the First Nations University of Canada and the Regina campus of Saskatchewan Polytechnique. These institutions provide learning and skills training opportunities that attract students from across the province, country, and around the world.

Regina residents and businesses are open to adopting new technologies and innovations. Our recent growth and diversification is challenging the City to improve transportation as a catalyst to further growth and innovation.

Our challenge is our reliance on private vehicles to get around. Regina is car-centric due to many factors: past attitudes; residential growth patterns that have resulted in distances between neighbourhoods, downtown, universities and colleges, recreation amenities and major employers; limited public transportation options; an all-season climate, which includes harsh winters where cycling and sometimes walking, are difficult; and, lack of connection in terms of first-mile last-mile. Our reliance on vehicles impacts safety, traffic flows and the environment.

The ramifications of remaining car-centric include:

- Lower income workers that do not have access to a vehicle may have difficulty finding work or maintaining employment. Regina employers realized that, with a growing rate of immigration,

employee shuttles would tap into a much-needed labour force. Loblaws Distribution Centre, Mosaic Potash and the Saskatchewan Health Region have started such services.

- Impaired driving remains a significant issue in this country. While it may sound incredibly easy to solve, many smaller towns and cities lack readily accessible and cost-effective mobility options for transporting patrons late at night. It is also a drain on police services in setting up sobriety check points late at night when there are better/more important uses for these staff resources. 64 Words

- Vehicle collisions place a burden on our health care system, insurance costs and society, as a whole. Many smaller cities have older traffic signal systems that do not efficiently move people nor have the sophistication needed to reduce the chance of being in a collision. A study of top collision intersections in Saskatchewan showed that every dollar invested in signal timing improvements at an intersection resulted in an 11:1 rate of return in reduced insurance claims. Smart signals would facilitate better, safer flow of traffic, while allowing transit priority measures and other Bus Rapid Transit measures to be implemented.

- The cost of parking infrastructure – to remain car-centric means to also spend an exorbitant amount of money to park vehicles. In North America, a surface parking stall costs approximately \$8,000 to construct. Structured parking in a parkade is commonly \$30,000 to \$50,000. This means a modest 150 stall parkade costs \$9 million.

We want to look at ways to better utilize existing parking through smart technology, and allow institutional partners (i.e. the university, hospitals or airport) to find alternative ways to leverage other mobility options versus simply adding more parking. We would like to see if investment is better leveraged into other mobility options and the more efficient use of existing parking supply.

For the majority of smaller cities, a smaller tax base and limited capital funds with many community needs often hampers moving away from a car-centric environment where a common theme emerges – new neighbourhoods are built and roads are required to serve residents, residents buy a car to support their need to travel for employment, and the city inherits long term operation and maintenance of this infrastructure.

Of course, this is a simplified assessment, but is illustrative of how virtually all small and mid-sized cities have developed within this country. Likewise, we look at the investment in North America in parking infrastructure. If we were to add up the cost of this infrastructure, it would far exceed the cost of the entire road network. If it were abandoned, albeit unlikely, we would have significant funds to invest in alternative modes of transportation.

The cost of this infrastructure at a shopping mall that offers free parking is actually borne on every purchase made at the suburban shopping mall. So, to break the cycle for small and medium sized Canadian cities, we need solutions that make use of existing infrastructure better, parking more efficient and provide mobility options that will allow people to not perpetuate the pattern of reliance on the automobile.

If selected for the challenge, the outcome of our work will be a staged approach based on leveraged partnerships, research, and technology to improve safety, efficiency and mobility options for residents. We will establish policies around data sharing for app building, establish policies around use of new technology, best-practices from other smart city challenges and a toolkit for small and medium cities that explores the best mobility options to change from a car-centric environment.

It will be important that this work is different than in a large centre, where the focus should be more on the integration of mobility options that already exist and the next level of mobility options such as connected vehicles and autonomous vehicles. Our approach is to focus instead on the more immediate term and solving what smaller cities need to do in a staged approach to leverage smart

technology right now. At the same time, we want to be ready for future technological innovations.

As an example, traffic signal control cabinets for new smart signals should be linked through a central hub and are ready to accept connected vehicle technology. One of our team partners, WSP, brings experience from trials in the U.S. on 5,000 connected vehicles. Our approach on this challenge will be technology solutions that can be applied today for small and mid-sized cities but with an eye on future ready technologies being developed.

The good news is that, based on experience, Regina residents are able, willing and ready to embrace the changes necessary to ensure our community is safe and vibrant for all its citizens, from those who cannot afford a vehicle or do not have a driver's license, to those who want to enjoy the City's vibrant nightlife, by providing a range of transportation options to ensure drivers and citizens are kept safe.

We have chosen a specific test corridor for our project – Dewdney Avenue. The idea of a test corridor will allow us, by using a staged approach, to both involve a broad range of community partners and also focus the available funds so that we get the greatest benefit from our work. The corridor will allow us to assess before-after data on impact on mobility, system efficiency, safety, cost savings, social and environment benefits. This is an ambitious undertaking but we are excited and invigorated by the potential of this challenge. We see the potential applications for Regina and others.

Reduction of 40% for driving while under the influence:

A prevalent and unfortunate issue facing our car-centric community is the high rate of driving while under the influence of alcohol, cannabis and illegal substances. Saskatchewan's rates for drinking and driving are 3x the national norms, based on 2015 statistics.

Overview

Information provided within this document will show the progression of impaired driving in the City of Regina over the past 5 years as well as a comparison of other comparable municipalities over the same time frame.

Statistics

Regina Police Service

Total Impaired Calls for Service	
2013	712
2014	622
2015	626
2016	570
2017	444

Regina vs. Canada - Impaired Driving Rate Per 100,000 People

	Regina	Canada
2013	331	201
2014	289	201
2015	291	201
2016	265	201
2017	207	201

- Statistics taken from Stats Canada show Regina much higher than the Canadian average regarding impaired driving occurrences.

- o In the above chart, Regina is compared to Canada by using national statistics from 2015 only as this is the last year a national average was taken.

- While Regina’s impaired driving rate seems to be decreasing, other comparable municipalities are much lower. As well, Saskatchewan still holds the highest rate of police-reported impaired driving among the provinces.

(<https://www.statcan.gc.ca/pub/85-002-x/2016001/article/14679-eng.htm>)

Impaired Driving Rate (Per 100,000 People)

	Regina	Saskatoon	Ottawa	Wpg	London
2013	331	185	66	72	139
2014	289	178	66	82	135
2015	291	203	67	83	121
2016	265	190	63	70	101
2017	207	164	60	62	108

- Regina has a rate 3.5 times higher than Ottawa regarding impaired driving offences.

- Compared to its closest neighbor, Regina consistently records higher total impaired driving offences than Saskatoon, despite Saskatoon having a larger population by approximately 30,000 people.

- While total occurrences are notably higher when compared to other Canadian municipalities, Regina has been trending downward in recent years and has seen a 38% decrease over a five-year period.

- It is important to note that according to Stats Canada’s most recent impaired driving statistics, Regina holds the 3rd highest rate of impaired driving occurrences behind only Kelowna and St John’s.

Total Impaired CFS Vs. Report Impaired Driving (RID) CFS:

	Total CFS	Total RID CFS
2013	712	549
2014	622	602
2015	626	628
2016	570	458
2017	444	334

- Total impaired CFS and total RID CFS tend to loosely correlate year over year. This resulted in a 39% decrease in RID CFS between 2013 and 2017 while total impaired CFS decreased by 38% over the same time period.

- The need for increased awareness or new impaired driving initiatives is evident when comparing the steady decline in community participation in RID between 2015 to 2017 and the consistently high

number of total impaired CFS over the past 5 years.

In 2016, Regina's overall financial cost of driving under the influence was \$22.7 million; however, and more importantly, are the human costs associated with this issue, in terms of the toll on families. The impacts to families from serious injury or death are difficult to measure in dollars; however, impacts include income loss due to recuperation and hospital stays and stress due to the impact on a family's finances, mental well-being and strain of losing a loved one.

Reduction of 25% in motor vehicle collisions:

A reduction of 25% of motor vehicle collisions will result in an estimated \$25 million per year in returned societal benefits. In 2016, Regina's financial costs for collisions was \$5.7 million; if you include total societal costs (including property damage, etc), the costs were \$198 million.

2016 Overall Collision Statistics:

Collision Type	Regina		Saskatchewan	
	Collisions	Persons	Collisions	Persons
Property Damage	4,436		24,592	
Injury	1,249	1,249	4,305	5,760
Fatality	7	8	109	125
Total	5,692	1,257	29,006	5,885

20% of total collisions occurred in Regina;

A 25% reduction in total collisions represents 1,420 fewer collisions.

2016 Signalized Intersections Collisions Statistics for Regina:

Collision Type	Collisions	Persons
Property Damage	1,382	
Injury	442	569
Fatality	3	3
Total	1,827	572

32% of collisions occurred at signalized intersections in Regina.

Our focus with this challenge is to improve safety and public health. Safety will be improved by reducing both the number and severity of injuries from collisions, for which root causes include driving while under the influence and distracted drivers (cell phone usage while driving, etc).

To further this goal, using a staged approach, we will invest in new traffic signal technology to both reduce congestion, greenhouse gas emissions (GHG), and also to address traffic conflicts. The Institute of Transportation Engineers indicates this is one of the most effective areas that a City can invest in to reduce the need to build new roadways. The benefit is a safer road network and reduced carbon emissions.

As noted, public health is also a spin-off or secondary focus. Recent statistics demonstrate that as a nation, we have regressed in terms of being a fit nation. Our goal is to encourage active transportation options within the community that promote physical activity. This will be enhanced by the use of smart energy solutions, such as solar lit paths and signage, and smart monitoring of secluded parts of pathways through wireless emergency call buttons and area video monitoring.

In closing, we would like to boast of a recent success on changing public behaviour towards mode choice in our city. With the development of the new Mosaic Stadium, the public said they would never take transit to a game or concert. The old stadium (only a block from where the new stadium was build) had only 2.5% transit ridership to games. With a lack of parking on the new Mosaic site, we were challenged to undertake some thoughtful planning, partnerships and promotion to get people to change their mobility options.

Before-after studies show that 23% (approximately 1 in 4 people) now arrive at the stadium by transit. More amazing, at the recent Bryan Adams and the Guns n' Roses concert, 34% (approximately 1 in 3 people) arrived by transit. This was especially surprizing when people were dressed up or in black leather, t-shirts and blue jeans. It was exactly the young crowd we were trying to impress. This can be considered nothing short of a true success, especially when they said it couldn't be done! We believe that this challenge will once again prove that we can introduce mobility options, lessen our reliance on the car and improve travel safety for residents and visitors to Regina.

We should also clarify that we are focusing on technology solutions that can be applied today for small and mid-sized cities but with an eye on being future ready.

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.

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.

Municipal governments are the closest level or order of government to the residents they serve. As such, the Mayor and members of Council make themselves available on a daily basis to hear concerns and potential resolutions to various issues, directly from their constituents. In addition, City Administrative staff meet with individuals, organizations and stakeholder groups in our community on a daily basis, also to discuss challenges and opportunities.

Public Engagement:

When residents were asked about their ideas for smart cities, an emerging theme was the need for more alternative, safer, connected transportation options, based on better-connected, technology. Our solution delivers on that need by adopting a phased-in approach by integrating the following services, infrastructure and technology.

This close connection to the public provides the city with ongoing knowledge, updates and open lines of communication with residents. Ongoing dialogue between residents and the City also occurs through the use of social media, open houses, workshops, community meetings and other creative means of communication. This ongoing and evolving connection to our citizens provides a real-time awareness of how our residents feel about various challenges and opportunities faced by our community.

Specific to the SmartCities Challenge, the City created an on-line survey asking the public the following questions:

1. What do you think is the most important area for Regina to improve?
2. Within the area selected, what is the specific challenge or issue you would like to see addressed?
3. Do you have advice on how the specific challenge or issue can be addressed through emerging technologies and innovation?
4. Is there anything else you would like to see accomplished in Regina using Smart City solutions?

The survey was live for 18 days, from March 5th to the 23rd, with a total of 617 responses.

In response to the question regarding the important issues in need of improvement, the results of the survey were:

- 28% - better transportation options and better-connected transportation networks;
- 19% - make Regina a greener place (protecting our environment) for future generations to enjoy;
- 18% - make Regina a more vibrant, engaged and connected place to live;
- 14% - other;
- 10% - improved options for residents to be physically active;
- 7% - make Regina a welcoming and supportive place; and
- 4% - make it easier for residents to connect to services.

A summary of the responses to the remaining three questions focused on transportation (additional public transportation options, first-mile / last-mile; more parking (iPhone app parking meter solution; safety; better traffic flow design and management system (smart traffic lights); electric/connected and solar shuttles and solar roadways; interactive pathways to encourage cycling and walking; and the implementation of technology and connectivity to ensure citizens have safe, transportation options.

Our goal to reduce traffic collisions by 25% is a way to meet the needs and concerns regarding what we heard in terms of providing safe, efficient, alternative transportation options.

The issue of driving while under the influence is the highlight of our Challenge due to historical and ongoing data and statistics, which demonstrate the prevalence and high numbers of those who drive while intoxicated and the relationship to vehicular collisions, health care costs, and safety.

This Challenge also fits within the community engagement survey in terms of residents congregating and participating in the nightlife and entertainment districts of our community. Providing options for alternative modes of transportation, other than driving their own vehicles will lead to a more vibrant community.

The community engagement concluded thus far to define residents' greatest needs, was just the beginning stage of public consultation. The City of Regina created an external stakeholder SmartCities Challenge group for the purpose of creating smart technology-driven and innovative solutions to the Challenge Statement to better prepare our community for the future.

These stakeholders, which include developers, information technology and telecommunications companies, police and fire services, have access and linkages to additional stakeholders, who will be included in further community engagement and consultation activities.

In addition, the City's on-line survey providing us not only with what our residents feel needs to be improved in our community, but we now have a baseline of information that can and will be measured through further surveys, open houses and workshops.

Preliminary proposal details

Question 6

Please describe your preliminary proposal and its activities or projects.

This section should include:

- Planned activities or projects to achieve the outcome (or outcomes) set out in the Challenge Statement.
- Clear links from the identified projects to the attainment of the outcome (or outcomes).
- Scope and size of each planned project in your preliminary proposal, describing how it is feasible and suitable for achieving the outcome (or outcomes) in a manner that is impactful for the community, ambitious, and transformative.

Measures put in place to 1) make the proposal open, interoperable, scalable, and replicable or a description of your plan to do so going forward for the benefit of your own community and other communities in Canada; and 2) enable other uses of the technology, innovation, and data in your proposal.

The City of Regina's proposal is based on a phased-in approach. The first set of projects and initiatives will be incorporated in the immediate to medium term (current to 5 years); with the second set of objectives set to occur in the medium to long term (5 to 10 years), as follows:

Phase I:

More and safer transportation solutions:

By offering safe, alternative transportation, such as ride share, smaller transit buses (whether electric and/or autonomous), citizens would be more apt to enjoy the entertainment and nightlife the City has to offer.

- Expanded transit service: While conventional transit routes end at midnight, the City proposes to test extended transit service from midnight until 2am through extended public transit or ride sharing alternatives.

As a trial, the City would utilize smaller buses in select neighbourhoods which would then connect to a central transit hub, where ride sharing services would be available. This would be application driven. This service would also be used to initiate transportation in areas where service does not currently exist - such as the Regina International Airport.

- Fleet Tracking: Cellular connected fleet and real-time analytics. Will be used to track progress of services, such as garbage collection or snow removal. Data will be displayed to citizens in real time. Fleet tracking will improve management of fleet and tracking maintenance, etc. Analytics will be layered in to optimize routes to improve efficiency with the intent of reducing the City's overall operating costs.

- Employers such as the Hospitals, are working on improving the park and ride systems currently implemented. This would not only alleviate traffic congestion but would also contribute to the necessity of fewer parking spots, and also safety, in terms of the park and ride station being property lit and safely monitored.

- First-mile, last-mile: Currently, the City is designed as such that a transit stop may be a mile or so of where individual lives, works, (final destination). By integrating ride sharing, more cycling lanes, bike paths and green spaces, it will make reliance on vehicles a less attractive option.

On a larger first-mile, last-mile scale, working with our local airport on implementing a system where one ticket would include numerous modes of transportation to get an individual at the doorstep of his final destination. As an example, one ticket would provide air service to a specific destination, where a train (electric, connected) would be waiting to transport to another location, where a ride sharing service could be used to take the individual to his intended location – all via one ticket (single-window option).

Health Care savings solutions:

- Health Centre Benefits: By reducing both vehicle/pedestrian accidents involving injuries and time spent in emergency rooms, health care centres, costs from physiotherapy and loss work time, costs to our health system would decrease significantly.

Additional cost savings will also be found in terms of providing citizens with enhanced active transportation options. If populations are more active, they tend to have fewer chronic conditions and less interaction with the health care system.

- Emergency Room Hospital Visits and Stays: The City of Regina has two hospitals to serve a population of 350,000 (across the southern portion of the province). Emergency room waiting times are a serious issue. With the decreases in driving while under the influence and vehicle accidents, emergency room waiting lists would be shorter, reserved to those who need emergency care from heart attacks, and other serious emergency and crisis situations.

Police, Fire, Emergency services solutions:

- Police/Fire/Emergency Personnel: A decrease of 40% in driving while under the influence, would free up police resources now allocated for investigation, prosecution, and court time, allowing officers to utilize their time on more proactive community safety efforts.

- Asset Monitoring and Asset Tracking: Cellular connected modules to track location and health of assets, equipment, etc. Benefits include reduced negative impact of stolen assets, as they can be located and recovered; as well as improved management of assets.

Community / Social solutions:

- Vibrant Entertainment Districts: Regina is known for having many restaurants and entertainment options (from sporting events to musical entertainment). An issue for residents who wish to enjoy the local nightlife is a lack of transportation options. Driving a vehicle is not an option if one wishes to enjoy a social cocktail, and transit currently ends at midnight. As such, many residents choose to stay home, rather than supporting local establishments that add to the vibrancy of the city's entertainment areas.

Due to the fact that we live in a community where car ownership is considered both a right and a necessity, the notion of taking one's personal vehicle when going out socially is the norm. The City will implement simple, cost-effective options to avoid over reliance on vehicles. Building a strong community can be accomplished by ensuring citizens have safe places to congregate and socialize. Taking the combination of drinking and driving out of the equation will result in a stronger, more connected community.

- Parking: In Regina's downtown area, we will examine smart parking solutions and curbside space allocation involving shared vehicles and bike share solutions to reduce traffic congestion, provide mobility options, saving both fuel and travel time costs. Providing solar powered parking meters and solar powered street LED signage will add to reduced city costs for installation, operation and

maintenance of infrastructure within the public right of way, while providing a smarter, potentially more intuitively connected transportation network.

- Digital Kiosks: Provide Wi-Fi hotspots, charging station for mobile devices, LED panels that can display event updates or other promotions and city information, as well as the ability to make emergency calls.

Phase II (longer-term) solutions:

As noted, the impacts of the City's proposal would also offer longer-term, phased-in solutions for our community, including:

1) Remove collisions, improve efficiency of travel through 'smart' signal systems - install new signal system through the heart of downtown. The intent would be to replace aging signal systems with newer, more reactive, integrated and efficient systems to reduce travel delays, improve the environment and reduce collisions. Examine transit priority measures to improve transit service efficiency. Integration with cycling and integration with pedestrians via smart pedestrian crossings, etc. Cost: \$2 million to \$4 million, depending on the size of the area.

2) Parking and 'smart' technology for downtown - providing sensors for available parking in the downtown, solar powered meters and solar powered parking kiosks will be a benefit for reducing traffic circulating in downtown looking for parking and resulting in vehicle-pedestrian conflicts. 'Smart' meters will be mobile app-connected and result in more parking availability in downtown. Parking is a critical service to residents and visitors of a downtown and is also vital for the economic welfare of the businesses.

When planning new neighbourhoods, we will explore neighbourhood design to lay out parking in a more efficient pattern that will allow for less road infrastructure to be constructed, with a reduction due to lower maintenance costs. This will be combined with a more connected network for cycling and pedestrians. We intend to retrofit existing neighbourhoods to improve access to mode choice during winter.

More and safer transportation solutions:

- With less emphasis put on vehicles as the primary way of transportation, changes in the very way we design and plan our communities will occur. One such way is less reliance on vehicles will lessen the need for parking garages. Once residents begin to use other alternative modes of transportation – cycling, walking, etc., employers may begin installing central drop off bike zones, lockers, showers and changes rooms for those en route to work, or for recreational purposes.

- Neighbourhood design: If modes of transportation are increased, neighbourhoods will be designed much differently than the current norm. Examples would be narrower streets designed for less on-street parking and perhaps a decreased desire for two-or more car garages.

- Traffic optimization: Leverage an analytics solution to perform traffic and crowd analysis to monitor congestion, which will be acted on to improve traffic flow. This will be further enhanced by connected traffic lights (possibly cellular) that will be controlled by the analytics engine to adjust traffic lights to improve flow and reduce congestion in real time.

Repurposing Dewdney Avenue – The repurposing of Dewdney Avenue, based on a staged approach, would be the test bed for a corridor within Regina to become future ready. It is also a perfect corridor to be able to test solutions that are easily replicable in similar sized or smaller cities and identify the impact on mode choice, safety, and travel efficiency.

This roadway connects the Warehouse District night clubs, new Mosaic Stadium, Pasqua Hospital

(as one of the two main hospitals in Regina), RCMP depot, north central (older neighbourhood), Westerra (one of our newest neighbourhoods planned with cycling amenities), future First Nations development site and the Global transportation hub. We could work in CV technology with the signals, multimodal solutions for peds and bikes, shuttle buses to improve parking at the Hospital, game day at Mosaic Stadium, transit priority measures, etc. Mode choices providing a safe ride home will be developed for attending sporting events or enjoying the nightlife in the Warehouse District. Intent would be to test solutions easily replicable in a similar sized or smaller city and identify the impact on mode choice, safety and travel efficiency. Cost: \$3 million to \$4 million.

Improved mobility to University of Regina, Sask Polytechnique, General/Pasqua Hospital and Regina Airport – Parking and transportation solutions will be examined that affect mode choice and more efficiently manage available parking at the key cornerstones within our community. These employment and community 'hubs' are critical to our community and the safe movement of traffic on-site is important. We would see them partnering on express routes for transit, private shuttles, car-share stations, ridesharing solutions, cycling parking and other cycling infrastructure. There would be a long-term goal of examining the potential for connected/autonomous vehicle use deployment as employee shuttles. Cost: \$1 million to \$2 million.

The Repurposing of Dewdney Avenue could include the following pilot projects:

- Incorporation of cycling lanes for a connection to Devonian Park path.
- Install new signals with cabinets ready for connected vehicles and other smart technology to improve traffic flow along the corridor. While connected vehicles are still at the test phase we may be able to do a pilot study (with bus priority measures, snow plow/street cleaning signal priority to prevent delays and improve efficiency providing City services).
- Smart signal solutions for several roadway corridors leading to high collision rate intersections.
- Identify transit priority measures and Bus Rapid Transit measures along Dewdney Avenue to provide alternative transportation choices for both work and play.
- Create mode choices to provide a safe ride home will be developed for attending sporting events or enjoying the downtown nightlife.
- Identify key locations for traffic calming measures to provide a safe environment for pedestrians.
- Potential pedestrian bridge connection over the Canadian Pacific (CP) mainline to connect Dewdney Avenue to the Downtown.
- Development of an Open Source Data Policy by City for app developers to develop solutions. Much of your data is already posted online for use but we may be able to provide even more.
- Consider smart parking solutions as they relate to the hospitals and the Regina International Airport, both of which are accessed from Dewdney Avenue.
- There is a fire hall on Dewdney Avenue serving this area of the city. Looking at smart solutions allowing for signal priority for this essential service are critical.
- Solutions for the transport of people from destinations where they may enjoy a drink (Mosaic Stadium or the Warehouse bar district) will be critical.
- Safety and social interaction at one of the last three remaining outdoor pools. Many towns and

cities still have outdoor pools that serve the overall area. We could try and tie in this spot for free public Wi-Fi.

Question 7

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

To supplement your response, please upload any relevant documents and make clear linkages and references.

The City of Regina's SmartCities challenge is directly related to our Vision, Mission, Principles and Values, as follows:

Vision: To be Canada's most vibrant, inclusive, attractive, sustainable community, where people live in harmony and thrive in opportunity.

Mission: We are dedicated to building a strong community by providing reliable, sustainable services.

Principles: One City – One Team, with a Community First focus demonstrated through our values.

Values: Accountability
Respect
Collaboration

Regina is:

- A city of infinite horizons;
- A city of 225,000 people within Treaty 4 territory that is culturally diverse and provides residents with an urban lifestyle;
- A city on the grow – we're urbanizing, attracting new, more diverse businesses and residents;
- A caring community – our prairie roots keep us grounded and our prairie culture sets us apart;
- One of the best and most affordable places to live in Canada.

As noted in the Background Section, the proposal aligns with the City of Regina's Vision, Mission, Values and Principles, and is complementary to the City's Official Community Plan (OCP).

The proposal also fits within the Strategic Plan of the Regina Police Service (RPS), one of our primary partners in this Challenge. Within the RPS Strategic Plan, there are four themes that align with the proposal; those being:

- (1) Service: By working together using proactive initiatives and leveraging investigative techniques;
- (2) Communication: Improved communication by establishing enhanced public education and external communication through social media platforms and programming;
- (3) Our People; and, (4) Improvements: Utilizing technology to find solutions for improvement, not only in making the community safe, but reducing the amount of victimization by working effectively and efficiently through tactical analysis and crime mapping.

These four guiding pillars help direct and provide business plans to achieve the objectives of the RPS. In addition, the medium and long-term goals align with the RPS Vision, which states, "Working together to keep Regina safe."

From a public health perspective, the people most affected by public transit and active transportation, impact the most for low income people, children/youth, newcomers and older adults. There is a movement towards age friendly communities. This ties into the global initiative and some talks that are starting in Regina. Transportation plays a large role in decreasing access to healthy food, dry's, friends etc. helping with social isolation and mental wellbeing.

There is also a social benefit of freeing time and money spent on personal vehicles and refocusing these on quality and higher value benefits. This might be social, educational, time with family, time to shop well, time to cook well, eat well.

Question 8

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

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.

The City of Regina, a mid-sized urban community has been fortunate to have a “help your neighbor” small-town connected feel. This is evident in the way the community has embraced the cooperation and spirit necessary to embrace huge, challenging projects such as constructing the new Mosaic (football) Stadium – an example of incorporating international design, community engagement, resulting in public success, pride and excellence. The “Big Dig”, a project that involved deepening our man-made Wascana Lake is another example of community involvement and community building.

In addition, the community has a world-leading reputation for volunteerism and civic pride, as demonstrated in the huge events hosted, such as the curling championships, (Brier), Telemiracle, the Humboldt Broncos tragedy and the Grey Cup. Regina residents have a “pitch-in” attitude that will be beneficial in making the cultural shift changes such as those described in the Challenge. Regina is also proud to have become a destination of choice for new Canadians because we accept and welcome new cultures that embrace community celebrations and community festivals.

The introduction of Automatic Speed Enforcement (ASE) and Red Light Camera technology illustrates the readiness of the City to reduce serious collisions. In addition, the introduction and implementation of a Taxi Lane on the bar strip creates quicker and safer access for patrons. Further, the introduction of rider sharing is being discussed and alternate ride home programs current exist in our community.

The Saskatchewan Health Authority (SHA) is working on plans to address access and transportation issues. This includes providing more health care services at the community- neighborhood level with the development of Primary Health Care networks (began in 2014-15) and now moving to developing

integrated care centers targeting heat maps of population most needing services.

For our transportation planning, the SHA is moving away from providing parking to managing access and transportation options. The SHA began with introducing inter-facility shuttles, then park and ride and are now looking at fleet management and intermodal movement. In addition, the SHA is looking at how to use information to deliver better parking services to those who need it most.

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.

- Research evidence on transportation demand, impacts on lifestyle and life choices – focus first on greatest impact (improved outcomes) and greatest potential to generate vital and generative economic investments.
- Develop stakeholder engagement on community participation for change. This is a deep rooted cultural shift.
- Assess concept design for data / information system to build a smart transportation movement economy. Identify potential early partners/ adopters to pilot and demonstrate success in alternate modes of movement and push pull of people- goods- services- interactions.
- Set up governance and for driving change and innovation through partnerships that will help inform, monitor, manage risk and enable this movement.

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.

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.

Partnerships:

Each of the partners involved in this Challenge are committed to success. We are encouraged by the fact that the partners we have engaged are excited to engage others and to contribute to future initiatives that add to the factors that attract people to live, work, play, and raise a family in our community.

Our plan to succeed is based not only on our partners and stakeholders, but also on the resilience and commitment of our residents. As a community, we are growing with new Canadians and a young population. Our residents understand the importance of having a reputation as being a place of

excellence – a community that is vibrant, inclusive, safe, welcoming, progressive and ready to embrace future technologies and innovation.

City of Regina, Regina Police Service, SaskTel, Saskatchewan Health Authority
The Saskatchewan Health Authority's Health Promotion Department, Environmental Health Department and Facilities Management / Parking Services / Protection Services / Real Estate and Leasing. WSP, Economic Development Regina, University of Regina, ISM, Harvard Development, Dream Developments, Regina Airport Authority.

Potential Partners: Huawei, a global leader in wireless technology and related Smart City initiatives. SaskTel has deployed a significant level of Huawei technology in their wireless networks, and expect to continue to do so. SaskPower, other local developers, the Downtown Association, Mosaic Stadium Board of Directors.

Other requirements

Question 12

Provide a summary of your preliminary proposal. This summary, along with your Challenge Statement, will be posted online in both official languages.

Regina is uniquely positioned to test integrated transportation and technology solutions that can be replicated in similar and smaller-sized cities. These solutions can significantly reduce social issues; specifically, a reduction in impaired driving offences and vehicle collisions.

Regina residents are open to embracing and adopting new technologies and innovations. Our recent growth and diversification is challenging the City to improve transportation to further growth and innovation.

Our challenge is our community is car-centric due to past attitudes; residential growth patterns; limited public transportation options; an all-season climate, and lack of first-mile last-mile connections.

Regina residents are able, willing and ready to embrace changes to ensure our community is safe and vibrant for all citizens by providing minor, immediate term changes such as range of first-mile last-mile transportation options, extended transit service and ride sharing by integrating connected transportation traffic signals and connected vehicles. Longer-term solutions involve redesigning and retrofitting of neighbourhoods based on having fewer vehicles on the road.

Our investments will save lives, reduce collisions, free up emergency and health service resources, and promote healthy lifestyles through smart technology. Regina will become a leader in solving community issues through data and connected technologies.