

# 2018 Smart Cities Challenge

## Preliminary Proposal

Kelowna, British Columbia, Canada



# 2018 Smart Cities Challenge

## Preliminary Proposal



## Section I: Applicant Information

---

### **Question 1**

*Please provide the following information on your community.*

- Name of community: City of Kelowna
- Province/Territory: British Columbia
- Population: 127,380
- Indigenous community: No

### **Question 2**

*Please select a prize category.*

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

## Section II: Preliminary Proposal

---

### **Sub-section I: 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. (50 words max)*

Our community will ensure that every person can access affordable and diverse housing options and related supports that fit their life circumstances.

#### **Question 4**

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

Kelowna will meet its challenge statement by achieving three main outcomes:

#1: A balanced housing market with a diverse range of affordable and attainable options

We will use data to inform policies that prioritize rental housing along with housing forms and tenure that make home ownership more attainable. This will enable us to make informed, integrated and timely decisions and give us the ability to shift the housing market to make sure it meets the true needs of the community.

**#2: Reduce the risk of homelessness for the vulnerable**

One hundred per cent of vulnerable or at risk youth, families and individuals will have access to coordinated and integrated services and supports known to significantly reduce the risk of housing vulnerability or homelessness. We will achieve this by using data to identify trends that help predict types and spikes in vulnerability.

**#3: A “Functional Zero” end to homelessness in Kelowna**

This proposal uses a “Functional Zero” definition of ending homelessness as defined by The School of Public Policy, the Canadian Observatory on Homelessness and the Canadian Alliance to End Homelessness:

A Functional Zero end to homelessness means that communities have a systemic response in place that ensures homelessness (unsheltered homeless, sheltered homeless, provisionally accommodated or imminent risk of homelessness) is prevented whenever possible or is otherwise a rare, brief, and non-recurring experience (Turner, Albanese, & Pakeman, 2017).

This definition was chosen to help ensure this ambitious outcome is achievable. The community’s ideal is an “Absolute Zero” end to homelessness, where no one in a community is ever homeless or at risk of homelessness. However, there is a growing consensus in the public policy field that while this is a laudable goal, it is ultimately unachievable and unrealistic.

Achieving a Functional Zero end to homelessness will mean that our city has achieved a balanced housing system with a high degree of coordination between our market housing, housing with supports and safety-net sectors. It will also ensure that stable, affordable housing is the norm for people living in our community. If someone does find themselves at risk of losing their home, in most cases, they will be able to get the support they need to avoid ending up homeless. In those rare cases where people do end up homeless, they will be able to easily access services and find temporary shelter before being successfully rehoused in a short period of time.

These outcomes are ambitious but they are achievable using a smart cities approach. They are also extremely important and meaningful to our residents. The Smart Cities tools created to meet these outcomes will be open-sourced, transparent and standardized so that they can be used by communities across the country, no matter their size or capacity.

## Baseline data

Kelowna has serious housing affordability and availability issues. In 2017, the City of Kelowna completed a Housing Needs Assessment to support a pair of interconnected strategies: The Healthy Housing Strategy and the Journey Home Homelessness Strategy. The assessment found that a booming economy and an increasing population have significantly driven up the demand for housing, which in turn is driving up home prices and rents.

- According to the 2016 census, 26.2 per cent of households in the Kelowna Census Metropolitan Area (CMA) paid 30 per cent or more of household total income towards shelter costs (unaffordable housing rate), giving it the sixth highest overall unaffordable housing rate out of 35 Canadian CMAs. The national average was 24.1 per cent.
- For owner-households, the Kelowna CMA had an unaffordable housing rate of 18.8 per cent, once again giving it the sixth highest rate among Canadian CMAs. The national average was 16.6 per cent.
- For renter-households, the Kelowna CMA had an unaffordable housing rate of 45.9 per cent, giving it the eighth highest rate among Canadian CMAs. The national average was 40 per cent.
- Preliminary indications for 2017 are that the situation most likely worsened, especially for renter-households. According to the Canada Mortgage and Housing Corporation (CMHC), the rental vacancy rate fell to 0.2 per cent in 2017, down from 0.6 per cent in 2016, giving us the lowest vacancy rate in Canada. Meanwhile, average rents increased by 8.6 per cent while average weekly wages only increased 4.45 per cent.
- The dream of home ownership is being pushed further away for many people, especially those with young families. This is the case even in many families with two income earners. Between 2001 and 2016, the median income in Kelowna increased 82 per cent. However, over the same period of time, the median house price increased 180 per cent to \$427,500.
- 2016 was the first year that Kelowna participated in the nationally coordinated Point-in-Time Count to measure homelessness. It found there were 233 absolutely homeless individuals and a further 273 individuals were counted as temporarily housed but identified as at risk of homelessness.
- Use of homeless shelters is increasing. The average number of individuals staying in one shelter each night increased from 74 in 2015 to 90 in 2016.
- Individuals are staying in short-term supportive housing for longer. Some units that are typically intended to be used for up to three years, have had the same occupant for up to seven years.
- There are significant waitlists for housing with supports, with government and non-profit housing waitlist having almost 800 active applications in 2017.
- Seniors, lone parent families and single occupant households are the largest groups experiencing housing affordability issues in Kelowna.

As part of the Journey Home Homelessness Strategy, BC Housing data is being correlated with data from the 2016 Census to paint a picture of Kelowna's homelessness situation. Findings include:

- Between 2,800 and 3,000 people in our community are living in an extreme core housing need and are at a high risk for homelessness because they earn less than \$20,000/year and are likely spending more than 50 per cent of their household income on housing costs.
- Between 1,600 and 1,800 people in our community are transitionally homeless, meaning they may experience short-term homelessness, generally for less than a month.
- Between 160 and 200 people in our community are episodically homeless, meaning they move in and out of homelessness.

- Between 120 and 150 people in our community are chronically homeless, meaning they have been on the streets for a long time, potentially years.

## Community needs

Achieving the ambitious outcomes laid out in this proposal is critically important to our community. Through various engagement efforts that are detailed below, our residents have made it clear that they want Kelowna to be a community for people from all socio-economic backgrounds and are increasingly concerned about social issues. A lack of stable, affordable housing can contribute to greater income inequality, which has been shown to lead to increased social problems beyond just increased homelessness. These include more poverty, lower levels of trust, weaker community cohesion and increased crime.

High housing costs leave low-income families with little left over for other important expenses, leading to difficult budget trade-offs. Affordable housing increases the amount that families can put toward other important household needs and savings. Housing instability can also jeopardize children's performance and success in school, leading to lasting achievement gaps, while a stable environment contributes to improved educational outcomes.

Quality, affordable housing increases local purchasing power, boosts job creation and generates new tax revenue while promoting better health, quality of life and independence for the growing population of low-income seniors.

Housing and homelessness are some of the most important issues to Kelowna residents. Every two to three years, the City of Kelowna commissions Ipsos Public Affairs to conduct a statistically valid Citizen Survey. At the beginning of each survey, residents are asked what they see as the most important issue facing the community. While transportation had the number one ranking in 2012 and 2015, the importance of social issues skyrocketed to the top of the list in the 2017 edition with housing and poverty/homelessness leading the way.

There is a tremendous bottleneck pressure on Kelowna's housing system. Because people living in the housing with supports sector cannot get into market housing, supportive housing waitlists are getting longer and more and more people are getting trapped in the safety-net sector, which includes services like emergency shelters and short-term housing. We need to relieve this bottleneck pressure so that people are able to find housing in the sector that best meets their needs at any given moment.

In the first quarter of 2018, the task force developing the Journey Home Homelessness Strategy hosted 23 design labs that took a deep look at emerging issues related to homelessness including mental health, partner violence, technological solutions and affordable housing. A key theme that emerged from these Design Labs was the need for comprehensive data to drive innovation.

The Smart Cities Challenge is an opportunity for Kelowna to take an innovative approach to ending homelessness in our community. This goal was chosen for the challenge because housing and homelessness are important issues for our community, background research is in place and the City is already working with community partners to find solutions. However, it was also chosen because this is a goal whose pursuit will be greatly enhanced by using a smart cities approach.

## Smart Cities approach

A smart cities approach is ideal for this proposal because better data sharing and analysis are needed to get a more robust picture of both the housing market and the state of homelessness in Kelowna. This will lead to smarter measures designed to relieve the housing bottleneck and improve service delivery.

Housing and homelessness stakeholders have identified a need for an open databank that integrates data from a variety of sources as well as for a common platform that facilitates stakeholder coordination and collaboration. Examples of data that can be integrated into this database includes: home sale data, rental availability and rate data, housing construction data, census data, zoning information, housing registries, housing with supports waitlists, service provider information, emergency shelter capacity and availability information, homelessness management information, law enforcement data, bylaw complaint information, economic indicators and community health indicators.

This databank will enable the development of predictive modelling tools that allow policy makers to foresee future challenges and test the effects of proposed measures before implementing them in the real world.

Currently, only some of the data relevant to housing and homelessness in Kelowna is held by local government. The rest is held by other agencies and organizations in isolation of each other, including BC Housing, Interior Health, UBC Okanagan, Okanagan College, and service providers such as the Gospel Mission, Canadian Mental Health Association, and the Bridge Youth and Family Services. Bringing this data together will enable more cooperative data sharing and analysis, better coordination of service provision, facilitate data-driven decision-making, create efficiencies and cost-savings, and make it easier for people to enter and navigate the housing and homelessness system.

A centralized database and predictable modelling tools will also enable the tailoring of measures designed to meet the unique needs of specific populations such as Indigenous people, LBGTQ+, seniors and youth. Designing better measures to help youth are especially important in order to disrupt the cycle of homeless vulnerability as it has been shown that people who experience homeless as a youth are at a higher risk of experiencing homeless as an adult.

Finally, all of the tools created as part of this proposal will be built using open-sourced technology so they can be adapted and used by other communities and organizations.

## Measuring progress

Progress will be measured in the following ways:

- Continued participation in Point-in-Time homelessness counts to measure the number of people experiencing homelessness with the aim of annually reducing that number.
- Monitor the waitlists for government and non-profit housing with supports to measure whether or not the bottleneck pressure is easing.
- Survey clients of the housing and homelessness system about their level of satisfaction with the services provided. The aim is to have the percentage of clients reporting being moderately or highly satisfied move closer to 100 per cent every year.

- Use data from emergency shelters to monitor average length of stay with the aim of annually reducing that average.
- Use data from emergency shelters and other homelessness service providers to monitor the number of people entering the homelessness prevention system versus the number exiting it with the aim of annually reducing the number of people in the system.
- Monitor the use of the database, predictive modeling tools and common platform with the aim of increasing collaboration and coordination between housing and homelessness stakeholders.
- Rental market data from CMHC will be used to monitor the rental vacancy rate with the aim of achieving a consistent rate between 3 to 5 per cent in order to ensure an adequate supply of rental housing and moderate rent increases.
- CMHC data will also be used to monitor the diversity of housing forms and tenures being constructed in Kelowna. This will allow policy-makers to know whether the city is seeing things like purpose-built rental housing being constructed in areas where it is needed, or whether developers are bringing a wide-variety of housing options to the market at wide-range of price-points.
- Data from Statistics Canada, BC Housing and CMHC will be used to monitor the affordability of housing in Kelowna with the goal of reducing the unaffordable housing rates for both owner-households and renter-households closer to or below the national average.

### Reference

Turner, A., Albanese, T., & Pakeman, K. (2017). Discerning 'functional and absolute zero': Defining and measuring an end to homelessness in Canada. *The School of Public Policy SPP Research Papers*, 10(2), 1-41.

### Question 5

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

Kelowna is well-positioned to take advantage of the Smart Cities Challenge with a proposal that aims to leverage the benefits of data and connected technology to help us tackle our housing and homelessness issues. These are issues that our community has clearly identified as priorities and this proposal supports a number of other initiatives that are already underway.

### Smart Cities Challenge engagement

Prior to selecting the focus of our Smart Cities Challenge proposal, we held a public workshop attended by more than 50 participants, including a range of city staff, business owners, technology entrepreneurs, academics, and other community leaders.

Participants explored three key priority areas: Growth and development, water, and housing and homelessness. There was strong support for selecting housing and homelessness as the focus area for our Smart Cities proposal.

After the workshop, two smaller partner meetings were held to review past consultation initiatives to refine the topics down to the one that has formed the basis of our challenge statement for our proposal.

## Previous engagement and feedback

This proposal reflects public input received during four different public engagement projects: The Citizen Survey, Imagine Kelowna, Journey Home and the Housing Needs Assessment.

### Citizen Survey

As mentioned in the answer to question four, every two to three years, the City of Kelowna commissions Ipsos Public Affairs to conduct a statistically valid Citizen Survey. The Citizen Survey is conducted to gauge public satisfaction with municipal programs and services and to gain an insight into citizens' priorities. To ensure inclusivity, responses are weighted by age, gender and city-wide distribution to accurately reflect Kelowna's population. Results are benchmarked against other local governments and insights gained by this research helps the City make important decisions regarding planning, budgeting and issues management.

So far the survey has been conducted three times (2012, 2015 and 2017). At the beginning of each survey, residents were asked what they see as the most important issue facing the community. In all three years, transportation was identified by between 37 and 39 per cent of respondents. In 2012 and 2015 that put transportation at the top of the list. However, in 2017 transportation was leap frogged by social issues, which was identified by 40 per cent of respondents (compared to 39 per cent for transportation). The concern about social issues was driven by concerns about housing/housing affordability (identified as the most important issue by 19 per cent of respondents) and poverty/homelessness (identified as the most important issue by 18 per cent of respondents).

In addition, the survey identified "encouraging a diverse supply of housing options at different price points" as the community's number one priority for municipal investment.

### Imagine Kelowna

Between May 2016 and December 2017, the City of Kelowna embarked in the largest public engagement effort in its history as part of its effort to develop the Imagine Kelowna strategic community vision. More than 4,000 residents contributed to this vision by the community, for the community.

A wide range of engagement strategies were used to ensure inclusivity and make sure that the community's diversity is reflected in the final Imagine Kelowna vision. Engagement opportunities open to the public at large were widely advertised using a combination of traditional and social media. Through a partnership with the local school district, teachers engaged their grade 9 to 12 students about Imagine Kelowna in the classroom, resulting in more than 500 individual youth submissions. Two workshops were conducted with the Westbank First Nation, one with the Nation's Elders and one with the Nation's Youth Council. Input into Imagine Kelowna was solicited at 40 different community events to try and get feedback from a diverse range of residents. Interviews were conducted with 30 community thought leaders who represent a diverse range of ages and genders and who come from a variety of ethnic communities, industries and backgrounds. The 78 individuals who participated in a key community forum were carefully selected to ensure a diverse range of ages, genders, ethnic backgrounds, economic positions and perspectives were represented.



Housing was one of the more important issues to Imagine Kelowna participants. The draft vision that emerged from all of this engagement includes 14 goals and one of them, “support innovation that helps drive inclusive prosperity” directly links to the decision to enter the Smart Cities Challenge.

Two other goals directly link to this proposal’s challenge statement: “Build healthy neighbourhoods that support a variety of households, income levels and life stages”; “Provide opportunities for people of all ages, abilities and identities” and “Nurture a culture of entrepreneurship and collaboration.”

### *Journey Home*

The City of Kelowna is working with community partners to develop a long-term homelessness strategy called Journey Home. As part of their efforts, public input was sought through an online survey that was available from Feb. 7 to Mar. 28, 2018. A total of 501 survey responses were submitted and participation reflected a diversity of age groups, genders and sectors of the community. Findings include:

- 79 per cent of respondents felt that solving the issue of homelessness in Kelowna is very important while an additional 17 per cent believe it to be somewhat important.
- 85 per cent of respondents indicated that they believe homelessness is on the rise in Kelowna.
- In terms of solutions, there was strong belief that measures such as Housing First and Long Term Supportive Housing could improve the situation.

In addition, one of the tenets of Journey Home is that in order to succeed, the plan needs significant input from those in the community who are experiencing or have experienced homelessness. A Lived Experience Circle has been ongoing since January 2018 and as of Apr. 19, 2018, more than 150 individuals with lived homelessness experience have participated in eight circle meetings. Insights offered by participants include:

- There is a need for a coordinated system of care for people who are experiencing homelessness so they can easily access services and supports.
- It’s important for people to be empowered to make their own choices.
- People need help navigating the homelessness and housing systems.
- People experiencing homelessness face stigma and discrimination and do not know where to look for affordable housing.
- People experiencing homelessness want to get beyond day-to-day survival and get into a position where they are able to take steps that will help them thrive.

### *Healthy Housing Strategy*

As part of its effort to develop a Healthy Housing Strategy, the City of Kelowna sought public input through an online survey that was available from Nov. 20, 2017 to Jan. 15, 2018. A total of 1,563 survey responses were submitted and participation reflected a diversity of age groups, genders and neighborhoods.

Ensuring housing affordability and ensuring housing stability emerged as the top two priorities in the survey.

## Links between feedback and challenge statement

As the engagement summaries above indicate, residents have made it clear that they want the City to address the issues of homelessness, housing availability and housing affordability. Meeting our challenge statement will involve addressing these issues in a systemic and holistic manner by using data to make informed policy, planning and investment decisions.

## Future engagement

The City of Kelowna is committed to ongoing public engagement and that commitment will be reflected in how our Smart Cities Challenge initiative is pursued. The City's public online engagement platform ([getinvolved.kelowna.ca](http://getinvolved.kelowna.ca)) will be used to regularly check-in with residents as this project progresses and get their input. This online engagement will be supplemented with face-to-face public engagement at key milestones.

Ongoing updates and information will be made available to the public on the City of Kelowna's website ([kelowna.ca](http://kelowna.ca)) and through social media platforms. At the same time, targeted partner engagement will be conducted through the Journey Home project and the Healthy Housing Strategy as we progress in the development of this proposal.

Finally, a comprehensive public engagement strategy will be developed at the next phase of the proposal process to tie in all stakeholders, the broader community and the work being done simultaneously on the Journey Home and Healthy Housing strategies. It will outline a clear direction and key milestones for ongoing engagement, as is standard practice through the City of Kelowna's public engagement policy.

## Sub-section II: Preliminary Proposals Details

### Question 6

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

This proposal will create data sharing and connected technology tools that make it easy to bring together and analyze data from disparate sources within Kelowna's complex housing and homeless-serving systems. These tools will provide decision makers with a more complete and realistic view of our community's constantly changing needs and transform how housing and homelessness related decisions are made. This proposal has the potential to deliver a more stable housing market, break down silos in data collection and use among service providers, and develop strong partnerships for greater success.

This proposal has several interconnected projects:

- Feasibility and partner development study
- Build a collaborative data collection system that is fed from a variety of sources
- Create predictive modelling tools
- Create a central platform for services management and agency information sharing
- Expand our open data network

All of these projects will be built using current industry leading analytic and GIS tools and will take advantage of open-source software and open data techniques. This will allow the tools to be easily shared, scaled and repeated in communities of various sizes and capacities.

### *Feasibility and Partner Development*

A feasibility and partner development study will set the stage for the other projects and ensure they can deliver the outcomes outlined in this proposal. The feasibility portion of the study will review the challenge as we have presented it here and identify how to address issues such as financial oversight, project management and governance, technical requirements, and legal and privacy issues.

Forging new partnerships and breaking down data silos between the various service providers and other stakeholders working in the housing and homeless-serving fields are important components of this proposal. To that end, the partner development portion of the study will consult with potential partners and develop a framework for their participation in this proposal.

Getting partners to share information and be open to working together will not be an easy task. However, through our engagement with housing and homeless-serving stakeholders it is clear that they recognize the need to work together and have an appetite for finding better ways of collaborating.

An early challenge to implementing this proposal is developing the necessary agreements between organizations that allow data to be integrated and shared in a single database. However, preliminary consultations with technology lawyers suggests that this challenge is surmountable. Governance will be addressed as part of this project.

### *Collaborative Data Collection*

Currently, only some of the data relevant to housing and homelessness in Kelowna is held by local government. The rest is held by other agencies and organizations including BC Housing, service providers, Interior Health, Regional Districts, post-secondary institutions, school boards, RCMP and utility providers. This project will leverage connected technology and data to enable more cooperative data sharing and analysis, better coordination of service provision, facilitate data-driven decision-making, create efficiencies and cost-savings, and ultimately make it easier for people to enter and navigate the housing and homelessness system. Currently data exists in silos with no systematic approach to sharing. This problem is not unique to Kelowna.

Housing and homelessness stakeholders have identified a need for a central database that integrates data from a variety of sources. Examples of data that can be integrated into this database includes: home sale data, rental availability and rate data, housing construction data, census data, zoning information, housing with supports waitlists, service provider information, emergency shelter use information, housing registries, law enforcement data, bylaw complaint information, economic indicators, education data and community health indicators.

Examples already exist of databases that integrate and share confidential data from a variety of sources like BC PharmaNet. Issues that will need to be worked out include:

- Level of each agency or organization's involvement
- Informed consent

- Disclosure of data
- Protocols for anonymizing sensitive data before sharing
- Restrictions on how the data is to be used
- Terms of use for users
- Common intake forms
- Restrictions on the sharing or selling of data
- Data security
- Governance

Interim indicators of success will include: number of service providers sharing data, number of service providers using the data, open governance structure established, quality and usability of the data, and gained efficiencies and cost savings in service delivery.

### *Create predictive modelling tools*

Predictive modelling tools will allow policy makers to foresee future challenges and test the effects of proposed measures before implementing them in the real world.

Several local technology entrepreneurs were consulted in preparing this proposal, who all made it clear that building predictive modelling tools is very achievable once the data is centralized and accessible.

Independently of this proposal, the City is currently working on a planning project that will supply predictive analysis at three different temporal scales: a model with current and accurate residential unit counts and an estimated population based on Kelowna and Stats Canada data; a near-term model which overlays current open building permit and development application data; and a future model to calculate future development capacity yield for every land parcel in Kelowna. This layered structure permits for scenario modelling based on the most accurate baseline and near-term data.

Predictive modelling tools to be developed as part of this project will enable:

- Analysis of early indicators of homelessness such as children’s missed school days, trips to the food bank, number of clinic visits, and missed utility bill payments to flag people who may be at risk of becoming homeless. This information can be used to tailor services and supports to improve diversion rates from homelessness. This tool will require anonymized data and/or data from clients who have given informed consent for its use. In consultations with Kelowna’s high-tech community, it has been suggested emerging technologies such as block-chain be investigated for this purpose.
- Analysis of how pressure on one section of Kelowna’s housing “Wheelhouse” affects the other five sections. “The Wheelhouse” is a model of Kelowna’s housing system developed as part of the Housing Needs Assessment (attached as part of question 7). The model is meant to illustrate the interconnected and interdependent nature of the housing system. The new tool will be able to provide insights such as:
  - what effect would an increase to mortgage rates in the Ownership Housing section have on other sections such as Rental Housing.

- if a college or university were to offer a new degree program that attracts additional students, what impact will that have on the demand for rental units in the neighbourhoods around the college or university.
- The use of predictive analytics to help identify appropriate, underutilized sites for affordable housing units.
- Better identification of the most effective community access points for those seeking affordable housing.

Predictive analytics has the potential to transform how services are delivered to homeless and housing-vulnerable people. It will enable funders to make better decisions about what programs to support, lead to better benchmarking of service delivery levels to establish efficiencies, and allow service providers to respond more quickly to changes in the community.

Access to robust data and predictive analytics will enable decisions and actions to make Kelowna's housing market and service delivery programs more resilient. They will also help improve the coordination of Kelowna's housing system to make it more affordable, accessible and inclusive while improving the city's diversity of housing forms and tenures.

Interim indicators of success include: the number of service providers sharing and using predictive analytics, the identification of predictive indicators, reductions in time it takes for people to find housing, increases in affordable rental pool and affordable housing construction, improved satisfaction levels among both service providers and their clients.

The tools developed as part of this project will be shared with service providers and safeguards will be put in place to protect privacy. The tools will also be made available to other communities, which will have the ability to tailor them for their specific needs.

### *Central platform*

A central platform for services management and agency information sharing can be achieved using existing technologies to build a web-based and mobile-friendly application.

This platform will have two portals:

1. The first one will be for people who need homelessness and housing services and supports. People will be able to enter information about their situation and will be directed to the services or agencies that match their needs.
2. The second will be for service providers and agencies and organizations working in the homelessness and housing sectors. This portal will provide access to the centralized database and predictive modelling tools. It will allow coordination between multiple service providers and agencies when they are working with the same client.

Interim indicators of success include: Reduction in time to get people placed in appropriate supports, reduced overlap of service delivery, reduced homelessness-related complaints to bylaw and police.

### Open Data

Work with community partners to identify and create new open data sets, which are an important tool for transparency, awareness and participation.

Some public data can be open. The process, data architecture, governance/ownership model, algorithm structure, etc. could be open to allow other communities to implement something similar. The system could be setup to be duplicated to allow other municipalities to add their data to a growing national data set with clear ownership/user rules. See this <https://www.ic.gc.ca/eic/site/061.nsf/eng/03046.html> as an example of how the tech sector is further along a similar process. This process is industry led, not government led. At this point, participation is voluntary and not mandated.

The measures of success around open data lie in the use of that data and the tools that are built around that data.

### Transformative nature of proposal

Shared data, predictive analytics and a central platform will improve performance measurement and data collection. As a result, City planners will have a better understanding of future housing needs, funders will be able to make better funding decisions, service providers will be able to build better programs, stakeholders will have more trust in the data, and it will be easier for people to find affordable housing options and related supports suitable to their life circumstances.

The increased accountability and trust that results from this proposal will also open opportunities with potential corporate partners, which at the moment have a hard time finding appropriate ways of materially supporting affordable housing outcomes.

This set of tools will enable stakeholders to use the most up-to-date data to make decisions that support affordable housing needs as opposed to making forward-looking decisions on backwards-looking, incomplete (and untrustworthy) data.

Multiple stakeholders will also be able to work together in an ecosystem of support rather than just as individual players. The beneficiaries of this increased collaboration will be those who need affordable housing supports.

It's important to note that no contracts have been signed with technology suppliers for this proposal and any future agreements will be structured to ensure the tools that are developed are truly open.

### Question 7

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

This proposal aligns with four other ongoing and significant initiatives:

1. The Imagine Kelowna Strategic Community Vision: This vision is the result of the largest public engagement effort in the City of Kelowna's history. For the next 20 years, Imagine Kelowna will shape the City's priorities and provide the foundation for its strategies, plans and projects (see attached Imagine Kelowna summary).

This Smart Cities proposal embodies the first principle of the Imagine Kelowna vision – Smarter: A community that is willing to learn, adapt and grow so we can thrive in the face of rapid change.

This proposal will also help realize four of the vision's 14 goals:

- Support innovation that helps drive inclusive prosperity
  - Build healthy neighbourhoods that support a variety of households, income levels and life stages
  - Provide opportunities for people of all ages, abilities and identities
  - Nurture a culture of entrepreneurship and collaboration
2. Council Priorities: Together, Mayor and Council agree on focus areas that will be prioritized during their term to meet the needs of the community. For the 2014 to 2018 term, Council has identified 10 priorities and this Smart Cities proposal will help realize three of them:
    - Ensuring a healthy, safe, active and inclusive community
    - Housing diversity
    - Homelessness
  3. Healthy Housing Strategy: A strategy is being developed that will focus on policy, regulatory and procedural recommendations for appropriate housing in the subsidized housing, rental housing and ownership housing categories.

Strategy development is being driven by a Healthy Housing Vision: The housing needs of all Kelowna residents are met through attainable, accessible and diverse housing options (see attached Housing Needs Assessment).

With this broad vision in mind, three priority areas have been identified: housing affordability, rental housing, and community for all. This Smart Cities proposal supports all three of these areas.

4. Journey Home Homelessness Strategy (see attached Journey Home summary): The City of Kelowna is working on this strategy with a number of community partners. The focus is on ensuring everyone has a place to call home. The long-term goal is to ensure a coordinated and easy-to-access system of care for those in Kelowna who have lost, or are at risk of losing their home. This Smart Cities proposal directly works towards that long-term goal.

### **Question 8**

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

The City of Kelowna was named one of the Intelligent Community Forum's Smart21 Communities of 2018. The Smart 21 represent the best models of economic, social and cultural development in the digital age, in the judgment of ICF and its team of independent analysts. The rankings are based on work in six categories – broadband availability, innovation, development of a knowledge workforce, digital equality, sustainability and advocacy.

The City of Kelowna also has extensive experience implementing multi-stakeholder, multi-dimensional projects that span multiple business lines and functional units. The City is committed to applying good project management using a solid methodology that results in projects getting done faster, cheaper and with the expected quality and results.

## Recent complex project experience

### *Journey Home*

The City of Kelowna is working with community partners to develop a homelessness strategy with a focus on ensuring everyone has a place to call home. The long-term goal is to ensure a coordinated and easy-to-access system of care for those in Kelowna who have lost, or are at risk of losing their home.

Development of the strategy is being led by a 23-member task force. It includes representatives from partner organizations including BC Housing, Central Okanagan Foundation, Interior Health Authority, Ministry of Social Development & Poverty Reduction, Okanagan Nation Alliance, Westbank First Nation, Ki-Low-Na Friendship Society and RCMP. The task force reports to council and is supported by City staff in the Active Living & Culture Division. The strategy is being drafted by national homelessness expert and consultant, Dr. Alina Turner and her company, Turner Strategies.

### *Okanagan Rail Trail*

In 2015, the City of Kelowna partnered with the Regional District of North Okanagan, the District of Lake Country and the Province of B.C. to invest \$22 million in the purchase of the discontinued CN railway running from Kelowna to Coldstream. The rail corridor is being transformed into a 49-kilometer multi-modal trail connecting all the communities along its route.

Kelowna is the project's primary financial contributor, with an investment of \$7.6 million to acquire the portion of the corridor that runs through the City's boundaries. Given the regional benefits of public ownership, Kelowna also agreed to acquire a 50 per cent interest in the land within the District of Lake Country's boundaries and to lend the District up to \$2.6 million so it could purchase the other half.

Development of the corridor is being overseen by an Inter-jurisdictional team with representatives from the City of Kelowna, Regional District of North Okanagan, the District of Lake Country and the Okanagan Indian Band. The project is being managed and supported by the City's Infrastructure Delivery Division.

The cost to develop the corridor into a trail is approximately \$8 million with most of that money being raised through a community-led fundraising effort. However, the Government of Canada has recognized the importance of this project and is contributing \$1.8 million in grants towards construction costs.

### *Dark Fibre*

Since 2001, the City of Kelowna has installed approximately 16 kilometres of fibre optic cable to provide high bandwidth data services to a number of City facilities. Another 20 kilometres is scheduled to be added by the end of 2018, more than doubling the network.

The network is being purposely over-built to include extra capacity to accommodate future City needs and be available to lease to businesses and institutions that have significant amounts of data to move.





Kelowna is among a handful of cities in B.C. that offer dark fibre to businesses and institutions. This affordable telecommunications infrastructure makes Kelowna an attractive place to start-up, grow or relocate businesses that need to move large amounts of data. Current customers include UBC Okanagan, TeraGo Networks and Bardel Entertainment.

For the City, moving data at unlimited speeds has enabled innovative solutions to existing problems and created numerous operating efficiencies. The dark fibre network also opens up opportunities to explore future interactive online applications for more responsive customer service.

## Project Management

A good project management methodology increases the odds of success by providing a framework, processes, guidelines and techniques to manage the people and work involved in the management and delivery of a project.

The City of Kelowna has developed a project planning methodology called ProjectPLAN that meet its specific needs. ProjectPLAN aligns with the five phases of project management (Initiate, Plan, Execute, Monitor & Control, Close) as outlined in the Project Management Body of Knowledge (PMBOK) published by the Project Management Institute. PMBOK is the global standard for project management and is used around the world as a best practice for project management.

ProjectPLAN has been purposely designed to ensure it can be applied to all types of projects from building a road to implementing a new data and connected technology system. It has also been developed on the principle of scalability so that it can be tailored to a specific project's size and complexity.

### Question 9

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

#### **Staffing - \$200,000 (\$50,000 from grant and \$150,000 in-kind support from City of Kelowna)**

- The City is currently hiring two newly created positions - the Intelligent Community Manager and the Intelligent Community Strategist. The positions are anticipated to be filled by June 2018 and will be entirely funded by the City.
- Our intent is to continue to build our internal capacity as we develop our final proposal and to ensure that top in-house management lead and implement the end results.
- This team will oversee the next stage of project development and coordinate the final proposal submission. They will help develop the Request for Expressions of Interest in the Summer 2018 as well as the Request for Proposals for the feasibility study once Kelowna receives the award.
- We have analytics positions to support the work with the ability to increase numbers if more capacity is needed.
- \$50,000 from the grant will be used to hire a project manager who will oversee development of our preliminary proposal and work closely with upper management and other departments supporting this work.

**Feasibility Study - \$150,000**

- In advance of being awarded the \$250,000 for project development a Request for Expressions of Interest (RFEI) for a feasibility study for this project will go out early Summer 2018.
- After the award is received, the feasibility study will be conducted as part of our efforts to develop a final proposal. The study will clearly define a realistic and strategic direction to move the project forward, with consideration given to evaluated alternatives if necessary.
- The study will clarify the scope of this proposal to ensure it is achievable and address issues such as financial oversight, project management, governance, technical requirements, and legal and privacy issues.

**Partner Engagement (over 100 partners) - \$25,000**

- Potential partners who could collaborate on this proposal are located throughout the entire Central Okanagan. Taking a regional view is important as the housing needs of our community flow beyond the borders of the City of Kelowna.
- Communications channels, materials, agreements, meeting processes, project management processes, and a high level of ongoing partner engagement and consultation will be required throughout the project.

**Public Engagement & Communications - \$25,000**

- Development of a public engagement strategy complete with identified stakeholders, outreach initiatives, open houses and forums for engagement, design labs, online engagement and feedback review.
- Robust communications campaign to engage the community in dialogue about the outcomes of our proposal and how the \$10 million project will benefit our community. A variety of tools will be used to engage with community members, partners, stakeholders and elected officials. These include the City of Kelowna's website, open houses, face-to-face meetings, the City of Kelowna's online engagement portal ([getinvolved.kelowna.ca](http://getinvolved.kelowna.ca)), surveys, online and newspaper advertising, and workshops.

**Total proposed spending**

\$400,000 (\$250,000 grant + \$150,000 of in-kind staffing support from the City of Kelowna)

**Question 10**

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

The partnerships for our Smart Cities proposal bring together top Education, Government, Business, Tech, Health and Social Development players in our community to address this crucial community challenge. The following partners are key to our Smart Cities proposal:

**Accelerate Okanagan** – Tech and business accelerator program in the Okanagan, will play a major role in aligning the appropriate tech requirements and expertise for this proposal.

**Urban Matters** – A social enterprise focused on projects and initiatives that address health and social wellness in communities. Will provide consultation services.

**University of British Columbia** – The world-renowned university has campuses in Vancouver and Kelowna. Researchers and educators affiliated with UBC will play a key role in research, data sharing and analysis, and consultation on proposal outcomes.

**Okanagan College** – A local college with extensive research and technology capabilities. Opportunities to collaborate will be explored as part of this proposal’s development.

**Interior Health** – the regional health authority holds important data that this proposal seeks to take advantage of and will be a key partner in designing data sharing and safeguarding processes.

**Central Okanagan School District #23** – Local school district will play a vital role in understanding how to share data and use predictive analytics related to youth.

**Westbank First Nation** – One of eight Okanagan Nation communities, this important partner will help develop systems and processes to make sure the tools created by this proposal are appropriate for First Nations.

**Ki-Low-na Friendship Society** – Service provider that delivers programs rooted in First Nations cultures. The organization will consult on service coordination and data sharing.

In addition to those listed above, partners already working with the City on the Journey Home and Healthy Housing strategies will also be consulted as we develop our Smart Cities proposal.

**Journey Home Task Force** – The task force includes: BC Housing; Central Okanagan Foundation; Interior Health; Ministry of Social Development & Poverty Reduction; Ministry of Child & Family Services; Okanagan Nation Alliance; Ki-Low-Na Friendship Society, Westbank First Nation; RCMP; as well as members of the local faith community, development community, business community and those with lived experience.

**Healthy Housing Strategy** – The strategy is being developed by the City of Kelowna in conjunction with the following partners: BC Housing; Canadian Home Builders Association; Seniors Outreach and Resource Centre; Society of Hope; United Way; and Urban Development Institute.

All partners have been identified based on our current understanding. However, additional partners will be added as the feasibility study identifies gaps in the current partnership roster. Additional partners will be selected that can contribute to the success of this proposal by providing important data, expertise, materials or systems. Among the partners that will be actively recruited are technology vendors that are willing the support the open, interoperable and scalable nature of our projects and activities.

**Question 11** (confidential annex)

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

There is no confidential third party information for this proposal.

## Section III: Other requirements

**Question 12**

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

Working in collaboration with community partners, the City of Kelowna will create data sharing and connected technology tools that make it easy to collect and analyze data from disparate sources within Kelowna’s complex housing and homeless-serving systems. These tools will provide a more complete and realistic view of our community’s constantly changing needs and transform how housing and homelessness related decisions are made.

This proposal has the potential to deliver a more stable housing market, break down data silos among service providers, and develop strong partnerships for greater success. It will help Kelowna achieve three main outcomes:

- #1: A balanced housing market with a diverse range of affordable and attainable options
- #2: Reduce the risk of homelessness for the vulnerable
- #3: A “Functional Zero” end to homelessness in Kelowna

This proposal has several interconnected projects:

- Feasibility and partner development study.
- Build a collaborative data collection system that is fed from a variety of sources.
- Create predictive modelling tools.
- Create a central platform for services management and agency information sharing.
- Expand our open data network.

All of these projects will be built using industry leading tools and will take advantage of open-source software and open data techniques.

**Question 13**

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

[www.kelowna.ca/our-community/smart-cities-challenge](http://www.kelowna.ca/our-community/smart-cities-challenge)



### **Question 14**

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

Project officially endorsed by council at the public February 5<sup>th</sup> meeting. Letter from Mayor is attached as Appendix A.

### **Question 15**

*Please identify the point of contact for the application.*

- Name: Rob Entwistle
- Title and affiliation: Chief Information Officer, City of Kelowna
- Phone number: 250-469-8732
- Email address: 291200000.00

### **Question 16**

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

The City of Kelowna agrees to the information laid out in the Privacy Notification, Consent and Release form, and the Communications Protocol.

## **Section IV: Survey questions**

### **Question 17**

*Please provide the following information about your organization.*

- 2017 full-time equivalents (FTEs):
  - Number of total FTEs: 909
  - Percentage of total FTEs devoted to innovation: 21%
- 2017 operating and capital budgets:
  - Total operating budget: \$291.2 million
  - Percentage of total operating budget devoted to innovation: 40%
  - Total capital budget: \$146.3 million
  - Percentage of total capital budget devoted to innovation: 60%

### **Question 18**

*Please select the focus area of your preliminary proposal. If your preliminary proposal seeks to achieve outcomes that span more than one area, you may choose up to two.*

- Empowerment and inclusion
- Healthy living and recreation

**Question 19**

Select all the community system/service areas expected to be implicated in your preliminary proposal. There is no limit to the number of community systems/service areas you may select.

- Economic development
- Education and training
- Emergency services and enforcement
- Land use planning and development
- Public health
- Recreation and parks
- Social services

**Question 20**

Select all the technologies expected to be implicated in your preliminary proposal. There is no limit to the number of technologies you may select.

- Artificial intelligence (AI)
- Big data analytics
- Cloud computing
- Enterprise solutions
- Geospatial
- Internet of Things (IoT)
- Mobile applications
- Networks
- Open data platforms
- Digital identity technology





City of  
**Kelowna**

City Hall  
Information Services  
1435 Water Street  
Kelowna, BC, V1Y 1J4

Tel 250-469-8500  
ask@kelowna.ca

**kelowna.ca**

