



INFRASTRUCTURE CANADA'S SMART CITIES CHALLENGE APPLICATION



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APPLICANT INFORMATION

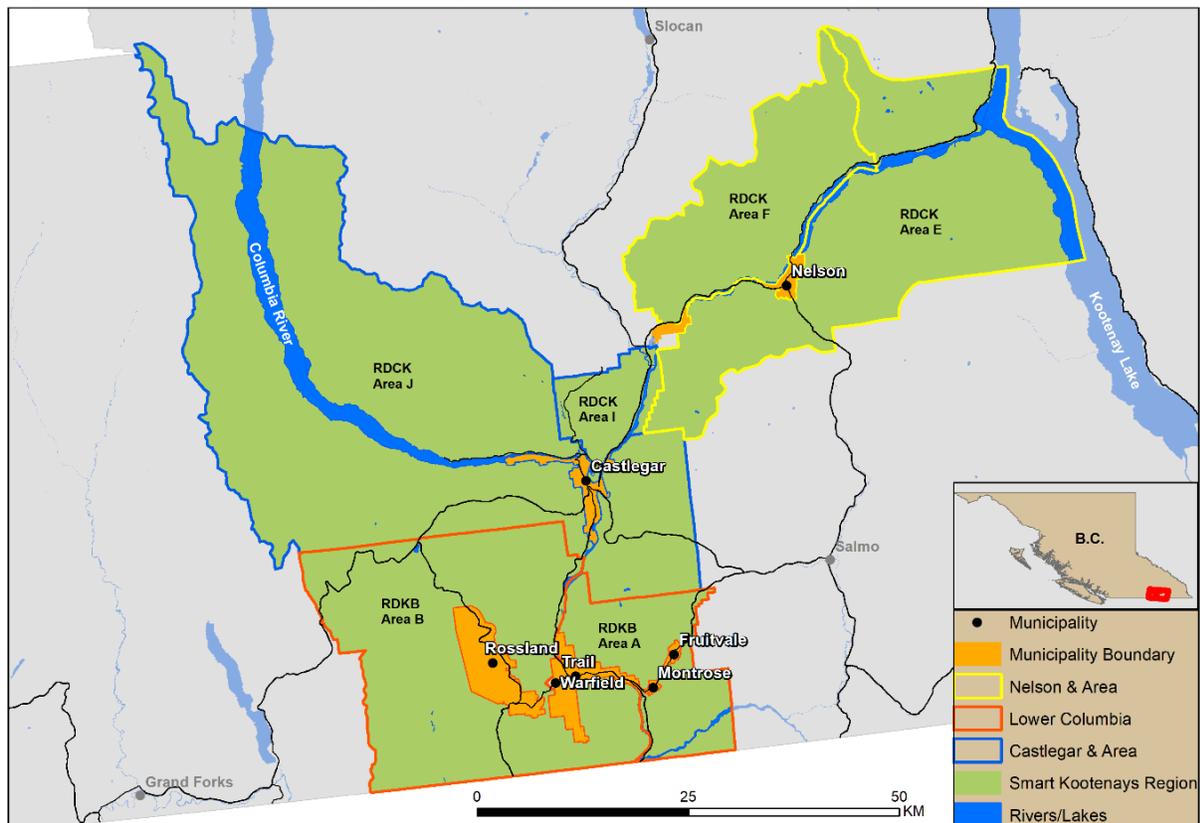
OUR COMMUNITIES

The City of Nelson is submitting this application on behalf of, and with support from, the communities of the West Kootenay (see [Table 1](#)). This region is in the mountainous southeastern part of rural British Columbia and features communities that are unique and rich in cultural diversity (see [Figure 1](#)).

Table 1: Smart Kootenay Project Communities

Name of Municipality	Population (Census 2016)
City of Nelson	10,572
City of Castlegar	8,039
City of Trail	7,709
City of Rossland	3,729
West Kootenay Total	30,049

Figure 1: Smart Kootenays Project Region Map



PRIZE CATEGORY

The Smart Kootenays Initiative is competing for the \$10 million prize category (population under 500,000 residents) in the Infrastructure Canada's Smart Cities Challenge.

Travel Smart, Travel Safe, Travel Virtual!



SUMMARY

Here in the Kootenays, living rurally makes it difficult and sometimes unsafe to travel. It also makes it difficult to connect with each other and the outside world. Smart Kootenays aims to use data and connected technologies to encourage our residents to make climate friendly travel choices, help us to get to our destinations safely, reliably and efficiently, and ensure digital equality for all of our residents, especially our seniors. We will influence the transportation choices our residents and businesses are making by gamifying environmentally friendly commuting choices using a Fitbit style Rural Commuter Challenge app, a related social media campaign, and real world incentives. We will create a single mobile Smart Transportation app that connects travelers with real-time travel data, Uber-style ride-load-delivery share options, and social media integration to allow for 'Plan B' travel. We will enable the adoption of digital technologies by providing open access to Virtual Communication Hubs at our libraries and airports, open access to virtual meeting rooms, and capacity building support in the form of training and outreach. The municipalities of Nelson, Trail, Castlegar and Rossland are working alongside our partners to make this desired future a reality.

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SECTION II: PRELIMINARY PROPOSAL

CHALLENGE STATEMENT

Our rural region will work together to measurably improve travel decision-making, road safety, and digital access by decreasing accidents, reducing transportation-related greenhouse gas emissions, and building the capacity of all residents to adopt digital technologies.

PROPOSED OUTCOMES

Transportation in a rural context is the overarching challenge our region has decided to take on. It represents a significant challenge we can collectively overcome with data and connected technologies to make it easier to move around safely, sustainably and reliably and to help us stay connected to each other and the outside world. Our projects and desired outcomes are focused on making climate friendly transportation choices, helping us to get there safely, reliably and efficiently, and ensuring our residents have access to and the skills needed to adopt our technology solutions. Desired outcomes are listed below by project focus area.

Making Climate Friendly Travel Choices

We will influence the transportation choices our residents and businesses are making by gamifying environmentally friendly commuting choices using a Fitbit style Rural Commuter Challenge app, a related social media campaign, and real world incentives. The focus on reducing greenhouse gas emissions is well supported by community climate adaptation strategies, common themes across Integrated Community Sustainability Plans, in addition to related provincial and federal strategies. In an attempt to align our target with the federal GHG target of 30% below 2005 levels by 2030, we are aiming for a reduction of 10% by 2023 – allowing us 5 years to achieve this change. The Columbia Basin Rural Development Institute will adopt the methodology used by McGill researchers¹ to examine commuting choices and emissions of our major employers' workforces. Benchmark research will be conducted in the Fall 2018 using the Major Employers' Travel Survey with 2 of our region's major employers. The survey will then be re-administered following the 3 month-pilot challenge to assess any changes. It is not anticipated we will see much if any change over this short period as behaviour changes tend to take much longer to embed. This research exercise, however, will allow us to pilot the survey tool and related analysis so that it is ready for wide scale use as a benchmarking data collection tool in the Spring 2019. Other desired outcomes include the reduction of single vehicle trips, increased transit ridership, decreased traffic counts, and behaviour changes related to 'smart' climate-friendly transportation choices.



The following indicators and data sources will be used to benchmark and measure change over time: 10% reduction by 2024 in commuter GHG emissions measured as: g CO₂e/person.trip (Source: Major Employers Travel Survey); 20% reduction in single vehicle commuter trips by 2022 measured as average # of single vehicle commuter trips/weekly (Source: Major Employers Travel Survey, RDI Subjective Well-Being Survey); 50% increase in transit ridership by 2022 across all 3 transit systems (Source: BC Transit); 20% reduction

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of traffic counts by 2022 at the following stations 31-004EW, 31-003EW, 32-032NS, 32-030EW, 32-003EW²; 20% increase annually in gamification participation (Source: web analytics).

Indicators for single vehicle commuter trips, transit ridership and traffic counts will be reported after 3 years and again at the end of the project in 2024. Targets may be readjusted with rationale in 2022. Web analytics will be used to benchmark and track users on the Commuters Challenge app. In addition, the RDI administers a random sample phone poll of a statistically significant sample of our population as part of its State of the Basin program – related questions will also be included in this annual research. Behavioural changes of our residents' related to 'smart' climate-friendly transportation choices will be collected through the Smart Transportation app user survey. Note the Community Challenge app will likely be integrated into the Smart Transportation app outlined below, including app enabled data collection e.g. emissions saved, km saved.

Getting There Safely, Reliably & Efficiently

We will create a single mobile Smart Transportation app that connects travelers with real-time travel data, ride-load-delivery share options, and social media integration to allow for 'Plan B' travel. This will enable our residents to make smart transportation decisions enabling safe, reliable and efficient travel. Desired outcomes include: safer roads and reduced accidents, improved ability to make informed travel choices resulting in completed trips, improved satisfaction levels related to travel safety and efficiency, increased levels of ride-load-delivery sharing, and year on year increases in Smart Transportation app users. The development of this single app is a cornerstone of our application and will bring multiple data sources into a single application. The focus area will also involve opening up new data sources and collecting new data. The selection of this focus area is driven by concerns of safety, identification of unrealized travel and shipping efficiencies (e.g. ride-load-delivery share), and our real world challenges of cancelled flights and road closures do to mud slides, avalanches, and ferry waits. A single app that pulls together all available travel data will help to not only improve safety, reliability, and efficiency – it will also help with travel options and choices that can lead to reductions in GHG emissions and help to break down feelings of isolation many of our residents feel due to the distance that separates us and the world around us. The app, for example, could be used to connect isolated seniors with commuters who could pick up their prescriptions or groceries on their way back from work.

The following indicators and data sources will be used to benchmark and measure change over time: 20% reduction in motor vehicle serious injuries and motor vehicle accidents at selected intersections by



2022³; 90% of app users report app enabled safer travel decision-making (Source: Intelligent Travel app user survey); 90% of app users report app enabled efficient travel decision-making (Source: Intelligent Travel app user survey); # and related characteristics (distance, purpose, response time) of Uber-style ride-load-delivery share trips resulting from the app; 90% of users experiencing cancelled flights report app enabled trip completion using alternate transportation (Source: Intelligent Travel app user survey); and 20% increase in annual app users.

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Similar to the approach outlined in the smart travel choices project area detailed above, benchmark data for motor vehicle serious injuries and motor vehicle accidents will be benchmarked using existing sources in the Spring 2019 and reported on at 3 and 5 year intervals. Data will also be monitored annually. Primary data collection using web analytics (#and characteristics of app users) and the Intelligent Travel app user survey data will be reported annually. Beta testing of the app during the Fall 2018 will be undertaken by our regions' seniors as part of the adopting digital technologies focus area detailed below.

Opening Access & Supporting Digital Technology Adoption

We will enable the adoption of digital technologies by providing open access to Virtual Communication Hubs at our libraries and airports, open access to virtual meeting rooms, and capacity building support in the form of training and outreach. Desired outcomes include: increased levels of digital equality as defined by Intelligent Communities specific to access and skills, increased levels of technology adoption, and increased 'Plan B' virtual travel in the case of cancelled flights. The rationale for selecting these outcomes rests on the identified challenge of reliable air travel and the recognition that access and skills training support are necessary components of any technology initiative – as is affordability which is being addressed alongside access through a separate initiative – the [Columbia Basin Broadband Corporation](#).

The focus on seniors was inspired by the work of Nelson Cares and that non-profit's efforts to foster the development of age friendly communities⁴ and Moving Together initiative.⁵

The following indicators and data sources will be used to benchmark and measure change over time: 20% increase annually in Virtual Communication Hub users and Virtual Meeting Room users (Source: primary data collection – unique user counts); 90% of training and outreach participants report high level of skill acquisition (Source: Adoption of Digital Technology Participant Survey); 90% of Hub Users and training and outreach participants report increased levels of technology adoption following the use of the Hub and/or training and extension (Source: Adoption of Digital Technology Participant Survey).

During the pilot project phase in the Fall 2018, a sample of isolated seniors will be asked to participate in the pilot project. Digital literacy levels will be benchmarked and revisited at the end of the pilot after receiving related outreach and training. This will allow the survey tool to be refined as needed following the pilot for wider use as a benchmarking tool in the Spring 2019. The pilot project will also involve the development and piloting of data collection tools that draw on related academic research

to better understand the effectiveness of digital technology adoption strategies. Statistics related to supported virtual meetings in cases of cancelled flights will also be gathered, including user satisfaction levels with the physical and virtual space provided and related technical support provided.

The Columbia Basin Rural Development Institute (RDI) will guide the development of the indicator program, including design and related methodology, brokering and opening data, data collection, analysis and reporting, and dissemination and knowledge



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mobilization. The RDI will draw on the expertise of the Selkirk Geospatial Research Centre (SGRC) for elements related to geospatial analysis and representation and take advantage of the expertise of the Digital Arts and New Media program (DANM) to incorporate visualization reporting aspects when applicable.

ENGAGEMENT

In addition to the data generated from engagement activities undertaken as part of our Smart Kootenays efforts, challenges related to transportation have repeatedly been identified through engagement processes and research undertaken over the last 5 years, including the Columbia Basin Trust's [Our Trust Our Future](#) process and recent Provincial Rural Policy Engagement sessions facilitated by Selkirk College's Columbia Basin Rural Development Institute (RDI) in partnership



with the Province of BC. Approximately 3,000 residents participated in the Our Trust Our Future engagement process and as our letter of support from the Columbia Basin Trust states, *"The focus of the Smart Kootenays initiative is transportation. This is a challenge that has repeatedly been identified through our own engagement with communities, and that has significant economic and quality of life implications for businesses and residents."* Further, the recent provincial engagement sessions, including the participation of over 100 residents, through an online [Thoughtexchange](#) and in person session prioritized transportation as one of our region's top challenges.

Further, in 2017 the Columbia Basin Trust commissioned a Shipping and Logistics research project⁷ that included extensive consultation and interviews with local Chambers of Commerce, industrial businesses, and other local stakeholders to obtain information on current transportation services, constraints and challenges. Analysis of implications of logistics challenges and opportunities within the region and observations and options for improvement were presented, including: a significant number of businesses noted the potential for improved efficiency through sharing of information on the demand for and supply of transportation services; the region could enable consolidation of shipments among multiple firms and to take advantage of backhaul opportunities; the region could develop a pilot project for a regional web-based "load board" to enable shippers and carriers to share information on demand and supply and facilitate mutually beneficial transactions. In addition, 626 businesses from our region participated in the RDI's [Business Retention and Expansion](#) program and as highlighted in the projects and activities section below - 43% of businesses rated access to airport facilities as either fair or poor. An additional 346 staff and students from Selkirk College responded to a student research survey that explored commuting behavior allowing the student to use ArcGIS to map out additional transportation routes. The high level of engagement of our region around rural transportation is further evidenced by the countless letters of support from social, environmental and economic partners that accompany this proposal submission ([Appendix A](#)).

In preparation for this submission broad and targeted engagement activities took place in March and April 2018 in the form of some initial stakeholder meetings, 2 Thoughtexchanges, 2 stakeholder

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sessions facilitated by Selkirk College, and countless proposal development meetings by the proposal development team of volunteers. The first Thoughtexchange provided an open-ended opportunity to start the process of identifying our challenge area.

The process of shaping the challenge statement and project focus areas was highly iterative in nature. First, the Thoughtexchange question was posed to residents *“What are some ways data and connected technology could be used in the West Kootenay to address local challenges facing residents?”* This Thoughtexchange was pushed out extensively through social media resulting in 135 participants, 116 Thoughts and 2048 rankings. The qualitative data was then coded by the RDI using grounded theory resulting in the following themes: transportation (n=17), environmental (n=17), enabling a remote / technology workforce (n=15), open data / data sharing (n=14), citizen engagement (n=12), social considerations (n=13), health and education (n=7), and economic development (n=5) (Appendix B). These findings were then used to frame the first facilitated session at Selkirk College. Themes were then further scoped into possible project ideas. A follow up session was then held at Selkirk College to further scope the technology solutions that could align with top project ideas.

A second Thoughtexchange was used to gather input on residents' desired outcomes by posing the following question, *“Specific to moving around safely and reliably and staying connected with each other, what would successful implementation of the Smart Cities Challenge look like in your life and our communities?”* The exchange that was pushed out through traditional news media channels and social media channels resulted in 110 participants, 71 Thoughts, and 718 ratings (Appendix C). Again, desired outcomes related transportation challenges dominated the data. This data in addition to an environmental scan of related social, environmental and economic plans was used to further refine the project areas and related desired outcomes. While short and concentrated, we believe our engagement process effectively built on previous broader engagement efforts, achieved alignment with existing plans, and landed us on the challenge statement and project areas that matter most to our residents and are best positioned to take advantage of data and connected technologies. Our team is committed to ongoing engagement as we move into the development of the full proposal – including purposeful inclusion of residents who may have not participated in our lead up engagement efforts to this submission. We collectively have strong partnerships in place with social, economic, and environmental partners and will work alongside these partners to broaden our reach. Building on the seniors' digital technology pilot project outlined below, these efforts will include a targeted engagement strategy to reach seniors.



Targeted Engagement Strategy to Reach Seniors

SUB-SECTION II – PRELIMINARY PROPOSAL DETAILS

PROJECTS & ACTIVITIES

Making Climate Friendly Travel Choices

Environment and Climate Change Canada reports that the oil and gas and transportation sectors are the largest GHG emitters⁶. Specific to transportation, part of the GHG emissions increase between 1990 and 2016 was due to a higher number of vehicles on the road and to changes in vehicle type used. Although total passenger emissions grew by 34%, emissions from cars declined by 14%, while emissions from light trucks (including trucks, vans and sport utility vehicles) more than doubled. Freight travel emissions grew by 119% between 1990 and 2016. Specifically emissions from freight trucks tripled and emissions from other modes of freight transportation decreased by 14%. Like other communities in Canada our region has identified the need to reduce greenhouse gas emissions. Our communities have taken steps to reduce emissions related to municipal operations – but areas of attention still remain – most notably greenhouse gas emissions generated by our commuters. Technology can help us change our behavior to make ride-load-delivery share commonplace.



Our pilot project will aim to influence the transportation choices of our residents and businesses by gamifying environmentally friendly commuting choices using a Fitbit style Rural Commuter Challenge app, a related social media campaign, and real world incentives.

Our app (which will be integrated into our Smart Transportation app) will incorporate the following elements:

- Lowest carbon footprint per/km travelled
- Most improved users of smart, safe and virtual travel technology
- Highest use of virtual travel technology
- Safety improvements between highway contractors - Emcon, YRB etc.
- Flight success per airport and airline
- Automatically uploaded to major social media sites
- Public award event
- Financial prize for more smart, safe, virtual travel technology

Bluetooth may or may not be required. Smart phones/apps can easily figure out if they are moving in a car but they need to know which car. Adding sensors to the cars combined with the apps/smart phone will allow for automatic recording of data if we are able to scale out the pilot which is ultimately the only way we can be really accurate. People just don't remember to do things manually.

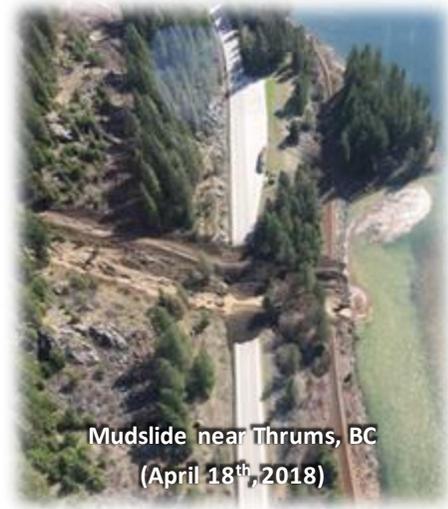
We will target 2 large employers from our region and scope the pilot work plan based on their sustainability strategies, targets and social media platforms.

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Getting There Safely, Reliably & Efficiently

Unlike urban contexts – alternative transportation options are limited, including limitations to bus schedules that operate between communities. This poses a significant challenge as a number of our residents do not live in the same community they work, go to school, or access services in. For example, residents living in Nelson and working in Castlegar spend an average commute time of an hour and a half return trip a day. They may experience mudslides or road closures along the way with limited alternative routes to their destination. Out of region travel is also a challenge e.g. the regional hospital 4 hours away. The lack of transportation options is especially pronounced for our most vulnerable residents many of which don't have a car or can no longer drive as is the case with many of our seniors.



Mudslide near Thrums, BC
 (April 18th, 2018)

Safety on our roads is top of mind for our rural residents – whether it be concerns over wildlife collisions, road closures due to avalanches or mudslides, or black ice in the winter. Driving in our region is dangerous. An ability to make informed decisions related to when or even if to travel would make a tremendous difference in the lives of our residents. In terms of reliability relevant transportation challenges relevant to business owners, a custom data export of business retention and expansion data from 626 businesses (Lower Columbia – includes Trail, Rossland, Montrose, Fruitvale, Warfield, and area, Castlegar and area, Nelson and area) generated by the RDI revealed 43% of businesses rated access to airport facilities as either fair or poor and 36% rated telecommunications as fair or poor, while 85% rated access to highways/roads as excellent or good. Feedback provided by tourists further demonstrate the challenges of traveling in the Kootenays, especially in the winter. As one tourist explained, *“I am writing out of concern for my friend's business and other travel and tourism businesses in the region. The main reason for my concern centers around the immense logistical difficulties that people who want to travel to this region must put up with as a result of the unacceptably high winter flight cancellation rates. Given that most people who fly in must also fly out, the odds of having one of either the inbound or outbound flights cancelled and all the logistical issues that it creates is actually closer to 80%. Who in their right mind will take those odds?”* While our challenge activities don't aim to fix the challenge of takeoff/landing reliability, we do propose the use of data and technologies to assist with Plan B travel, either in the form of ride shares or taking advantage of virtual meeting offerings.

In terms of efficiencies, a study recently conducted by a Selkirk College student demonstrates how data and technology can be used to help us make decisions related to improving our transportation options. The student used ArcGIS to identify 10 new bus routes, 3 in Castlegar, 3 in Trail, 2 in Nelson and 2 new connector routes (Route 99 and Route 98) which go from Nelson to Castlegar, and Trail to Castlegar, and vice-versa. The data generated from 346 staff and student participants and related GIS analysis suggests that the new routes could further support college staff and student commuting behavior. Further, the shipping and logistics study commissioned by the Columbia Basin Trust further reinforces the need for a load share pilot project. The scoped pilot project / proof of concept Smart Transportation app pulls together these elements... and more!

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The Smart Travel Platform will:

- Include directions with real time road conditions (last plowed, estimated accumulated snowfall, scheduled maintenance, etc.)
- connect with RideShare (Ex, snowing outside, I check the roads, they're poor condition, I'm able to see any users who are heading in my direction during my time frame). Less cars on the road, especially in poor weather conditions
- provide municipal side information - Is my street plowed?
- Flights - Plan B. Example, I'm scheduled to fly to Vancouver, flight is cancelled, I'm able to see other people that are on that app that have indicated that their flight is cancelled as well. Ex, 8 people are needing to get to Vancouver, we can have shuttles available.

An example scenario is as follows: a resident works in Castlegar but lives in Trail. She is going to open the app and check out her commute. It'll give her an estimated time based on conditions and traffic, show any detours, accidents, and road conditions. She is really doing the main focus of the app from her home, limiting the liability concerns that come with real time apps while driving. Should the roads be too snowy for her, she'll use the app to check out who's available to give her a ride. Now when she connects and schedules this ride, on the back end our analytics will know that she went from her home to her work, which can give us carbon emissions saved / km's saved. This didn't even need to have location enabled at any point, no GPS while driving, and we just implemented a very unique and beneficial service.



Phase 2 development could include incorporation of elements on the back end of things for safety. For example, 5 intersections in each city that have the most collisions have been identified. Cameras with analytics could be installed at each intersection which will analyze traffic patterns allowing us to use those statistics to take action. Ex, 80% of incidents at "Intersection A" were caused by excessive speed. We could then take action, add a yield, reduce speed limit, etc. These cameras could also be used in other ways. Residents could use it to check weather conditions and the feed could be shown on each of the municipalities websites as a tourism tool. Implementing an Ad banner for local businesses would give exposure to our local resources, and bring in revenue to create a sustainable and scalable / replicable model. There is further room to grow with different data we may want to collect, the sensors for example on snowplows, that would be GPS/GSM based.

Opening Access & Supporting Digital Technology Adoption

This project focus area acknowledges that digital equality is critical to our region. This goal aligns directly with Nelson's Intelligent Community priorities related to digital equality. Without access, affordability and skills training – we can develop the best technology solutions but our residents will still be left behind. This is especially true for rural regions in Canada who are still struggling to get

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plugged into the final leg of the telecommunications network. While our pilot projects do not focus on the region’s telecommunications network it is still important to note that our region has a superior network infrastructure – but also struggles with the last mile.

In terms of the competitive advantage of our network, one of our technology entrepreneurs observes, *“our service is far more than a first class fibre Network and Internet service. It gives the citizens of the Columbia Basin control over their communication infrastructure which is fundamental to strong economic development. As Tim Wu the author of The Master Switch said: In an information industry the cost of monopoly must not be measured in dollars alone, but also in its effect on the economy of ideas and images, the restraint of which can ultimately amount to censorship. In the Columbia Basin, which covers the four cities included in this proposal, we can build our network to wherever we need it as long as we can make a good economic development business case. And when the network arrives it is ready to do whatever is required because it was designed from the start for innovation. It is an open access (any service provider) Next Generation Network that is scalable to 400Gbps. Many networks are still IPv4 (Internet Protocol version 4.0) and have little or no address space forcing archaic ways to identify connected devices. The CBBC Network is fully IPv6 enabled which means there is no lack of addresses for millions and millions of devices that will connect to it. This is a huge innovation advantage for a world moving to the Internet of Things and Industry 4.0 and will ensure we can deliver on our Smart Cities proposal.”*

Our digital equality focused pilot projects will enable the adoption of digital technologies by providing open access to Virtual Communication Hubs at our libraries and airports, open access to virtual meeting rooms, and capacity building support in the form of training and outreach. As outlined in the project outcomes section above, Nelson Cares will be approached to partner in ways that advance their Age Friendly and Moving Together initiatives. Selkirk College nursing students will be partnered with isolated seniors to provide outreach and related technology training, including a beta testing of our transportation app. For example, a senior may use the app to get a ride to a health appointment or to arrange for a prescription pick up. A second pilot will be initiated at one of our region’s airports to provide a Plan B virtual meeting space in the case of cancelled flights. The space will provide physical and virtual meeting rooms as well as on site technology support from a Selkirk College co-op student. In addition, a number of virtual meeting room licenses will be purchased and a partnership with libraries in the region will enable the booking and use of virtual meeting rooms in ways that help to accommodate no travel options.



*Virtual Access
 Open Communication Hubs*

PROJECT ALIGNMENT

The Carbon Neutral Kootenays Project led to the development of administrative tracking systems for corporate emissions and actions to reduce these emissions.⁸

The City of Nelson addresses transportation challenges in its Nelson Path to 2040 – Sustainability Strategy by:⁹

- promoting alternative modes of travel
- enhancing public transit locally and regionally;
- improving awareness about the availability of efficient and sustainable transportation.

Nelson's Greenhouse Gas Reduction Plan commits to reducing the carbon intensity of fuels consumed through corporate operations in the City via a series of initiatives including alternative transportation and improved trip planning.¹⁰

Nelson's Active Transportation Plan focuses on alternate modes of transportation to increase social interaction, strengthening community through mobility, equity and efficiency.¹¹

The Nelson and Area Economic Development Partnership Strategic Goals include building our digital economy.¹² Improving digital equality of organizations and citizens, improving digital literacy, marketing the region as a rural technology hub, supporting creation of tech and knowledge workers, and integrating intelligent community priorities are priority actions. The NAEDP sees a need to support and advocate for transportation solutions.

Nelson CARES Society's Bracing for the Baby Boomers report highlights the need for: expansion of age-friendly informal support networks and public transit; expansion of senior drivers safety, support and testing programs; and enhancement of communication to seniors about transportation options available to them.¹³

The BC Transit West Kootenay Concept Master Plan suggests progress could be realized by coordinating marketing of systems and schedules/connections with other services to better meet needs and improve operational integration to achieve route efficiencies.¹⁴

The City of Castlegar Official Community Plan includes building the community's resilience to the impacts of climate change through energy policies surrounding access to multiple transportation modes, and expanding on the City's successes in corporate energy efficiency.¹⁵ Transportation objectives include reducing household automobile trips, ensuring roads remain safe and well-maintained, establishing an expanded transit network, and ensuring efficient movement of goods. The city also expresses interest in seamlessly connecting Castlegar to the world by maximizing the use of communications technology.

The City of Trail encourages projects that aim for carbon neutrality and demonstrate new energy efficient technologies in its 2010 Official Community Plan.¹⁶

The City of Rossland supports low-impact transportation choices in its Strategic Sustainability Plan. The goal is ensuring public transit is affordable, accessible, reliable, frequent, safe, comfortable and

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'green'.¹⁷ Rossland's Communities Adapting to Climate Change Initiative Report proposes expansion of the rideshare program and increasing multi-modal infrastructure.¹⁸

Selkirk College's Sustainability Tracking and Rating System Assessment demonstrates their approach to telecommuting; allowing employees to work from home by allowing faculty to access drives and software remotely to greatly reduce commuting trips.¹⁹

READINESS & CAPACITY

In addition to the assets the municipalities bring to this submission, Selkirk College and Community Futures are also key contributors to our region's level of readiness and capacity to implement a challenge of this magnitude.

Selkirk College will be responsible for project management and will provide research and technical support, facilitate community engagement and collaboration across communities, support the development of the proposal and related communications and marketing initiatives, and link project initiatives to faculty and student involvement. The operational environment and resources of Selkirk College are well recognized in the region. Selkirk College, British Columbia's oldest rural community college, has 8 locations in the West Kootenay-Boundary region, is established as the centre for continued education and workforce training, and has an operating budget of approximately \$45 million. Selkirk College has an extensive track record of contributing to local and regional innovation dating back to 2003 when the [Selkirk Geospatial Research Centre](#) (SGRC) was founded with the support of a \$2M CFI grant. The SGRC uses state-of-the-art geo-information technologies for applied research, application development, decision-support, training, and technical support. SGRC projects focus primarily on remote sensing, geographic information system (GIS) analysis, internet mapping, UAVs, and increasingly, the use of 3D data including LiDAR point clouds and DEMs. The SGRC has completed an entry level NSERC CCI IE project and 2 CCI-Engage grants, and was recently awarded a 3-year Community and College Social Innovation Fund SSHRC grant focused on rural open data.

Selkirk College has demonstrated a strong commitment to growing its applied research capacity, particularly in the fields of geomatics, digital fabrication, and rural development. Currently, the College's applied research programs have a total annual budget of over \$1.5 million. To support growth, ARIC was launched in 2015 with a dedicated building, research, and management staff. ARIC houses the College's key applied research departments, including the SGRC, RDI, and BC Regional Innovation Chair in Rural Economic Development.

The [Regional Innovation Chair](#) (RIC) and the [Rural Development Institute](#) (RDI) have well-established ties with regional businesses. The RIC was formally established in 2006 to conduct a program of research in rural economic development. By supporting evidence-based planning and decision-making, innovation, and technology transfer, the RIC aims to improve the economic climate of rural communities. The RIC was also recently awarded a 3-year Community and College Social Innovation Fund SSHRC grant focused on regional workforce development in rural BC.

The RDI was founded in 2011 and funded in partnership between Selkirk College and the Columbia Basin Trust. The RDI is focused on the provision of information, research, and related outreach and extension support. The RDI research team works closely with local government, economic development officers, business and non-profit leaders. The RDI's research program is driven by

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community and industry needs and projects have included climate adaptation, food security, and business retention and expansion. Of note is the RDI's expertise in indicators research, including opening provincial and local government data, brokering data, and primary data collection. The RDI has been delivering the [State of the Basin](#) program since 2011.

In addition, numerous partnerships exist between the [Digital Arts and New Media](#) program at Selkirk College (DANM) and the local business community. DANM researchers have a successful track record in working with partners to solve advanced manufacturing challenges related to digital fabrication and rapid prototyping DANM projects have received financial support from NRC's Business Innovation Access and Industrial Research Assistance Programs, and fee-for-service funding.

Since 2013, the SGRC, DANM, RIC, and RDI have been collaborating on 2 National Research Council projects. The first, completed under the Digital Technology Adoption Pilot Program, supported SME uptake of technologies that improve productivity through knowledge transfer, training, and designing technology solutions. This project has been featured as a [NRC case study](#). The second multi-year NRC-funded project, titled SMARTS (Selkirk-SME Applied Research & Technology Solutions) has been extended to July 2019. The SMARTS project provides direct applied research support to SMEs to develop innovative goods and services with potential for commercialization. SME clients are now requesting a higher level of support to address increasingly complex opportunities and challenges. They also seek support to address a growing need for highly qualified personnel. Most recently, the ARIC team secured a five-year \$2 million NSERC Innovation Enhancement grant focused on building an innovative forestry technology cluster.

[Community Futures Central Kootenay](#) (CFCK) will also provide project management support as needed. CFDC brings together major players in the region to work toward the common goal of sustainable community economic development. CFCK typically manages between 10 and 15 contracts every year, with federal, provincial, regional and local partners. In 2015, CFCK and the Nelson and Area Economic Development Partnership (NAEDP) set a strategic goal to strengthen our digital economy and to be recognized by the Intelligent Community Forum by 2018.¹² As a result of the efforts of CFCK, the NAEDP and a highly-engaged group of entrepreneurs and community partners, an application was submitted to the [Intelligent Communities Forum](#) to recognize Nelson's successful strategies to prosper in the broadband economy. The results were announced in October, 2016 at the Intelligent Community Forum (ICF) and Nelson emerged as one of the top 21 Smart Cities out of 400 communities around the world. Nelson holds the proud distinction of having the smallest population base of all 21 winners. The lessons learned from this application process have informed the Smart Cities Application for our region.

In order to ensure the successful implementation of the Smart Cities Challenge initiatives, a Steering Committee will be created to guide the development of our full proposal and will include senior representation from the Cities of Nelson, Castlegar, Trail and Rossland as well as Selkirk College, non-profit partners and the private sector. A Terms of Reference will identify the role of the Steering Committee and working groups. Working groups will be formed to coordinate the implementation of pilot projects outlined in the proposal and to facilitate related scoping for the full proposal.

Smart Kootenays

Using data and connected technologies to address our region's transportation challenges

USE OF \$250K GRANT

The total budget for this project is \$250,000 and includes the development of a proof of concept Smart Transportation single mobile application (\$100,000), 3 pilot projects (\$70,000), research, engagement and proposal development (\$50,000), communications, marketing and website development (\$50,000), and overhead and administration (\$20,000, see). Pilot projects include wages (including co-op student wages and/or stipends), training, capital costs, and licencing for open access virtual meeting rooms.

Costs associated with the proof of concept development of the Smart Transportation app includes: front and back end features (\$40,000), real-time weather (\$25,000), citizen reporting (\$10,000), rideshare integration (\$12,500), and contingency (\$12,500) for a total of \$100,000. Budgets for engagement, proposal development and research (\$50,000) and communications, marketing and website development include wages, professional fees, advertising, room rental, travel, and web hosting (\$50,000).

Expenses	Budget
Commuter Challenge app and pilot project	\$ 20,000
Proof of Concept Smart Transportation app	\$ 100,000
Seniors Technology Adoption pilot project	\$ 20,000
Technology Adoption pilot project- no travel	\$ 10,000
Capital – technology for the pilot projects	\$ 20,000
Engagement, proposal development and research	\$ 50,000
Communications, marketing and website development	\$ 50,000
Overhead and Administration	\$ 20,000
	\$ 250,000

Specific to the Smart Transportation app, front end features include: language filtering, currency filtering, GEO location feature – App can be used in any country or across more than 1 country at a time, find a local ride or international ride, offer a ride (option for onetime ride or Recurring Ride with Round Trip option), special rides for airport and ladies, shopping rides, latest rides, book a seat/ride by paying online, email & facebook login, internal messaging system, member verification, view member's public profile, view/post member's reviews & rating, view ride booking as a driver & passenger, manage (i.e. Edit Delete, Duplicate) offered rides, car share preferences & car details, email & SMS notifications management, social sharing, customer support, blogs, filter rides by car comfort level and price, auto price suggestion, newsletter alert for new rides, Google map integration. Back end features include: user friendly dashboard, manage website members, manage admin users, view Rides posted on site, view bookings & print invoice, pay to drivers (i.e. Disbursement), view message conversation between members, site management and settings, site banner management, manage car makes and models, wide range of reports, manage email templates, manage multiple language's labels, easy content management system, and manage Currency Rates.

PARTNERS

Other Local Governments

The Regional Districts of [Central Kootenay](#) and [Kootenay Boundary](#) geographically connect our applicant communities. Collaboration with adjacent regional district areas will assist with: the identification and provision of data sources and technology expertise specific to rural regions; support for public engagement efforts; support with integrating technology solutions with existing platforms; and participation on a project advisory committee.

Provincial Government

The [Ministries of Forest Lands and Natural Resource Operations and Rural Development, Jobs, Trade and Technology](#), [Advanced Education, Skills & Training](#), [Environment and Climate Change Strategy](#), and [Transportation and Infrastructure](#) will help to identify and provide data sources relevant to our proposal development and support the integration of technology solutions with existing platforms.

Public Sector Organizations

[Selkirk College](#) and School Districts [#8](#) and [#20](#) serve public education in the region. They provide opportunities to integrate with established curriculum, training, and workforce development initiatives as well can help pilot solutions to transportation challenges. Contributions include: the identification and provision of data sources and technology expertise; support for public engagement efforts and dissemination efforts; support with integrating technology solutions with existing platforms; participation on a project advisory committee; leveraging funding. Related procurement for this project will follow Selkirk College policies and procedures.

Economic Development Practitioners

The [Nelson and Area Economic Development Partnership](#), [Lower Columbia Initiatives Corporation](#), [Community Futures Greater Trail](#), and the Castlegar Economic Development Office work to develop a creative, dynamic and competitive business environment that drives economic growth in our region. Contributions include; the identification and provision of data sources and technology expertise; support for public engagement efforts and dissemination efforts; support with integrating technology solutions with existing platforms; participation on a project advisory committee; and leveraging funding.

Social Non-Profits

[Columbia Basin Alliance for Literacy](#) (CBAL), public libraries, and [Nelson CARES Society](#) support efforts to strengthen social, economic, and environmental well-being throughout our region. CBAL, public libraries, and Nelson CARES will be engaged to reduce impacts of geographic isolation and support inclusive access of seniors through enhanced digital literacy support. [Sustainable Kootenays](#) provides ridesharing services throughout our communities and is on board to provide integration with its current web-based services to enhance mobility regionally.

Technology Experts

[i4C Innovation](#), [Martech Smart Solutions](#), and [Selkirk Geospatial Research Centre](#) offer a wealth of technological expertise as it relates to the region's digital infrastructure. Thoughtexchange, a public engagement platform, will also assist in streamlining public communications. Contributions include: the identification and provision of data sources and technology expertise; support for public engagement efforts and dissemination efforts; support with integrating technology solutions with

Smart Kootenays

Using data and connected technologies to address our region's transportation challenges

existing platforms; participation on a project advisory committee; and access to labs, clean rooms, sensor assembly rooms and meeting spaces.

Private Sector

We have identified **Teck Metals Ltd.** as a large employer that face the same challenges surrounding transportation throughout our region. They provide a unique opportunity to engage a large group of residents in our pilot projects to maximize measureable impacts.

Additional partnerships that align with the objectives of this initiative will be recruited during the next phase of proposal development (Appendix D).

SECTION III: OTHER REQUIREMENTS

SMART KOOTENAYS APPLICATION WEB LINK

For news, updates, and more information surrounding the Smart Kootenays initiative, please visit our website: smartkootenays.cbrdi.ca

ORGANIZATION INFORMATION

Community	2017 Full-Time Equivalents (FTEs)		2017 Operating and Capital Budgets			
	FTE Equivalents	% FTEs Devoted to Innovation*	Total Operating Budget	% of Total Operating Budget Devoted to Innovation*	Total Capital Budget	% of Total Capital Budget Devoted to Innovation*
City of Nelson	175	10%	\$ 30,777,994	5%	\$17,908,266	5%
City of Castlegar	38	0%	\$ 13,779,000	0%	\$14,040,000	0%
City of Rossland	30	0%	\$ 8,700,000	0%	\$ 3,500,000	0%
City of Trail	74	0.5%	\$ 18,327,550	0.2%	\$ 7,699,900	0%

* Percentage devoted to innovation is challenging to identify - some communities have staff whose mandate is partially innovation (fibre, solar garden, sourcing new technologies, etc.)

Smart Kootenays

Using data and connected technologies to address our region's transportation challenges

LETTER OF SUPPORT – PROJECT COMMUNITIES



April 12th, 2018

RE: Smart Cities Challenge Submission
Dear Infrastructure Canada and Smart Cities Challenge Jury,

The Cities of Rossland, Trail, Castlegar, and Nelson are in support of the *Smart Kootenays* submission to the Government of Canada's Smart Cities Challenge. This competition presents an ideal opportunity to expand our collaborative efforts that focus on using data and technology to make the lives of our residents safer, more sustainable, connected and engaged.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and sustainably and staying connected and engaged.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely and sustainably
- Helping us stay connected and engaged with each other and the world

Our community's leaders are committed to following through on our proposal throughout the competition, including the provision of political and logistical support. Collectively we represent a high capacity candidate with the tools and expertise need to take on this challenge – including readiness to be featured nationally and internationally as a smart city. This readiness is exemplified by the City of Nelson's recent recognition as one the world's Smart21 Communities of 2017. Our proposal outlines the strong connections to our region's priorities and evidence of our ability and readiness to successfully implement our proposed projects.

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Providing technology expertise if/when applicable
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts – including political and logistical support
- Supporting the integration of technology solutions with existing platforms if/when applicable

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

Mayor, City of Nelson
Deb Kozak

Mayor, City of Castlegar
Lawrence Chernoff

Mayor, City of Trail
Mike Martin

Mayor, City of Rossland
Kathy Moore

Smart Kootenays

Using data and connected technologies to address our region's transportation challenges

FOCUS AREA

Our preliminary proposal's two focus areas include:

- Environmental Quality
- Mobility

COMMUNITY SYSTEM/SERVICE AREAS

The following community system/service areas are expected to be implicated in our preliminary proposal:

- Economic development
- Education and training
- Emergency services and enforcement
- Environment
- Land use planning and development
- Roads and transportation

TECHNOLOGIES

The following technologies are expected to be implicated in our preliminary proposal:

- Artificial intelligence (AI)
- Augmented reality (AR) or Virtual reality (VR)
- Autonomous and connected vehicles
- Big data analytics
- Cloud computing
- Environmental monitoring
- Enterprise solutions
- Geospatial
- Internet of Things (IoT)
- Mobile applications
- Networks
- Open data platforms
- Sensors
- Video analytics

REFERENCES & RESOURCES

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7. Columbia Basin Trust, [Regional shipping and logistics analysis final report](#). (2017)
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9. City of Nelson, [Nelson Path to 2040 – Sustainability Strategy](#). p. 21. (2010)
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15. City of Castlegar, [Official community plan](#). p. 24,27,28,73. (2011).
16. City of Trail, [Official community plan](#). p. 10. (2010).
17. City of Rossland, [Rossland visions to act – strategic sustainability plan](#). p. 27. (2008).
18. City of Rossland, [Rossland communities adapting to climate change initiative final report](#). p. 91. (2010).
19. Selkirk College, [Sustainability tracking, assessment & rating system \(STARS\)](#). p. 3. (2016).



Wayne Stetski
MEMBER OF PARLIAMENT KOOTENAY - COLUMBIA

April 19, 2018
Nelson, BC

Infrastructure Canada
Smart Cities Challenge

To whom it may concern,

I am writing in support of the Smart Kootenay's submission to the Government of Canada's Smart Cities Challenge. Transportation in the West Kootenay (WK) region is a continuous challenge for businesses and organizations in the following ways:

- Unreliable air transportation at the West Kootenay Regional Airport in the winter months' makes it difficult for me to visit the western part of my riding without driving long distances on dangerous mountain roads. Local residents have difficulty attending meetings or training in other parts of the province without long drives on winter roads.
- I recognize that it is not possible for WK residents to attend meetings in Vancouver or Victoria without an overnight stay. Better tools for attending remotely would be very beneficial.
- With varying weather conditions, especially the freeze/thaw conditions occurring more and more with climate change, winter driving is dangerous. Better tools are necessary for communicating current road conditions to make travel safer.

I understand that there is a community owned broadband network and a core technology sector in place that has the capability for overcoming these barriers to safe, reliable travel/transportation in the region. The WK is a large region with a variety of terrain and weather conditions and is a suitable area for establishing a pilot project for new technology. If successful in this region, it could be introduced to communities across Canada with similar challenges.

The region's submission focuses on using data and technology to address the transportation and connectivity challenges of living in a mountainous, rural region as follows:

- Enhanced safety and reliability of travel
- Enhanced connectivity and engagement with other areas of the country

The project will ultimately lead to a reduction in the carbon footprint, increased productivity and prosperity.

I respectfully encourage Infrastructure Canada to give favourable consideration to the Smart Kootenay's submission to the Smart Cities Challenge.

Sincerely,



Wayne Stetski
Member of Parliament
Kootenay-Columbia

Suite 501--310 Ward Street, Nelson, BC V1L 5S4
Ph: 250 354 2610
Fax: 250 354 2613



April 12, 2018

Dear Infrastructure Canada,

Nelson and Area Economic Development Partnership (NAEDP) is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. NAEDP is a partnership between the City of Nelson, Community Futures Central Kootenay, the Nelson & District Chamber of Commerce and Regional District of Central Kootenay Areas E and F. Our goal is to take a unified approach to community economic development initiatives for the city and region.

NAEDP has a Strategic Priority to support the continued growth of our digital economy, through the attraction and support of technology and knowledge workers. We're also working on projects to help Nelson be recognized as an Intelligent Community. We applied for the designation from the Intelligent Communities Forum in 2016 and were ranked among the ICF's Smart21 communities. We hope to improve that standing when we reapply in 2018.

Our region's Smart Cities submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms
- Project management
- Leveraging funding

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

Bob Wright, Chair
Nelson and Area Economic Development Partnership



Nelson & District Chamber of Commerce

91 Baker Street Nelson BC V1L 4G8 • Toll Free: 1-877-663-5706 • Ph: (250) 352-3433 • Email: info@discoverNelson.com

April 19, 2018

Dear Infrastructure Canada,

The Nelson and District Chamber of Commerce is wholeheartedly support the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region or not being able to get back to Nelson or having to drive long distances on dangerous winter roads to get home.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay, better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is etc would make it travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world

leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

The Chamber is the voice of business for over 530 Nelson and area businesses representing thousands of employees. Many of these businesses rely on reliable air transportation to access their customers, or to have their customers visit our region. Transportation reliability has been an ongoing issue for Business Attraction and in cases Business Retention for years. We believe technology can solve this vital economic development issue.

Business people and tourism-based companies like Baldface Lodge, Retallack, Selkirk Wilderness and Whitewater Ski Resort often struggle with the unreliability of air transportation to the region, which can have a negative impact to their businesses, leading to a loss of bookings and revenue. These companies are just a small sample of the many West Kootenay regional businesses being adversely affected by flights not arriving as scheduled. Local hoteliers can show hundreds of thousands of dollars annually in convention revenue lost due to the transportation issues.

The Board of Directors of the Nelson and District Chamber of Commerce and membership encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,



Tom Thomson Executive Director
Nelson and District Chamber of Commerce

April 11, 2018

Dear Infrastructure Canada,

The Lower Columbia Initiatives Corporation (LCIC) is a regional economic development office that works to develop a creative, dynamic and competitive business environment and drives economic growth in the “Lower Columbia” sub-region of the West Kootenay (Trail, Rossland, Fruitvale and areas). The LCIC assists existing business and industry to maintain a healthy economic climate, while identifying and pursuing new economic opportunities (www.lcic.ca).

On behalf of the LCIC, I am writing in support of the Smart Kootenays submission to the Government of Canada’s Smart Cities Challenge. Our region’s submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other.

The project is well-positioned to use technology solutions to improve our lives and economy in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region. Rural businesses and residents benefit when our economic drivers remain healthy and more viable; the success of this submission will provide our region with solutions to the current transportation challenges, providing positive economic growth and stability which is essential to the sustainability of our communities.

Sincerely,



Terry Van Horn, Executive Director
Lower Columbia Initiatives Corporation

April 17, 2018

Dear Infrastructure Canada,

Community Futures Greater Trail is a community-driven organization that promotes, coordinates and implements a wide variety of economic development initiatives in our region. We serve the residents of Trail, Rossland, Warfield, Genelle, Montrose, Fruitvale and Areas A & B of Kootenay Boundary Regional District and we partner with various provincial and federal agencies to develop new socioeconomic opportunities.

Our organization strongly supports of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

Our organization is prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing technology expertise
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

On behalf of Community Futures Greater Trail, I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,



Erik Kalacis
Executive Director
Community Futures Greater Trail



Regional District of Central Kootenay

Box 590, 202 Lakeside Drive, Nelson, BC V1L5R4
Telephone: (250) 352-6665
BC Toll Free: 1-800-268-7325

Web: www.rdck.ca
Email: info@rdck.bc.ca
Fax: (250) 352-9300

File No. [File No.]

April 19, 2018

Dear Infrastructure Canada:

RE: SMART CITIES CHALLENGE – SUBMISISON BY SMART KOOTENAYS

The Regional District of Central Kootenay (RDCK) supports the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. The submission from our region focuses on using data and technology to address the challenges that result from living in a mountainous, rural and remote region — specifically with respect to moving around safely and reliably and staying connected with each other.

Transportation in the winter months in particular is an issue. Winter weather in our region can be unpredictable and sometimes severe. Air travel and highways are often affected by harsh weather conditions, so getting in and out of the region can be uncertain. This means that employees of the RDCK may not be able to attend collaborative meetings at other facilities, benefit from training opportunities, or share their knowledge at conferences. Even if they can travel to take part in these activities, the process of returning home can be just as difficult. The impacts of this can be felt at work and at home.

These barriers and many others can be alleviated with investment in new technology. The project proposed by Smart Kootenays is well-positioned to use technology solutions to improve the lives of our employees and their families—and the lives of other residents of our region — by making it easier to move around safely, reliably and sustainably; and helping us stay connected and engaged with each other and the outside world.

We are prepared to commit in-kind support in the form of the following:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Providing technology expertise
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karen Hamling".

Karen Hamling
Chair, RDCK Board of Director

KH/MH

MUNICIPALITIES: **Cities:** Castlegar, Nelson **Town:** Creston **Villages:** Kaslo, Nakusp, New Denver, Salmo, Silvertown and Slocan
ELECTORAL AREAS: • A-Wynndel/East Shore Kootenay Lake • B • C • D • E • F • G • H-The Slocan Valley • I • J-Lower Arrow/Columbia • K-The Arrow Lakes



APPENDIX A: LETTERS OF SUPPORT – PUBLIC SECTOR



OFFICE OF THE PRESIDENT

April 19, 2018

Dear Infrastructure Canada,

This letter is to advise that **Selkirk College** is in full support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation in our region is a continuous challenge for the college as well so many of our business and organizations in the following ways:

- Air transportation in the winter months results in our employees not being able to attend work related commitments outside our region, or not being able to return to the region and as a result often having to drive long distances on dangerous winter roads to travel.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay, so better tools to attend business commitments remotely would be very beneficial to the college and our partners.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is etc. would make it travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage the use of technology, share riding, using transit, carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably;
- Helping us stay connected and engaged with each other and the outside world.

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee;
- Providing data and/or helping to identify data sources through our applied research division;
- Providing technology expertise;
- Supporting public engagement efforts;

301 Frank Beinder Way, Castlegar BC V1N 4L3 Canada 1 888 953 1133
agraeme@selkirk.ca

....2

- Supporting dissemination and knowledge mobilization efforts;
- Supporting the integration of technology solutions with existing platforms.

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,



Angus Graeme
President and CEO



School District No. 8 (Kootenay Lake)

Office of the Superintendent/CEO

570 Johnstone Road, Nelson, B.C. V1L 6J2

Telephone: (250) 352-6681 Fax: (250) 352-6686

Toll Free: 1-877-230-2288 Web: www.sd8.bc.ca

Academic Success Creativity and Imagination Citizenship Resiliency

April 19, 2018

Dear Infrastructure Canada,

School District No. 8 (Kootenay Lake) is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation in our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months results in our employees not being able to get out of our region or not being able to get back, or having to drive long distances on dangerous winter roads to get home.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay. Better tools to attend remotely would be very beneficial to our organization.
- Varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous. Better tools to understand the road conditions, when they have been sanded, and where black ice is etc. would make travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage ride sharing, using transit, and carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

Page 2 of 2

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Providing technology expertise
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,



Dr. Christine Perkins
Superintendent/CEO

April 20, 2018

Dear Infrastructure Canada,

I am writing in regard to the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge.

Columbia Basin Trust supports efforts to strengthen social, economic and environmental well-being throughout the Columbia Basin, including the region noted in the submission. The focus of the Smart Kootenays' initiative is transportation. This is a challenge that has repeatedly been identified through our own engagement with communities, and that has significant economic and quality of life implications for businesses and residents.

The West Kootenay is a mountainous region with relatively low population density. Air access is an ongoing issue that creates uncertainty for business and personal planning, especially during the winter months. It is not uncommon for there to be no flights in or out of the region for four or five days at a time.

Road travel can also be a significant challenge. Public transportation services are very limited between communities. The region is accessible only by transiting mountain passes that can often be treacherous or closed for avalanche control in the winter months. The region is also dependent on inland ferry services which can easily get overwhelmed in busy summer months.

Columbia Basin Trust recognizes the significant collaboration and partnership to tackle this challenge in our rural area, as described in the Smart Kootenays submission, including through the efforts of the Cities of Nelson, Castlegar, Trail and Rossland. As this issue affects the entire region, it needs a joint effort to meaningfully address it, and use data and technology to address the challenges that result from residing in a rural and mountainous region. Working collaboratively on this issue may well bring benefits to addressing other common issues that these communities are facing.

I am available to discuss this opportunity for the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,



Johnny Strilaeff

President and Chief Executive Officer



Kootenay Career Development Society

NELSON WorkBC
Employment Services Centre
Suite 203-514 Vernon Street
Nelson, BC V1L 4E7

NELSON
Training Centre
Suite 3-86 Baker Street
Nelson, BC V1L 4G9

PHONE | 250.352.6200
FAX | 250.352.6203
TOLL FREE | 877.952.6200

CASTLEGAR WorkBC
Employment Services Centre
1016 - 4th Street
Castlegar, BC V1N 2B2

PHONE | 250.365.6515
FAX | 250.365.6559
TOLL FREE | 855.365.6615

Friday, April 20, 2018

Dear Infrastructure Canada,

Kootenay Career Development Society is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region or not being able to get back to work, or having to drive long distances on dangerous winter roads to get home.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay, better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is, etc would make it travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably

Canada



BRITISH
COLUMBIA

WorkBC
Employment Services Centre

The Employment Program of British Columbia is funded by the Government of Canada and the Province of British Columbia.



Kootenay Career Development Society
Nelson | Castlegar

- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Providing technology expertise
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

Jocelyn Carver
Executive Director

Canada



WorkBC
Employment Services Centre

The Employment Program of British Columbia is funded by the Government of Canada and the Province of British Columbia.

APPENDIX A: LETTERS OF SUPPORT – NON-PROFIT



April 23, 2018

Good day

I'm writing on behalf of [Sustainable Kootenays](#) in support of the Smart Kootenays submission to the Smart Cities Challenge.

Rural transportation in regions with a low population is an ongoing challenge that needs to be addressed with ingenuity. Sustainable Kootenays' project, [The Rideshare Network](#), takes this challenge head on by providing online ridesharing services to all municipalities in the Columbia Basin, as well as key destinations such as Vancouver, Calgary, Spokane and so on.

We collaborate with a variety of stakeholders on ongoing development and expansion of the Rideshare Network while developing other technological tools for increasing transport density and efficiency in the region:

- **A mobile ridesharing app**
- **A load sharing service**, or load board, to be integrated with our online ridesharing platform
- **Event based ridesharing** that helps location-based businesses like ski hills bring tourists from outside the region while helping sporting event and festival organizers deal with parking challenges
- **A fleet and shuttle service** to direct travelers to regional shuttle and fleet operators

We think technology has answers to many of our transportation challenges in this lightly-populated, mountainous region and we feel confident that, with the right support, we can become a model for other regions.

We look forward to working with Smart Kootenays and hope you will support their submission.

All the best,

Tim James

Director

Sustainable Kootenays • 3120 Keniris Rd., Nelson BC V1L6Z8
Contact: Tim James • (250) 352-9935 • timjames.home@gmail.com

APPENDIX A: LETTERS OF SUPPORT – TECHNOLOGY ASSETS:



April 11, 2018

Dear Infrastructure Canada,

i4C Innovation Inc. is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Providing access to i4C's 40,000 sq. ft. of Labs, Clean Rooms, Sensor Assembly Rooms, Meeting Spaces etc.
- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Providing technology expertise
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

A handwritten signature in black ink, appearing to read "P. Portela".

Pilar Portela
CEO

9200 Industrial Road, Trail, BC, Canada, V1R 4X7

Travel Smart • Travel Safe • Travel Virtual

Dear Infrastructure Canada,

Martech Smart Solutions is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Providing technology expertise
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

JTeindl



April 18, 2018

Dear Infrastructure Canada,

Nelson Kootenay Lake Tourism Society is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation in our region is a continuous challenge for our businesses, organizations and visitors in the following ways:

- Air transportation in the winter months' results in our employees and visitors not being able to get in or out of our region, or having to drive long distances on dangerous winter roads to get home.
- Air transportation in the spring and fall months' results in our employees and visitors not being able to get in or out of our region. Delays or cancelled flights have frustrated many travelers. Some of whom will not return to the region because of their negative travel experiences. We have numerous letters and emails to support these complaints.
- It is not possible to attend meetings in Calgary, Vancouver or Victoria without an overnight stay, better tools to attend remotely would be very beneficial to our organization and the local conference facilities.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is, construction, maintenance, etc. would make travel safer, more informed, and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

1

Nelson Kootenay Lake Tourism | 250.352.7879
Dianna Ducs, Executive Director | dianna@nelsonkootenaylake.com
www.nelsonkootenaylake.com



Our region's submission focuses on using data and technology to address the challenges that result from living in or visiting a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

A handwritten signature in black ink, appearing to read "Dianna Ducs".

Dianna Ducs
Executive Director
Nelson Kootenay Lake Tourism Society

2

Nelson Kootenay Lake Tourism | 250.352.7879
Dianna Ducs, Executive Director | dianna@nelsonkootenaylake.com
www.nelsonkootenaylake.com



April 19, 2018

Dear Infrastructure Canada,

Selkirk Snowcat Skiing is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation in and out of our region is a continuous challenge for our business. The deplorable record at Castlegar airport contributes to this and is significant enough to deter travellers from returning to visit the Kootenays.

Earlier this year, between December 8 to 16, Air Canada cancelled 55 out of 56 flights into Castlegar Airport, for a 99% failure rate. A number of our guests were marooned in Vancouver during that period and cancelled their travel plans to Selkirk and vowed never to return. Following is an excerpt of a letter from one of our guests who was so discouraged he wrote every level of government in the Kootenays to voice his outrage.

I am writing out of concern for my friends business and other travel and tourism businesses in the region. The main reason for my concern centers around the immense logistical difficulties that people who want to travel to this region must put up with as a result of the unacceptably high winter flight cancellation rates at Castlegar airport. (Over 40%). Given that most people who fly in must also fly out, the odds of having one of either the inbound or outbound flights cancelled and all the logistical issues that creates is actually closer to 80%. Who in their right mind would take those odds?

I have a number of friends who now ski at Fernie or Banff or Colorado rather than risk cancelling their ski adventure due to not being able to land and/or not being able to leave Castlegar. Last week at Selkirk, I skied with a lovely couple named Matt and Fiona from New Zealand who were raving about the snow conditions, terrain and hospitality at Selkirk Snowcat Skiing. They were lucky enough to get a flight into Castlegar, but could not get out. This meant hiring a car and driving to Vancouver to catch a connector to San Francisco where they then missed their flight to New Zealand. Due to their travel difficulties, they told me they will not be back, nor will they recommend the region to their friends.

Personally, this past March I decided to bring my wife and three adult children to experience Selkirk Snowcat Skiing. Due to cancellations at Castlegar, we got stuck in Vancouver for one night and decided to reroute to Kelowna the next morning, rent a vehicle and drive the 6 hours to Selkirk lodge. Once my family got to the lodge it was great! Unfortunately, each of us missed one day of skiing together (value \$1200 pp) and we missed our final night in the lodge as we had to leave

early and overnight in Kelowna to accommodate the 5 hour drive back to Kelowna over treacherous roads in order to get home. My family has decided not to come next year. They would rather go somewhere else. Anywhere else. It is actually easier to go to China!

Please do whatever it takes to upgrade the airport and Air Canada's planes so that many more flights may land at Castlegar. You will be doing your constituents, the region and many travellers a great service, which will pay for itself many times over.

The level of frustration in his letter is palpable and it is criminal we continue to be subjected to this dismal level of service at Castlegar Airport. I understand the navigation system at both the airport AND in the Dash 8 needs to be upgraded to accommodate more landings at Castlegar. While 99% may be an aberration, I would hazard a guess Air Canada rarely hits 50% on any given week during the late fall, winter or early spring, and speaking on behalf of all of us in the customer service industry, 50% doesn't cut it. The cost in hard dollars to the entire region by stories such as this is immeasurable; however, the lost opportunity cost of folks like this never returning reaches into the tens of millions of dollars annually. On behalf of all the heliski, catski, ski resorts, summer adventure tour operators, hotels, restaurants and retailers in and around Nelson, I implore you to work with both Air Canada and West Kootenay Regional Airport to make the necessary investments to increase the reliability at Castlegar Airport.

Thank you for your time and attention in this matter.

Sincerely,

Paul Osak
President, Selkirk Snowcat Skiing



The Ultimate Wilderness Ski Experience



April 19, 2018

Dear Infrastructure Canada,

The Prestige Lakeside Resort is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation in our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region, and/or having to drive long distances on dangerous winter roads to get home, sometimes under emergency circumstances.
- We recently had a large conference cancel with us due to the logistics behind getting all of their attendees to our area. We also had a dinner meeting cancel due to flights into Castlegar, BC canceling. Both of these cancelations resulted in a loss of revenue of \$90,000 for our Resort. In turn, this resulted in a loss of wages for our staff as they were called off hours before their scheduled shifts.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay. Better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change; makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is, etc would make it safer to travel and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specifically to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Providing data and/or helping to identify data sources
- Provide supporting documentation of meeting and event cancellations
- Supporting public engagement efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,



John Le Bleu
General Manager
Prestige Lakeside Resort Nelson
701 Lakeside Drive, Nelson, BC
jlebleu@prestige-hotels.ca
250-352-7222 ext. 423



April 19, 2018

Dear Infrastructure Canada,

Snowwater Heli Skiing is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation to our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region or not being able to get back to the area, or having to drive long distances on dangerous winter roads to get home.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay, better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is etc would make it travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.
- The uncertainty of air travel success to the area impacts our guest's ability to arrive on time for Snowwater operations which can impact their overall trip experience and the safety of their travel to our operation. Not only this, but the financial cost we incur for late arrivals impacts the overall success of our business.

Snowwater Heli Skiing believes that our region requires a better, more reliable airport. Any improvements that increase transportation reliability in the area will only strengthen our draw for more skiers and riders and increase our businesses overall success.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

A handwritten signature in black ink that reads "Benjamin Whitton". The signature is written in a cursive, slightly slanted style.

Benjamin Whitton
Rally Track Assistant Manager
Snowwater Heli Skiing



The Whole School

PO Box 240
Winlaw, BC VoG 2J0

Phone: (250) 226-7737
Email: wholeschool@gmail.com

Fax: (250) 226-0041
Website: www.wholeschool.ca

April 18, 2018

Dear Infrastructure Canada,

The Whole School is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region or not being able to get back to Winlaw, or having to drive long distances on dangerous winter roads to get home.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay, better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is etc would make it travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

1 | Page



The Whole School

PO Box 240
Winlaw, BC VoG 2J0

Phone: (250) 226-7737
Email: wholeschool@gmail.com

Fax: (250) 226-0041
Website: www.wholeschool.ca

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Providing data and/or helping to identify data sources
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

Tara Harvey
School Board Chair

April 18, 2018

Dear Infrastructure Canada,

Nelson Brewing Company is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation in our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region or not being able to get back to Nelson and area, or having to drive long distances on dangerous winter roads to get home.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay, better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is etc would make it travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee

- Providing data and/or helping to identify data sources
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

Kate Walker
Owner/CEO Nelson Brewing Company
250-352-3582





Dear Infrastructure Canada,

April 18, 2018

The West Kootenay EcoSociety would like to extend its full support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation in our region is a continuous challenge for our businesses and organizations in the following ways:

- Transportation has been identified as the greatest source of GHG emissions in our region, but our geography makes it particularly difficult to provide consistent, reliable public transportation. Our organization recognizes that improved technology would open up new opportunities to reduce our GHG impact by having better tools to encourage ridesharing, using transit, carpooling, etc.
- Air transportation in the winter months' results in our employees not being able to get out of our region, not being able to get back to Nelson, or having to drive long distances on dangerous winter roads to get home.
- As it is not possible to attend meetings in Vancouver or Victoria without an overnight stay, and this is where the vast majority of trainings and resources for not-for-profits are located, better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions that are exacerbated by climate change, make travelling to and from work and meetings dangerous. Improved tools to understand the road conditions, such as when they have been sanded, where black ice is, etc., would make travel safer and could save lives.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute instead of a difficulty for our communities. We are a large region, with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives. The Kootenay region is the ideal area for new technology in this sector to be piloted, given that if is successful here, it will be able to be rolled out across Canada to other communities that experience similar challenges.

In short, it will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably, while staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

#206-507 Baker St. • Nelson BC, V1L 4J2 • (250) 354-1909
www.ecosociety.ca • info@ecosociety.ca

We are prepared to commit in-kind support in the form of:

- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

We encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,



Matthew Carroll
Co-Executive Director



Nicole Charlwood
Co-Executive Director



Above
the Crowd!®

April 19, 2018

Dear Infrastructure Canada,

RE/MAX RHC Realty in Nelson, BC is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees or regional representatives not being able to get out of our region or not being able to get back to Nelson, or having to drive long distances on dangerous winter roads to get home.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay, better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is etc would make it travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.

We have in place a community-owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

...2

RE/MAX® RHC Realty

601 Baker Street

Nelson, BC V1L 4J3

Ph.: (250) 352-7252

Fax: (250) 352-3973

Each Office Independently Owned and Operated



www.rhcrealty.com

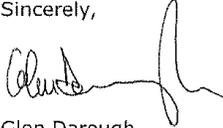
Robertson Hilliard Cattell Realty Company Limited - d/b/a RE/MAX RHC Realty

2

We are prepared to commit in-kind support in the form of providing data and/or helping to identify data sources, supporting public engagement efforts, supporting dissemination and knowledge mobilization efforts, and supporting the integration of technology solutions with existing platforms.

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

A handwritten signature in black ink, appearing to read 'Glen Darough', written over a horizontal line.

Glen Darough
Broker/Owner/Realtor



1215 Ward Street, Nelson BC Canada V1L1T9
ockenden@netidea.com

April 18, 2018

Dear Infrastructure Canada,

Withinsight, a multi-service organizational consulting firm is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region or not being able to get back to Nelson, or having to drive long distances on dangerous winter roads to get home.
- It is not possible to attend meetings in Vancouver or Victoria without an overnight stay, better tools to attend remotely would be very beneficial to our organization.
- With varying weather conditions, especially the freeze/thaw conditions we are seeing more and more with climate change, makes travelling to and from work and meetings dangerous, better tools to understand the road conditions, when they have been sanded, where black ice is etc would make it travel safer and save lives.
- There is an opportunity to reduce our GHG impact by having better tools to encourage share riding, using transit, carpooling etc.

We have in place a community owned broadband network and a core technology sector that will allow us to overcome these barriers and make transportation a positive attribute versus a barrier for our communities. We are a large enough region with challenging terrain and weather conditions, where transportation is critical to all aspects of our lives that we will be a perfect area where new technology can be piloted, that if successful here will be able to be rolled out across Canada to other communities that experience similar challenges.

It will save lives, increase productivity, reduce our carbon footprint and lead to additional prosperity in our region.

Our region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region – specific to moving around safely and reliably and staying connected with each other. We believe that we can be a world leader in using technology to work remotely and to have a robust transportation network.

The project is well-positioned to use technology solutions to improve our lives in the following ways:

- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world

We are prepared to commit in-kind support in the form of:

- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

A handwritten signature in black ink, appearing to read "G. Ockenden", followed by a horizontal line extending to the right.

Gary Ockenden
Owner/Lead Consultant

Kaslo & Area Chamber of Commerce



John Addison, President
Kaslo & Area Chamber of Commerce
johnadd@gmail.com
250-353-1151

April 19th, 2018

Infrastructure Canada

Re: Government of Canada's Smart Cities Challenge

Dear Infrastructure Canada,

The Kaslo and Area Chamber of Commerce is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

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- Providing data and/or helping to identify data sources
- Supporting local public engagement efforts
- Supporting dissemination and knowledge mobilization efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

John Addison



Dear Infrastructure Canada,

April, 18, 2018

12 Mile Storage is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region or not being able to get back to Castlegar, or having to drive long distances on dangerous winter roads to get home.
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- Making it easier to move around safely, reliably and sustainably
- Helping us stay connected and engaged with each other and the outside world
- We are prepared to commit in-kind support in the form of Participating on a project advisory committee

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

Karl Masewich
Owner 12 Mile Storage

April 19, 2018

Dear Infrastructure Canada,

Lillie & Cohoe is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation in and out of our region is a continuous challenge for our business and organizations in the following ways:

- Air transportation in the winter months' results in our employees not being able to get out of our region or not being able to get back to Nelson, or having to drive long distances on dangerous winter roads to get home.
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- Providing data and/or helping to identify data sources
- Supporting public engagement efforts
- Supporting the integration of technology solutions with existing platforms

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,



Liz Cohoe
Designer, Owner

OSPREY

PROFESSIONAL ACCOUNTING CORPORATION

Chartered Professional Accountants

202-520 Kootenay Street Nelson, BC V1L 5W4 Phone: (250) 352-1114 Fax: (250) 352-2991

e-mail: admin@ospreypac.ca

April 19, 2017

Dear Infrastructure Canada,

OSPREY Professional Accounting Corporation is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

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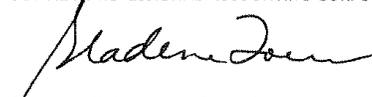
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- Helping us stay connected and engaged with each other and the outside world

A Member of the Chartered Professional Accountants of British Columbia

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,
OSPREY PROFESSIONAL ACCOUNTING CORPORATION



Gladene E. Toews, CPA, CGA



#310-622 Front Street
Nelson, BC, V1L 4B7
250-352-2033
info@carsharecoop.ca

April 19, 2018

Dear Infrastructure Canada,

Kootenay Carshare Cooperative is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

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We are prepared to commit in-kind support in the form of:

- Participating on a project advisory committee
- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

A stylized, handwritten signature in black ink, consisting of the letters 'C' and 'D' intertwined.

Colleen Doyle
Executive Director



April 18, 2018

Dear Infrastructure Canada,

Otter Books Inc is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

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- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts

I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

Letty Bartels
Owner, Otter Books Inc
398 Baker St., Nelson, BC
V1L 4H5



«Address»
«Address», «Address» «Address»

T «Phone»
F 250-352-9232
sparklinglife@telus.net

www.sparklinglife.ca

Dear Infrastructure Canada,

Sparkling Life Family Chiropractic is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business in the following ways:

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I encourage the Government of Canada to support technology, innovation and collaboration in the Kootenay region.

Sincerely,

Dr. Remi Champagne
Chiropractor / Owner of Sparkling Life Family Chiropractic

April 19, 2018

Dear Infrastructure Canada,

Esprit de la Femme Lingerie Ltd. is in support of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Transportation our region is a continuous challenge for our business and organizations in the following ways:

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- Supporting public engagement efforts
- Supporting dissemination and knowledge mobilization efforts

- Supporting the integration of technology solutions with existing platforms

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Sincerely,



Cheryl Cote
Owner of Esprit de la Femme Lingerie



Smart Cities Engagement

Thought Exchange Data by Theme

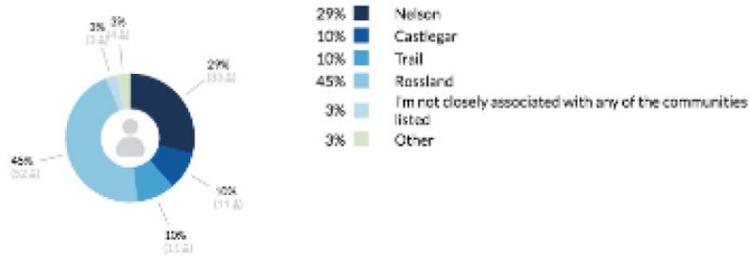
March 2018

THOUGHT EXCHANGE QUESTION

What are some ways data and connected technology could be used in the West Kootenays to address local challenges facing residents?



- DQ1 Which larger community are you most closely associated with:



TRANSPORTATION

Reliable air access is a challenge. New technologies can increase the frequency of safe landings and departures.
A healthy, growing local economy needs to have reliable air access for citizens, businesses, newcomers and visitors.

4.2 ★★★★★ (19 🗳️)
Ranked #1 of 113

knowledge of daily travel patterns
Improve transportation services to primary employers and recreation hubs

3.7 ★★★★★ (16 🗳️)
Ranked #21 of 113

Real time weather and road updates
So we all know whether to get up the hill or avoid the trip to another city that can wait.

3.6 ★★★★★ (20 🗳️)
Ranked #29 of 113

Better rural transportation networks.

3.5 ★★★★★ (27 🗳️)
Ranked #42 of 113

ride sharing platform
need to reduce the # of vehicles being used, but we don't have the numbers to justify expanded public transport

3.5 ★★★★★ (27 🗳️)
Ranked #45 of 113

Improve local weather data gathering and analysis
To better understand the effects of climate change to our local area.

3.1 ★★★★★ (16 🗳️)
Ranked #67 of 113

Tracking and broadcasting weather and road conditions
Increased public safety, and awareness and assisting the timely flow of goods and services

3.8 ★★★★★ (17 🗳️)
Ranked #13 of 113

Kootenay ride share program
Given that there is somewhat poor bus service it might be helpful if a ride share program existed to help people get to the larger towns in the area

3.7 ★★★★★ (10 🗳️)
Ranked #25 of 113

A map showing road conditions in specific places, eg within Rossland city limits to help residents determine safest plowed routes in winter.
A bit like they have at Blackjack showing which trail has been groomed, only in this case showing which road has been plowed.

3.6 ★★★★★ (21 🗳️)
Ranked #31 of 113

If done properly could improve air transportation
lack of access to region is often cited as a weakness here.

3.5 ★★★★★ (27 🗳️)
Ranked #43 of 113

More accurate and localized winter weather updates in and between communities.
Allow for traffic or condition updates that are quicker and more effective.

3.3 ★★★★★ (22 🗳️)
Ranked #73 of 113

Erand runs
Build community through grabbing an item or two from a place we are already going for another person in town. Common drop off spot may be necessary.

2.8 ★★★★★ (27 🗳️)
Ranked #92 of 113

Improve transportation links between communities
Improves access to work, services and amenities

3.8 ★★★★★ (5 🗳️)
Ranked #16 of 113

Transportation conditions
We've seen a huge increase in accidents and news stories about the highways between our local communities in the winter.

3.7 ★★★★★ (7 🗳️)
Ranked #27 of 113

Reliable air transport
to attend training, to bring in speakers, to see loved ones, to bring economic generators to the area....

3.6 ★★★★★ (11 🗳️)
Ranked #38 of 113

Shared transport
A safe way to carpool or share rides between cities and to/from extracurricular activities

3.4 ★★★★★ (27 🗳️)
Ranked #59 of 113

Adaptive traffic signals
More efficient roadways

3.1 ★★★★★ (26 🗳️)
Ranked #84 of 113

TECHNOLOGY ENABLED / REMOTE WORKFORCE / CONNECTIVITY

Opportunities for remote work
Attract more tech & knowledge workers that can bring stable employment and spend their salaries locally.

4.0 ★★★★★ (27) 

Ranked #2 of 113

remote workforce opportunities
reduction of carbon footprint; less overhead, fuel/power consumption; wear/tear on infrastructure

3.9 ★★★★★ (15) 

Ranked #10 of 113

Knowledge workers will come to work here, bringing new ideas and vigor to our area.
We are sometimes trapped in the paradigm we know. New ways of doing things disrupt the old ways paving the path for innovation.

3.6 ★★★★★ (14) 

Ranked #34 of 113

Data and tech will have a role in all residential, community and career so is best to provide infrastructure and planning towards this way of thinking
If we ignore this way of life, we will be left in the dust

3.5 ★★★★★ (17) 

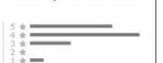
Ranked #50 of 113

Broadband in remote locations
Many still live without internet access, or have limited access. In todays economy, this is now an essential service

3.3 ★★★★★ (17) 

Ranked #76 of 113

Remote business opportunities and remote work activities.
Accessing services and doing work remotely can increase populations in rural areas.

4.0 ★★★★★ (18) 

Ranked #7 of 113

Stimulate the local tech community with grants, competitions, hackathons and opportunities to work with the city to address complex local issues.
Innovation needs incentive and incubation to get going and keep going and Nelson can leverage the existing skills and creativity of local tech workers

3.8 ★★★★★ (9) 

Ranked #15 of 113

More remote job opportunities
Less travel will reduce GHGs; more economic opportunities

3.6 ★★★★★ (8) 

Ranked #41 of 113

Universal wifi within the immediate area
Keeping the community connected over a large geographic area

3.4 ★★★★★ (24) 

Ranked #64 of 113

Community-owned internet provider.
Rural internet is typically slow and expensive.

2.7 ★★★★★ (17) 

Ranked #98 of 113

Finding quality jobs in Nelson is difficult when it comes to career opportunities
Data and technology is the future and could provide many locals in Nelson a great career opportunity without moving away or taking pay cuts.

3.9 ★★★★★ (17) 

Ranked #9 of 113

Connectivity can reduce the need for bricks and mortar as people chose alternate work arrangements - be that home or coffee shop
City centres can be re-purposed which will lead to economic development.

3.6 ★★★★★ (17) 

Ranked #33 of 113

Better technology infrastructure will enable those of us working from home to work from home
Speeds and intermittent ability of internet in town is not workable for remote oportunities

3.5 ★★★★★ (24) 

Ranked #48 of 113

Knowledge work these days involves a lot of data analysis.
Organizations are starting to realize that data digging can be done anywhere and the most important aspect lies in the adept interpretation of data

3.4 ★★★★★ (17) 

Ranked #67 of 113

Things are changing rapidly, faster than ever before. We need to prepare for the 4th industrial revolution now.
We cannot at this point envision all the changes but we can say a lot of it will depend on data transfer and thus connectivity is critical.

3.2 ★★★★★ (15) 

Ranked #81 of 113

ECONOMIC DEVELOPMENT

Increase opportunities for new/modern business.
Create important new job opportunities in the community.

3.7 ★★★★★ (24) 

Ranked #18 of 113

Economic development
Data can assist in marketing and technology can allow people to work wherever.

3.5 ★★★★★ (20) 

Ranked #45 of 113

Sharing data and having connected technology could give us a business advantage
It would help to attract new business and help existing businesses grow

3.6 ★★★★★ (22) 

Ranked #30 of 113

shared data and connected tech could open up new business opportunities
Need to attract viable businesses to our area.

3.5 ★★★★★ (20) 

Ranked #47 of 113

Tracking economic and growth measures by community, region and province
It would allow communities to plan for greater economic diversity, and as such, greater resilience.

3.6 ★★★★★ (14) 

Ranked #37 of 113

OPEN DATA / DATA SHARING

sharing data and technology could greatly improve municipal operations: help track water usage and conserve for example. Help identify sewer issues
Help reduce the cost of municipal services and identify needed repairs.

4.0 ★★★★★ (27 Δ)
Ranked #3 of 113

The small local governments in the West Kootenay Region could share data services and get economy of scale
we are all so small but there is power in greater numbers

3.8 ★★★★★ (27 Δ)
Ranked #12 of 113

Our region can become the very best in the world on how we collect and share data.
We will make better decisions and save mountains of time trying to find this data.

3.5 ★★★★★ (10 Δ)
Ranked #50 of 113

Share data on Power consumption, water use, cost of living, etc.,
So residents understand where their \$\$\$ are spent and for what.

3.3 ★★★★★ (22 Δ)
Ranked #74 of 113

Local gov and local businesses could share data and connected tech to increase buying power and make bulk purchases
could be a cost savings

3.9 ★★★★★ (20 Δ)
Ranked #8 of 113

Publication of 'public' data in easily accessible formats
Inform the public about government objectives and current status

3.5 ★★★★★ (27 Δ)
Ranked #44 of 113

connecting residents with local community data
events, facility availability and other information that is hard to find and in many places

3.4 ★★★★★ (25 Δ)
Ranked #61 of 113

Make Nelson city data available online as open data
It encourages and enables the cities tech savvy residents to innovate and help the city find useful ways to make use of this public data

3.2 ★★★★★ (9 Δ)
Ranked #82 of 113

Allow real-time access to City financial information
Citizens should be able to see the same information available to City Councils if they want (few will want, but that's not the point)

3.1 ★★★★★ (10 Δ)
Ranked #86 of 113

Community engagement
Better engagement between residents and municipalities would bridge the growing divide, give transparency to see where tax dollars go

3.9 ★★★★★ (7 Δ)
Ranked #11 of 113

Smart cities leads to smart buildings, smart transport, smart houses, smart utilities. These need to be interconnected.
Data transfer will be key in achieving local singularity.

3.5 ★★★★★ (10 Δ)
Ranked #49 of 113

One of the difficulties with the challenge is that "data" is often stored in different formats across cities, so the challenge has complexity
May require a "re-work" of existing data so that each data set can "talk" to each other

3.3 ★★★★★ (27 Δ)
Ranked #71 of 113

Collaboration between West Kootenay professionals and those in other regions

3.1 ★★★★★ (27 Δ)
Ranked #83 of 113

shared data and connected tech strengthens our whole region.

2.9 ★★★★★ (25 Δ)
Ranked #91 of 113

CITIZEN ENGAGEMENT

Let citizens submit reports with photos and location info on problems the City should know about (e.g., lights out, potholes) from phones, computers
Engages people to be the City's eyes and ears.

3.7 ★★★★★ (16 Δ)
Ranked #20 of 113

Opportunities for public input via online voting or exchange platforms

3.4 ★★★★★ (27 Δ)
Ranked #36 of 113

311 style tools to report to local governments
Allow for low-friction problem reporting from citizens

3.3 ★★★★★ (27 Δ)
Ranked #70 of 113

Push emails
Almost immediate information to residents

2.8 ★★★★★ (25 Δ)
Ranked #92 of 113

Let citizens monitor the locations and paths of snow removal equipment in real time
Lets them know when trucks are coming. Also lets them get their cars off the road (out of the way) in timely manner.

3.7 ★★★★★ (10 Δ)
Ranked #19 of 113

Better communication between City Council and residents
There is a perceived level of obscurity between council thinking and "the outside"

3.4 ★★★★★ (10 Δ)
Ranked #50 of 113

Community discussion and interaction
Facebook is not the answer

3.2 ★★★★★ (10 Δ)
Ranked #79 of 113

unite and share views
stay informed on emerging issues

2.5 ★★★★★ (10 Δ)
Ranked #99 of 113

Develop a platform where data collected by various groups could be accessed and shared.
This would allow for better sharing of info and decisions

3.6 ★★★★★ (10 Δ)
Ranked #29 of 113

Better service delivery to citizens: "smarten up" their input to Cities, their interactions with Cities (e.g. bill payment), on a regional platform.
We have the opportunity to bring the relationship between citizens and their local govts into the 21st century - smarter 2-way info flows

3.5 ★★★★★ (10 Δ)
Ranked #34 of 113

Ideas, thoughts, solutions, big and small can easily be shared - just like this!
Waiting for big government to solve our problems is a fools game. Grassroots solutions are the path.

3.4 ★★★★★ (10 Δ)
Ranked #50 of 113

Push texts
Immediate information to residents

3.0 ★★★★★ (25 Δ)
Ranked #90 of 113

ENVIRONMENTAL

<p>public transit, water issues, road conditions, fire hazard in the surrounding areas, growth planning, health planning all (plus many more) have the potential to identify problems before they occur. Instead of being reactionary, public agencies can be proactive</p> <p>4.0 ★★★★★ (24) Ranked #5 of 113</p>	<p>Monitor infrastructure systems for leaks and efficiency losses Water line losses increase costs and may run unknown for some time. Sensor additions in upgrades could pinpoint trouble areas.</p> <p>4.0 ★★★★★ (21) Ranked #6 of 113</p>	<p>LED street lighting combined with sensor tech. Vast savings to communities in power costs (thus taxes) and different sensors mounted on the light standards can keep track of pollution and more</p> <p>3.6 ★★★★★ (14) Ranked #36 of 113</p>
<p>Water Shed monitoring Many people get water from local sources. Online data regarding the flow rate and water quality would be useful for residents</p> <p>3.8 ★★★★★ (10) Ranked #14 of 113</p>	<p>Better wildfire mapping and monitoring Public safety</p> <p>3.7 ★★★★★ (27) Ranked #17 of 113</p>	<p>environmental monitoring through sensor technology The West Kootenays have a long history of mining, logging, and other resource extraction and processing technologies.</p> <p>3.7 ★★★★★ (14) Ranked #22 of 113</p>
<p>Example is water, the RDCK is currently doing a project to identify flood risk for all of our creeks, we need data on water quality and quantity. We would have a more holistic view of our water resources</p> <p>3.7 ★★★★★ (10) Ranked #24 of 113</p>	<p>Smart energy measures and controls Control the power grid to increase and decrease the flow of energy by time of day and demand, and variable rate billing.</p> <p>3.5 ★★★★★ (17) Ranked #53 of 113</p>	<p>grid-connected micro solar arrays for each household, coupled with e-vehicle storage use electric vehicles as connected storage systems</p> <p>3.4 ★★★★★ (17) Ranked #50 of 113</p>
<p>virtualization and sensors can be installed on critical public infrastructure to identify problems before they occur reduced risk of major events, performance optimization</p> <p>3.4 ★★★★★ (25) Ranked #62 of 113</p>	<p>More efficient utility services Savings to local taxpayers</p> <p>3.4 ★★★★★ (24) Ranked #63 of 113</p>	<p>Improved data connectivity leads to less hard wire and more wireless Less infrastructure capital cost and less maintenance. Improved aesthetics and environment.</p> <p>3.4 ★★★★★ (15) Ranked #68 of 113</p>
<p>Indoor greenhouses Use power from Nelson Hydro to grow local veggies indoors for locals in winter. Use LED lights and stacking tray tech. Geothermal / woodwaste heating</p> <p>3.3 ★★★★★ (17) Ranked #75 of 113</p>	<p>Avalanche monitoring Protect backcountry users and help them make informed decisions</p> <p>3.2 ★★★★★ (27) Ranked #77 of 113</p>	<p>Would be great to have transparent data info on the solar garden. allow residents to put energy back into the grid. Housing app to help address needs</p> <p>3.2 ★★★★★ (26) Ranked #78 of 113</p>
<p>Resolving problems locally is much more achievable with the ability to source solutions globally. Imagine a cooperatively and collaboratively built locally to reduce our local carbon output.</p> <p>3.2 ★★★★★ (17) Ranked #80 of 113</p>	<p>Environmental cross contamination and the effect on its residents It is important to apply a larger plan that encompasses all the local areas since environmental factors are not place specific</p> <p>2.8 ★★★★★ (11) Ranked #95 of 113</p>	

SOCIAL CONSIDERATIONS

Being able to use technology to assist with people living in poverty.
Nelson has the second highest poverty rate in the province.

3.7 ★★★★★ (10 🗳️)
Ranked #23 of 113

Provide the Food bank with the ability to be able to use tech to coordinate with local producers and restaurants

3.7 ★★★★★ (10 🗳️)
Ranked #26 of 113

Us baby-boomers are a needy lot. We'll need services as we age. I'm told there are a lot of us.
We'll want services we can't even imagine yet. This need requires all sorts of support that will come to us in-home. Bandwidth is crucial.

3.6 ★★★★★ (10 🗳️)
Ranked #35 of 113

Use Tech to assist Restaurants with providing leftover to the food bank
Reduce food waste

3.6 ★★★★★ (10 🗳️)
Ranked #40 of 113

Use technology to connect assist with gathering food for food banks. Connecting local farmers to food bank.
Reduce the waste in local food production and usage

3.5 ★★★★★ (11 🗳️)
Ranked #53 of 113

Reduce poverty
Increases quality of life for everybody in the community

3.4 ★★★★★ (15 🗳️)
Ranked #69 of 113

Single Community Events Calendars
Helps Community members, families, and event organizers to plan better.

3.1 ★★★★★ (20 🗳️)
Ranked #85 of 113

West kootenay regional central data bank for housing rentals/leases.
serious housing challenges in our area and lack of consistency to access information. With one data bank, win-win for renter and rentee.

3.1 ★★★★★ (17 🗳️)
Ranked #88 of 113

Mental health and homelessness
This is a growing issue, and the resources used by RCMP dealing with the effect, rather than addressing the cause, has to change. Need better housing

3.1 ★★★★★ (17 🗳️)
Ranked #89 of 113

Online training sessions that show how to properly can and /or ferment food.
This would allow some volunteers to be able to provide some assistance to can and /or ferment food that can be used by the food bank in the winter

2.8 ★★★★★ (10 🗳️)
Ranked #96 of 113

Helping people find affordable housing
There are no starter homes

2.7 ★★★★★ (20 🗳️)
Ranked #97 of 113

Lending library of tools, sporting goods, and small appliances.
If Blockchain Tech was used to create a lending library for these things it would be easy to keep track of, People would share and save money.

3.5 ★★★★★ (17 🗳️)
Ranked #52 of 113

Online directories for services
People need to access services, however, there is no centralized directory for many different types of services.

2.8 ★★★★★ (18 🗳️)
Ranked #94 of 113

HEALTH & EDUCATION

Increased access to remote medical services
video appointments, diagnostic tools etc could be extremely impactful for elderly people challenged by the remoteness of their home when they are ill

4.0 ★★★★★ (25 🗳️)
Ranked #4 of 113

Improving access to education
Between school closures for young people and access to higher/continued education for adults, improving technology can facilitate access.

3.6 ★★★★★ (27 🗳️)
Ranked #28 of 113

Video conferencing to connect people in this region with medical specialists in larger centers.
The quality of medical care is far better in the larger centres. This could help even out the discrepancies.

3.6 ★★★★★ (19 🗳️)
Ranked #32 of 113

Empowering people to learn - more local traction for learning renewable energy technologies + information technologies.
Fostering a community that is encouraged to learn benefits of technology will help us create a more efficient and sustainable community.

3.5 ★★★★★ (17 🗳️)
Ranked #51 of 113

Help people access health care
poor public transportation and too few doctors are barriers

3.5 ★★★★★ (18 🗳️)
Ranked #57 of 113

Shorten the distance between rural and urban centres
Better acces to healthcare without having to drive to a bigger centre for a 15min follow up appt

3.3 ★★★★★ (25 🗳️)
Ranked #72 of 113

education

2.4 ★★★★★ (12 🗳️)
Ranked #100 of 113

Smart Cities Challenge

Specific to moving around safely and reliably and staying connected with each other, what would successful implementation of the Smart Cities Challenge look like in your life and our communities?

24 April 2018

 110 People  71 Thoughts  718 Ratings

“Top 20 thoughts from the second exchange for Smart Kootenays bid to the Smart Cities Challenge”
-West Kootenay SCC Group



Discover the rest of the conversation at:
<https://my.thoughtexchange.com/#974574534>

Here are 20 thoughts that received the highest star ratings

Develop a West Kootenays transportation app that allows you to see in real-time the location and availability off all available modes of transport.
 You can determine where the buses are, where the nearest electric changing station is, where the car share vehicle is, or where the e-bike pick up is.

4.5 ★★★★★ (12 👤)
 Ranked #1 of 20

5	★	████████████████████
4	★	██████████████████
3	★	██████████████
2	★	██████████
1	★	██████

Increased reliability of air transportation
 People and products are moving into and out of the region seamlessly resulting in economic and social well-being

4.4 ★★★★★ (14 👤)
 Ranked #2 of 20

5	★	████████████████████
4	★	██████████████████
3	★	██████████████
2	★	██████████
1	★	██████

Able to easily connect with alternate travel plans when flights are cancelled.
 Unreliable air-travel creates need for an easy affordable way to come up with alternatives.

4.3 ★★★★★ (14 👤)
 Ranked #3 of 20

5	★	████████████████████
4	★	██████████████████
3	★	██████████████
2	★	██████████
1	★	██████

Significantly improved air travel reliability.
 It's vital for successful business, tourism and life.

4.3 ★★★★★ (10 👤)
 Ranked #4 of 20

5	★	████████████████████
4	★	██████████████
3	★	██████████
2	★	██████
1	★	██████

Access to an uber-like way to travel between communities
 Increase ability and affordability to travel throughout the region

4.2 ★★★★★ (14 👤)
 Ranked #5 of 20

5	★	████████████████████
4	★	██████████████████
3	★	██████████████
2	★	██████████
1	★	██████

Better navigation technology for our airports
 Increase reliability so that people are able to visit larger centers and people from larger centers are able to visit the Kootenay region.

4.2 ★★★★★ (13 👤)
 Ranked #6 of 20

5	★	████████████████████
4	★	██████████████████
3	★	██████████████
2	★	██████████
1	★	██████

 [Discover the rest of the conversation at: https://my.thoughtexchange.com/#974574534](https://my.thoughtexchange.com/#974574534)

Install the needed technology to make the Castlegar airport more reliable.

Airport reliability will help improve the regional economy and reduce the complexity and uncertainty that travel to and from the region presently has.



Public transportation that is frequent; information on schedules/ routes are easily accessed via apps

The easier it is to access public transportation, the more likely it is to be used.



Significantly increased transit. More routes running more often. Both within city limits, and connecting communities. App enabled.

Because no matter how much tech you inject into this system, it won't matter unless matched by wheels on the ground.



There are some significant areas without cell coverage, which limits communication and hinders emergency services such as fire/rescue.

Natural disasters are a risk in our mountainous and forested region. Not having cell coverage (e.g. Slovan valley) is almost shocking.



some way to expand cellular coverage important to remain connected for business and emergencies



Broadband Internet

Broadband internet in homes and business would be more reliable, faster, and make connecting with our community easier.



Discover the rest of the conversation at:
<https://my.thoughtexchange.com/#974574534>

It can be a barrier to access and/or communicate with professionals such as counselors and doctors if travel is required over long mountain terrain

Residents accessing professionals in other communities would not require full day loss of employment to travel

4.2 ★★★★★ (12 ⭐)
Ranked #13 of 20



Promote ride sharing / car pooling for daily commuters

Many people drive into town every day. Could there be a web app that would make it easy for commuters to share rides?

4.2 ★★★★★ (11 ⭐)
Ranked #14 of 20



Growth of the rideshare network

This will reduce traffic and carbon emissions, while fostering connections between individuals, riding in cars together.

4.1 ★★★★★ (13 ⭐)
Ranked #15 of 20



Is there a bus coming?

Bus service isn't very frequent in rural areas. It would be great to open an app and see where the bus is to know if it's worth waiting for it.

4.0 ★★★★★ (13 ⭐)
Ranked #16 of 20



Roads, Buses, Bike Path, Shared Services

Make these communities behave like a larger more sustainable community. Stop trying to stand alone.

4.0 ★★★★★ (12 ⭐)
Ranked #17 of 20



More people moving to and working from our region.

Economic growth and prosperity.

4.0 ★★★★★ (10 ⭐)
Ranked #18 of 20



Safer/more options for travel for people that are inebriated

Too much drinking and driving as the result of not having any options to get home safely and for a reasonable price

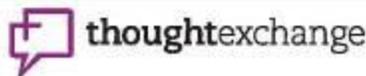
4.0 ★★★★★ (8 ⭐)
Ranked #19 of 20



Reliable accessible affordable online connectivity

Increases connections between residents and reduces need to travel

3.9 ★★★★★ (14 ⭐)
Ranked #20 of 20



Discover the rest of the conversation at:
<https://my.thoughtexchange.com/#974574534>

APPENDIX D: PARTNER CONTRIBUTIONS

Partner Organization	Relevance to Smart Kootenays	Contribution to Outcome
Other Local Governments		
Regional District Central Kootenay	These regions geographically connect our applicant communities.	<ul style="list-style-type: none"> •Participating on a project advisory committee •Providing data and/or helping to identify data sources •Supporting public engagement efforts •Supporting the integration of technology solutions with existing platforms
Regional District Kootenay Boundary		
Provincial Government Ministries		
Forest Lands and Natural Resource Operations and Rural Development	Provincial Government Ministries have well-established, documented, and recongized data collections and distribution processes that will be harnessed wherever possible to establish baselines for measureable outcomes that are consistent and scalable throughout the province.	<ul style="list-style-type: none"> •Providing data and/or helping to identify data sources •Supporting the integration of technology solutions with existing platforms
Advanced Education, Skills & Training		
Environment and Climate Change Strategy		
Transportation and Infrastructure		
Public Sector Organizations		
Selkirk College	These organizations provide opportunities to integrate with established curriculum, training, and workforce development initiatives as well can help pilot solutions to transportation challenges.	<ul style="list-style-type: none"> •Participating on a project advisory committee •Providing data and/or helping to identify data sources •Supporting public engagement efforts •Supporting dissemination and knowledge mobilization efforts •Supporting the integration of technology solutions with existing platforms •Project management •Leveraging funding
Columbia Basin Rural Development Institute (CBRDI)		
School District #8: Kootenay Lake		
School District #20: Kootenay-Columbia		

<u>Partner Organization</u>	<u>Relevance to Smart Kootenays</u>	<u>Contribution to Outcome</u>
<p><i>Economic Development Practitioners</i></p> <p>Nelson and Area Economic Development Partnership (NAEDP)</p>	<p>The NAEDP is working on projects to help Nelson be recognized as an Intelligent Community. They applied for the designation from the Intelligent Communities Forum in 2016 and were ranked among the ICF's Smart21 communities. They hope to improve that standing during the 2018 application.</p>	
<p>Lower Columbia Initiatives Corporation (LCIC)</p>	<p>Rural businesses and residents benefit when our economic drivers remain healthy and more viable; the success of this submission will provide our region with solutions to the current transportation challenges, providing positive economic growth and stability which is essential to the sustainability of our communities.</p>	<ul style="list-style-type: none"> •Participating on a project advisory committee •Providing data and/or helping to identify data sources •Supporting public engagement efforts •Supporting dissemination and knowledge mobilization efforts
<p>Community Futures Central Kootenay (CFCK)</p>	<p>CFCK helps businesses to be successful and communities to be economically healthy.</p>	<ul style="list-style-type: none"> •Supporting the integration of technology solutions with existing platforms •Leveraging funding •Project management (CFCK)
<p>Community Futures Greater Trail (CFGT)</p>	<p>CFGT strongly supports of the Smart Kootenays submission to the Government of Canada's Smart Cities Challenge. Their region's submission focuses on using data and technology to address the challenges that result from living in a mountainous, rural region- specific to moving around safely and reliably and staying connected with each other.</p>	
<p>Castlegar Economic Development Office</p>	<p>Castlegar is undertaking a number of initiatives to solidify its role as a regional service centre for the West Kootenay.</p>	

<u>Partner Organization</u>	<u>Relevance to Smart Kootenays</u>	<u>Contribution to Outcome</u>
<i>Social Non-Profits</i>		
Columbia Basin Alliance for Literacy (CBAL)	Engaged to reduce impacts of geographic isolation and support inclusive access of seniors through enhanced digital literacy.	<ul style="list-style-type: none"> •Supporting public engagement efforts •Supporting the integration of technology solutions with existing platforms
Nelson Cares Society	Provides ridesharing services throughout our communities.	<ul style="list-style-type: none"> •Supporting the integration of technology solutions with existing platforms
Sustainable Kootenays	The Kootenay Association for Science & Technology (KAST) is a non-profit working to build a recognized, vibrant and prosperous technology community in the West Kootenay region of BC by connecting and solving problems for entrepreneurs.	To be determined.
<i>Technology Experts</i>		
i4C innovation	i4C innovation offers a wealth of technological expertise alongside their custom-designed Industry 4.0 infrastructure, equipment, professional services and access to venture capital focused on digital technologies.	<ul style="list-style-type: none"> •Providing access to i4C's 40,000 sq. ft. of labs, clean rooms, sensor assembly rooms, meeting spaces etc. •Participating on a project advisory committee •Providing data and/or helping to identify data sources •Providing technology expertise •Supporting public engagement efforts •Supporting dissemination and knowledge mobilization efforts •Supporting the integration of technology solutions with existing platforms
Martech Electrical	Martech's goal is to service the region's homeowner and to utilize data to identify population trends as it relates to the usage of resources. Smart Solutions bring the IOT solutions to our electrical and steel fabrication divisions and together they are able to provide a "one stop shop" for small to large scale projects. This includes everything from street light upgrades, running fiber to homes/businesses, to working towards the eventual shift to "Smart Grids".	Martech's electrical services handle residential to powerline, distribution, and fiber. They have a large team and service the entire B.C. interior. They have the equipment, experience, and variety of services needed for many of the infrastructure projects that are needed for the upgrades our area requires.
Martech Smart Solutions		

Partner Organization <i>Technology Experts Cont.</i>	Relevance to Smart Kootenays	Contribution to Outcome
Selkirk Geospatial Research Centre (SGRC)	The SGRC uses state-of-the-art geoinformation technologies for applied research, application development, decision-support, training, and technical support. SGRC projects focus primarily on remote sensing, geographic information system (GIS) analysis, internet mapping, UAVs, and increasingly, the use of 3D data including LiDAR point clouds and DEMs.	<ul style="list-style-type: none"> •Participating on a project advisory committee •Providing data and/or helping to identify data sources •Supporting public engagement efforts •Supporting dissemination and knowledge mobilization efforts •Supporting the integration of technology solutions with existing platforms
Private Sector Thoughtexchange	The Thoughtexchange platform has been used to acquire public input during the Smart Kootenays application development process through engagement of West Kootenay residents in determining the region's desired Smart Cities Challenge technology solutions outcomes.	<ul style="list-style-type: none"> •Participating on a project advisory committee •Supporting public engagement efforts •Supporting dissemination and knowledge mobilization efforts
Teck Metals Ltd. (Trail Operations)	We have identified Teck Metals Ltd. as a large employer that face the same challenges surrounding transportation throughout our region. They provide a unique opportunity to engage a large group of residents in our pilot projects to maximize measureable impacts.	To be determined.