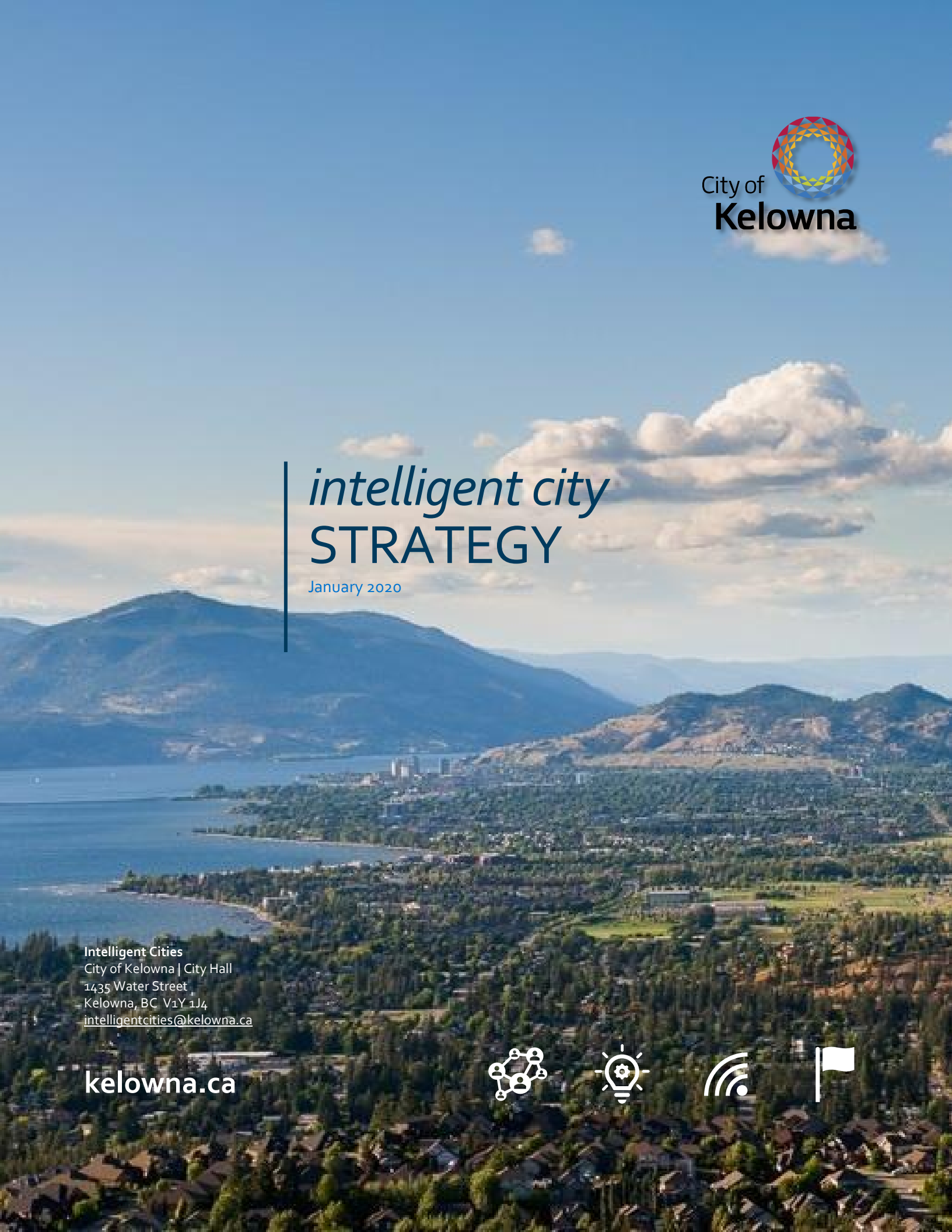

City of Kelowna

intelligent city STRATEGY

January 2020

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executive SUMMARY

EXECUTIVE SUMMARY

Why be an Intelligent City?

Technology and data are transforming every part of society – government, education, family, healthcare, and the economy. This is why municipalities, like the City of Kelowna, are exploring how to use technologies, data, automation and increased connectivity to improve operations and services. In this context, Smart City technologies can have a positive impact on a number of high-priority issues facing our communities.

While being a Smart City has allowed the City of Kelowna to improve efficiencies, reduce costs and improve departmental outcomes, we are facing increasingly complex community issues that often require creative solutions. Partnerships have the potential to develop solutions to these issues. This has inspired our shift from Smart to Intelligent; while Smart Cities use technology to improve the way cities work, Intelligent Cities use technology to create better cities, improving the lives of those that spend time in them.

While Smart Cities use technology to improve the way cities work, Intelligent Cities use technology to create better cities, improving the lives of those that spend time in them.

Development of an Intelligent City Strategy

Our Intelligent City strategy embraces Infrastructure Canada's Smart Cities Challenge goals of achieving outcomes for residents, empowering local innovation and forging new partnerships by working closely with stakeholders within the City and the community. Drawing from existing *strategic direction* (Council and Corporate priorities, Imagine Kelowna), and feedback gathered during consultation with internal and external stakeholders, we developed the following principles to guide us:

Collaborative	*We will look for ways to work with others, both across City departments and in the community, to meet collective challenges.*
Innovative	*We believe that by embracing risk and being innovative, we can transform our city.*
Connected	*We will work to provide high-quality digital access and services to staff and the community anywhere, anytime.*
Responsible	*We will make sure that we only collect what we need and protect the privacy of those we collect from.*

Intelligent City vision & strategies

Our Intelligent City vision is to find ways to improve the lives of residents through access to online services, technological innovation and collaborative problem-solving, creating local solutions to local problems. And our Intelligent City strategies guide us on our path to becoming an Intelligent City.

Strategy one

Intelligent foundation: Create a digital & intelligent City

We will work towards this strategy by automating and digitizing business and service delivery, and enabling data driven decision-making to guide our work to create a better city.

Strategy two

Intelligent collaboration: Foster a collaborative network that leverages technology to solve complex city problems

We will work towards this strategy by engaging and empowering our staff, community and stakeholders to collaborate on shared problems, and creating digital equity and improved connectivity.

Strategy three

Intelligent catalyst: Provide guidance and tools to help others meet their priorities

We will work towards this strategy by developing the processes and mechanisms for City departments and the community at large to innovate.

For more detail, check out the complete Intelligent City Strategy.

how to use this DOCUMENT & DEFINITIONS

HOW TO USE THIS DOCUMENT & DEFINITIONS

The *executive summary* is a glance into the work that we are doing to become an Intelligent City, but if you'd like more detail, you can dive into *our intelligent city strategies*, which will more deeply explore themes, related strategies and work already underway. Further context is provided in the *vision* section.

Key definitions

A big part of our journey to be an Intelligent City involves educating and creating understanding. The following definitions aim to clearly explain what some of the main terms in this document mean, so that anyone with any background or education might understand what we are talking about in the following pages. For additional definitions, check out our *definitions.*

Key terms

Smart City

A Smart City is a municipality that uses sensors connected to the internet to collect data and then use it to improve the management of assets and resources. Data is collected from citizens, devices, and other infrastructure or equipment that is monitored and analyzed to manage various public systems and community services.

Intelligent City

While Smart Cities focus on technology to improve the way that cities operate, an Intelligent City is a municipality that focuses on finding collaborative and innovative solutions to complex and shared community problems, often with the aid of technology.

Term	Definition
5G network	Considered the next generation of internet access, 5G uses a different frequency (then what is currently used for 4G or LTE coverage) to transmit data through the air, which reduces disruptions, increases speeds and improves reliability.
Artificial intelligence (AI)	AI is intelligence demonstrated by machines, as apposed to the natural intelligence of humans and animals. The term is also used to describe machines that mimic cognitive functions that humans associate with other human minds, such as learning and problem solving.
Chatbot	A chatbot is technology that often uses artificial intelligence to simulate human conversation, usually over the internet. Chatbots can be text or speech based. Often seen on websites, social media and smart devices (e.g. Siri, Alexa).
Connectivity	Connectivity is the ability of devices to be able to connect to other devices through the internet. It can also refer to the

	ability of people to connect and communicate with each other.
Data	Data is information that is gathered for monitoring, reporting and analysis. This may include personal information and statistics.
Design thinking	"Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success." (*Source: Tim Brown, IDEO*)
Digital divide	Digital divide is the gap between people who have the resources to access and use technology and those who do not.
Digital literacy	Digital literacy is a person's ability to understand, use and communicate through digital platforms.
Open data	Open data is data that is free for anyone to access, use, reuse and redistribute.
Service design	Service design is the planning and organizing of all the parts of a service to improve its quality from both a customer and service provider perspective.

For more key terms, visit the *definitions* in Appendix A.

introduction

INTRODUCTION

The rapid growth of digital technology and data is transforming government, education, family, healthcare, and the economy.

This is why municipalities, like the City of Kelowna, are exploring how to use new technologies, data, automation and increased connectivity to improve operations and services. From predictive modeling to assist with the planning of future cities, to aerial drones that manage disaster response, Smart City technologies can have a positive impact on a number of high-priority issues facing our communities, including community safety, transportation and environmental protection.

From smart to intelligent

We are a Smart City looking to make the leap to be an Intelligent one.

***Smart cities** use technology to improve the way cities work. **Intelligent cities** use technology to create better cities, improving the lives of those that spend time in them.*

In 2018, we became a Smart21 Communities finalist, recognized for our efforts to "humanize data for [our] people, businesses and institutions – from driving economic growth to reducing inequality, increasing sustainability to improving urban planning." And in 2019, Kelowna was ranked 19th in terms of innovation by the Intelligent Community Forum.

Also in 2018, we submitted an application for Infrastructure Canada's Smart Cities Challenge that focused on housing and homelessness. While we didn't make it to the next round, the Journey Home Taskforce was created and is currently working on initiatives that look to improve results for some of our most vulnerable in the community.

While being a Smart City has allowed the City of Kelowna to improve efficiencies, reduce costs and improve departmental outcomes, we are facing increasingly complex community issues that will require creative solutions. Community partnerships have the potential to develop solutions to these issues. This has inspired our shift from Smart to Intelligent; while Smart Cities use technology to improve the way cities work, Intelligent Cities use technology to create better cities, improving the lives of those that spend time in them.

Backed by the community

Through the Imagine Kelowna engagement process (a vision created by our community), residents recognized that inclusivity and diversity make us stronger and more innovative. And that the wellbeing of Kelowna depends on the shared responsibility of individuals, businesses, government, academia and community organizations coming together to address some of the complex issues facing our community. This is at the heart of our Intelligent City Strategy. To learn more about how Imagine Kelowna influences our work, check out the *strategic direction* section.

Our community is full of smart, talented people who are already working on ways to make Kelowna a better city and we want to find ways to work with and support them.

Privacy and your personal information

The privacy and security of resident's personal information is a top priority. Intelligent Cities will ensure compliance with BC's Freedom of Information and Protection of Privacy Act (FOIPPA) and work with the Office of the Information and Privacy Commissioner of BC (OIPC) to identify and asses any potential concerns in the collection, use, management and storage of personal information as we increase our involvement in smart and intelligent city initiatives.

> *Our community is full of smart, talented people who are already working on ways to make Kelowna a better city; we want to find ways to work with and support them.*

Methodology

Development of this strategy included:

- Research and literature review of Smart City strategies, plans and initiatives in other municipalities (Q4, 2018)
- Stakeholder interviews with City and community stakeholders to identify needs and opportunities where collaboration could lead to improved outcomes (Q4, 2018 – Q1, 2019)
- Strategic direction alignment, to ensure that our strategy supports Council and Corporate priorities, and Imagine Kelowna (Q2, 2019)
- Focus groups for feedback on key concepts and ideas such as building capacity within the organization, effective methods for collaboration and delivering on Intelligent City projects and initiatives (Q2, 2019)

Additionally, interviews and learning sessions were organized with our academic partners, both municipal, regional, provincial and federal government partners, not-for-profits and the business community.

By identifying how we can achieve outcomes, empower local innovation and develop new partnerships, we were able to develop a strategy that will take the City from smart to intelligent.

A living strategy

As we move forward on our path to becoming an Intelligent City, our needs and the needs of our partners will change. This strategy and its initiatives will adapt to the needs of our community, while ensuring we don't lose sight of the shared vision of the future developed through Imagine Kelowna and embraced by our City Council.

our intelligent city

VISION

OUR INTELLIGENT CITY VISION

Vision

Our vision is:

*to find ways to **improve the lives of residents** through access to online services, technological innovation and collaborative problem-solving, **creating local solutions to local problems**.*

Principles

Drawing from existing *strategic direction*, the following principles are woven throughout this strategy. Look for the corresponding icons to see how each strategy contributes to our Intelligent City principles.

Collaborative

We will look for ways to work with others, both across City departments and in the community, to meet collective challenges. We will be faster to involve our stakeholders; from getting input and insights early in the process, to testing and iterating new ideas and implementing solutions that include feedback loops for continuous improvement.

Innovative

We will try new things and explore new ideas. We don't shy away from experimentation and embrace the potential of failure. We believe that by embracing risk and being innovative, we can transform our city.

Connected

We will work to provide high-quality digital access and services to staff and the community anywhere, anytime. We will explore and implement digital tools that help to connect our community and make collaboration easier.

Responsible

We are the stewards of the data we collect and share. We will make sure that we only collect what we need and protect the privacy of those we collect from. We will be ethical, transparent and ensure that our digital tools are secure.

Focus areas

From Council's priorities, we've identified three focus areas that lend themselves well to an Intelligent City framework: **community safety, transportation and mobility,** and **environmental protection**. These three areas are where we will focus our efforts during the implementation of this strategy and are reflected in the next (*strategies*) section of this document.

Community safety

Desired results: Crime rates are decreasing; residents feel safe; and data and analysis are used to understand problems and target responses

Transportation & mobility

Desired results: Investments are connecting high density areas; more trips by transit, carpooling, biking and walking; travel times are optimized; emerging technologies make it easier to get around; more opportunities to learn about transportation; and people of all ages and abilities can easily get around

Environmental protection

Desired results: Resiliency and adaptability to climate change; greenhouse gas emissions are decreasing; predictive modelling and forecasting; and emergency response and preparation

How we work

The role of Intelligent Cities will vary. Depending on the project or initiative and its priority (i.e. if it supports our focus areas and Council priorities), we might take the lead (or co-lead). In other cases, we may initiate a project, providing guidance in the process, and then step back. And in some cases, we may act as an advisor to help increase collaboration and partnerships, scale up an existing initiative, or provide tools and resources for others to complete the work independently. An example is our dark fibre network and our journey to 5G.

Already underway: The journey to a 5G network

As a Smart City, a number of projects are already underway or completed that will serve us well in an Intelligent City context. For instance, the City developed a dark fibre network to improve connectivity between municipal facilities located throughout Kelowna. With an eye to the future, the fibre network has been overbuilt, so that other businesses and industries with growing data and high bandwidth needs can connect to it. This project has been effective in creating a new revenue stream for the City, as well as contributing to retaining and attracting some of the city's technology- and creative-based businesses.

In the same way the City built its dark fibre network, it is looking ahead to new technologies and innovations that will play a pivotal role in the local economy. 5G connectivity has the power to transform not only how quickly people access information, but also how various industries and service providers will innovate and develop new solutions. With increased speeds that allow users to access large files in a couple seconds (compared to the tens-of-minutes we see today). Soon, we'll be adding to the list of things connected to the internet; in addition to computers and smartphones, we'll see more everyday objects brought online and thousands of sensors giving us the ability to gather insights in real time.

Intelligent Cities will play several roles to help plan how this technology will be introduced, established and managed so our residents, businesses and partners are able to take full advantage of this new technology. For example, we will work internally with various departments to understand our current connectivity issues and develop standards for third-party antenna use for small cell coverage, so that we have a better understanding of what a future 5G network will look like and where pain points might exist. We'll also work with industry partners to better understand their needs and where we can best support the development of this new technology.

Additionally, we'll collaborate with our community stakeholders to explore where improved connectivity may create new opportunities; from UBCO and the testing of autonomous vehicles, to Interior Health and the future of sensor technology in monitoring patients in real time.

Work with us

If you are working on something that might address some of these focus areas, there may be an opportunity for us to work together, or we might be able to point you in the direction of someone else undertaking a similar challenge… so, don't hesitate to contact us at ✉ IntelligentCities@kelowna.ca.

our intelligent city

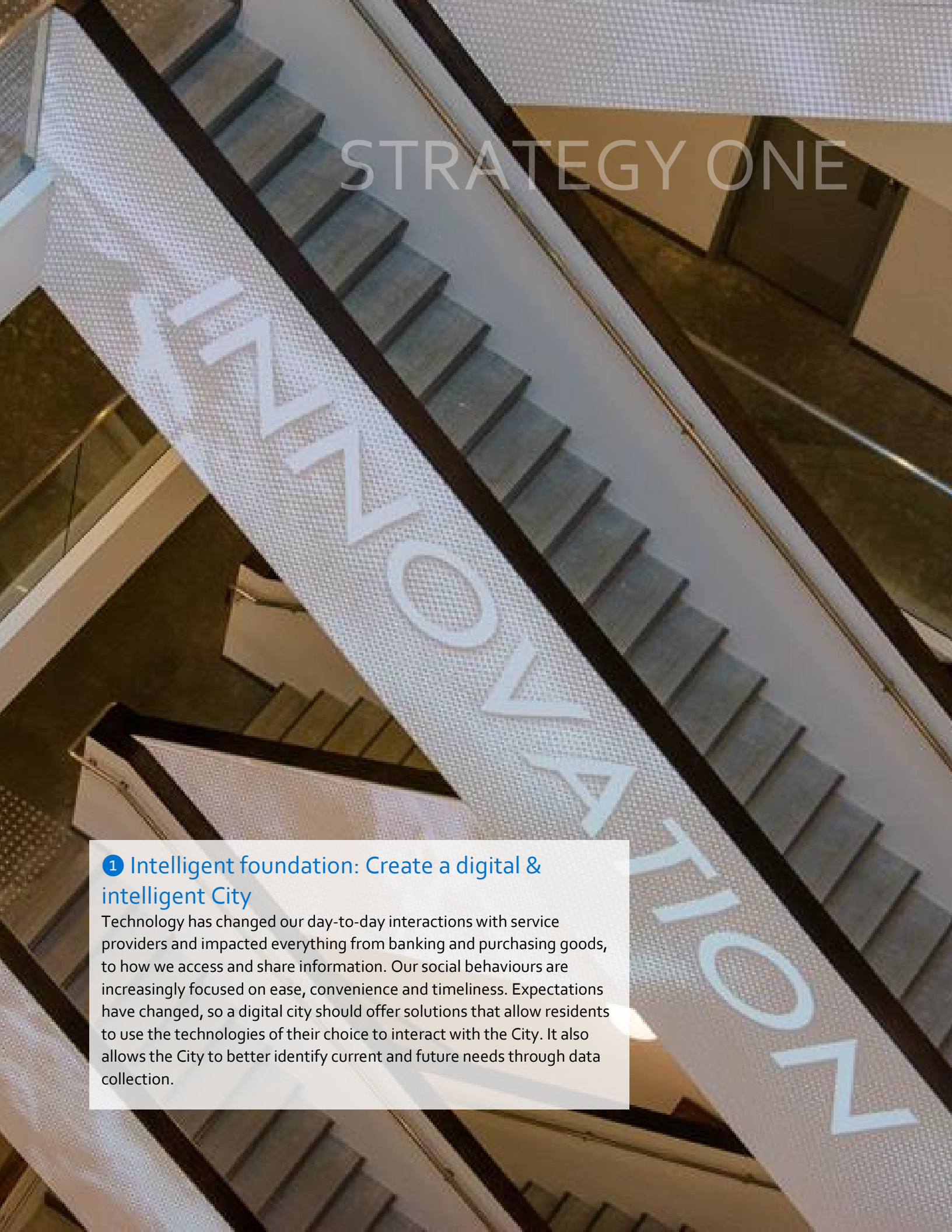
STRATEGIES

OUR INTELLIGENT CITY STRATEGIES

In the following sections, explore our Intelligent City strategies in detail, along with sub-strategies, actions and principle alignment. For a visualization of the strategies and their timing (short-, medium- and long-term), look for *our intelligent city roadmap* at the end of this document. For more information on terminology and how particular initiatives function, please reference our *definitions*.

Strategies, sub-strategies & actions

Strategies	Sub-strategies
❶ **Intelligent foundation:** **Create a digital & intelligent City**	a. Automate and digitize business and service delivery b. Enable data driven decision-making to guide our work to create a better city
❷ **Intelligent collaboration:** **Foster a collaborative network that leverages technology to solve complex city problems**	a. Engage and empower our staff, community and stakeholders to collaborate on shared problems b. Create digital equity and improved connectivity
❸ **Intelligent catalyst:** **Provide guidance and tools to help others meet their priorities**	a. Develop the process and mechanisms for City departments and the community at large to innovate



1 Intelligent foundation: Create a digital & intelligent City

Technology has changed our day-to-day interactions with service providers and impacted everything from banking and purchasing goods, to how we access and share information. Our social behaviours are increasingly focused on ease, convenience and timeliness. Expectations have changed, so a digital city should offer solutions that allow residents to use the technologies of their choice to interact with the City. It also allows the City to better identify current and future needs through data collection.

To create a digital and Intelligent city requires that we…

1a● Automate and digitize business and service delivery

To meet the standards for service that our residents have come to expect (think: private service providers like our financial institutions), we must evolve the way we deliver our services. Moving services online will allow us to provide great customer service, improve efficiencies, reduce staff time fielding routine questions and provide more measurable data that can help us make better, more informed decisions. Shifting services online also unlocks the ability to leverage other digital technologies, like automation and artificial intelligence. We can move our organization toward digital maturity by exploring how to use data and technology to evolve and improve all aspects of City business.

How we will support Council priorities

By undertaking this strategy there could be a positive impact on **transportation and mobility** through further digital interactions and data collection. We could see improvements in travel times, access and use of online tools for booking, paying, planning and tracking trips, and overall accessibility.

Sub-strategies & actions

Principle legend: = collaborative | = innovative | = connected | = responsible

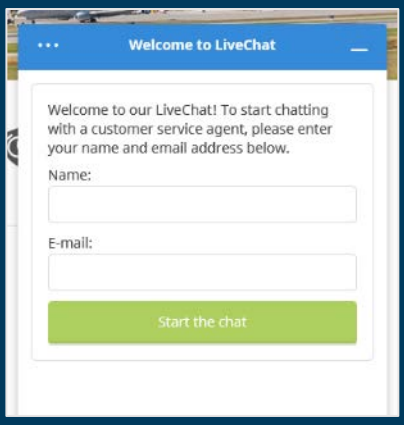
Sub-strategy	Action(s)
Shift key government functions such as business licensing, permitting, billing and service requests online	Have high demand City business requests occurring and completed online or in a digital format
	Develop Online Experience Standards that dictate how the City, across all business units, interact with their customers
	Improve how online services are delivered from request to completion
Establish policies and procedures to make sure that personal data is protected during the shift online	Be transparent about how, when and why data is collected and for how long.

What success looks like

- Faster service interactions for users and providers
- Improved transparency and expectations for service delivery with customers
- Increased efficiencies in processing, managing and delivering services
- A single-login customer portal for all City related interactions

Already underway: Employing chat bots to improve customer service and reduce staff time

To improve customer service and adapt to changing technologies, live chat features have become a popular option on websites. Live chat connects users to a live agent through a dialogue (chat) window and helps web visitors find the information they need faster, as well as answer questions in real time. We've already implemented this feature on select pages on kelowna.ca and on all pages of the Kelowna International Airport website, ylw.kelowna.ca. Today, live chat agents can assist you with City recreation and airport questions during regular work hours (generally 8 a.m. to 4 p.m., Monday to Friday, excluding statutory holidays).



But people fly and visit the airport at all times of the day, especially on holidays, so what can we do to provide great customer service 24/7 without increasing the demand on staff resources? Automation might be the answer, which is why we are looking into chat bots. Chat bots are computer programs designed to simulate a human-like conversation with users. They can be programmed to integrate with our existing live chat platform, provide answers to frequently asked questions and respond with forms or applications that might need to be completed. They can also learn from their mistakes, have a personality that mirrors the brand of the organization, and transfer harder cases to a live agent for further assistance.

With residents increasingly looking to access City information and services online, we must make sure that our online services provide a consistent and useful experience. As part of our Intelligent City mandate, we are looking at solutions that will help users connect with important information and services more quickly, easily and conveniently, while supporting staff so that they have more time to work on other priorities.

1b• Enable data-driven decision-making to guide our work to create a better city

By transitioning more of our interactions online, we can capture and use data to guide the decision-making process. We'll look to create data standards to ensure good data quality while training staff on best practices for data collection and management, and how to use analytics to inform decisions.

How we will support Council priorities

Using data and analytics for **community safety** initiatives and programs, we can start to see trends that pinpoint aspects of the city we can change to improve outcomes. We can dive into the things that contribute to being a safe city, whether it's having certain business types in specific areas of the city, the impact of vacancy rates in our business community, or even the time that street lights turn on during the day in order to reduce crime and increase a feeling of safety.

Sub-strategies & actions

Principle legend: = collaborative | = innovative | = connected | = responsible

Sub-strategy	Action(s)
Increase digital literacy and employ analytics to support all departments in business development	Create City data standards that promote consistency, transparency and openness
	Build capacity for data analytics and using data for decision-making
	Determine the organization's digital maturity and create programs to address gaps in knowledge and understanding
	Work to develop dashboards that track performance measures and update departments on whether they're on track to meet them
	Continue to build a holistic digital twin (a digital copy of the city that can predict the impact of a suggested change to all aspects of a city) of Kelowna to understand the impact of changes to our built environment

What success looks like

- Data-driven decision-making for complex issues practiced throughout the City
- Improved staff comfort with employing analytics in their reports and presentations
- Real time tracking and awareness of key indicators
- A digital twin to test the impact of proposals on the City's built environment

2 Intelligent collaboration: Foster a collaborative network that leverages technology to solve complex city problems

Building on the success of the Imagine Kelowna public engagement, we'll look to work with thought-leaders and other community partners to address some of the more complex problems affecting our city. We're interested in creating local solutions for local problems and working together to meet our shared vision for the future Kelowna.

To foster a collaborative network that leverages technology to solve complex city problems requires that we…

❷a• Engage and empower our staff, community and stakeholders to collaborate on shared problems

To tap into the vast knowledge and expertise that already exists in our community, we will find traditional and new ways to engage and collaborate within the City and in the community. Improved connectivity and exploring new technologies will help make this happen. By increasing collaboration and partnerships with stakeholders that share our goals, we can work together more efficiently and effectively to address some of the complex issues affecting our city. We will work with partners across the region to scope and address complex problems that cross municipal boundaries, while developing partnerships and solutions with our talented and growing tech sector.

How we will support Council priorities

Engaging and collaborating means finding better ways to communicate and share our concerns, pain points and opportunities. We'll build teams that include both internal and external stakeholders that will look at complex problems related to **community safety, transportation and mobility,** and **environmental protection**, and find innovative ways to address them.

Sub-strategies & actions

Principle legend: = collaborative | = innovative | = connected | = responsible

Sub-strategy	Action(s)
Share with our community what we're doing and where there's opportunity to collaborate	Strengthen stakeholder networks locally and regionally to examine shared problems
	Partner with others to run civic-focused, collaborative events that support the community to create solutions
	Leverage public engagement platforms for Intelligent City projects
	Hold an Intelligent Cities summit that brings together other municipalities, organizations and community groups that are working on smart and intelligent city initiatives
Position the City as a living lab for creation	Strengthen our online Open Data and app offerings to educate and support research and development
	Partner and support the Okanagan tech sector to develop solutions to complex problems
	Facilitate the development of proof of concepts (POCs) and explore scalability of solutions to transform the business
Support cross departmental collaboration	Use digital and in-person tools to support cross-departmental project teams
	Develop a Services Catalogue that informs staff and external partners on services and who to involve on projects and initiatives

	Establish an inter-departmental group(s) of innovators to share findings and touch points that strengthen community partnerships

What success looks like

- Increased civic engagements with community stakeholders
- Increase in inter-departmental collaboration both in person and online on complex issues
- Piloting, prototyping and proof of concept to test solutions
- Educational campaigns and events for stakeholders and the community
- Increased Open Data offerings that go beyond geospatial data
- Increase in overall awareness of subject matter experts and contacts inside and out City

Already underway: CCTV camera registry partnership with the Kelowna RCMP

Technology tends to become more affordable over time and, as a result, becomes more prevalent in its use. The technology behind video cameras has resulted in them being smaller, more powerful and affordable enough that anyone can purchase them. As a result, businesses, residents and even the City have made investments in cameras for video surveillance, theft prevention and public safety.

Evidence required to solve a crime can sometime be recorded by a nearby CCTV camera. Historically, the RCMP have had to canvas the neighbourhood to determine if any CCTV cameras may have camera footage with vital evidence. This process can be time consuming and may not yield immediate results because it is dependent on the camera owner's availability and willingness to participate.

Since time is of the essence, the City, RCMP, and Downtown Kelowna Association are developing a CCTV camera registry pilot program to help the RCMP access footage from businesses and residents in a fast and efficient manner. If an incident were to occur, City staff would be contacted by the RCMP to determine if a camera was in the area that could be accessed. Provided with the camera owner's contact information, RCMP officers would be able to contact camera owners quickly to request access to their video footage. If successful, the pilot can be expanded to include other neighbourhoods that are seeing an increase in property related crime.

2b• Create digital equity and improved connectivity

To increase civic online engagement in Kelowna, we need to make sure that all residents have fast and reliable internet access, as well as the knowledge and skills to use it. To support this strategy, we will take steps to ensure that in our move to be a more digital city we won't leave anybody behind by leveraging both existing and new innovative solutions that can bridge the digital divide and improve digital literacy.

How we will support Council priorities

When it comes to **environmental protection,** making sure that people, devices and Internet of Things (IoT) sensors can connect and send real-time data and information to emergency management agencies is critical in our changing climate. Increased connectivity could allow us to deploy resources more effectively in emergencies (like fires or floods), which has the potential to save lives, infrastructure and private property.

Sub-strategies & actions

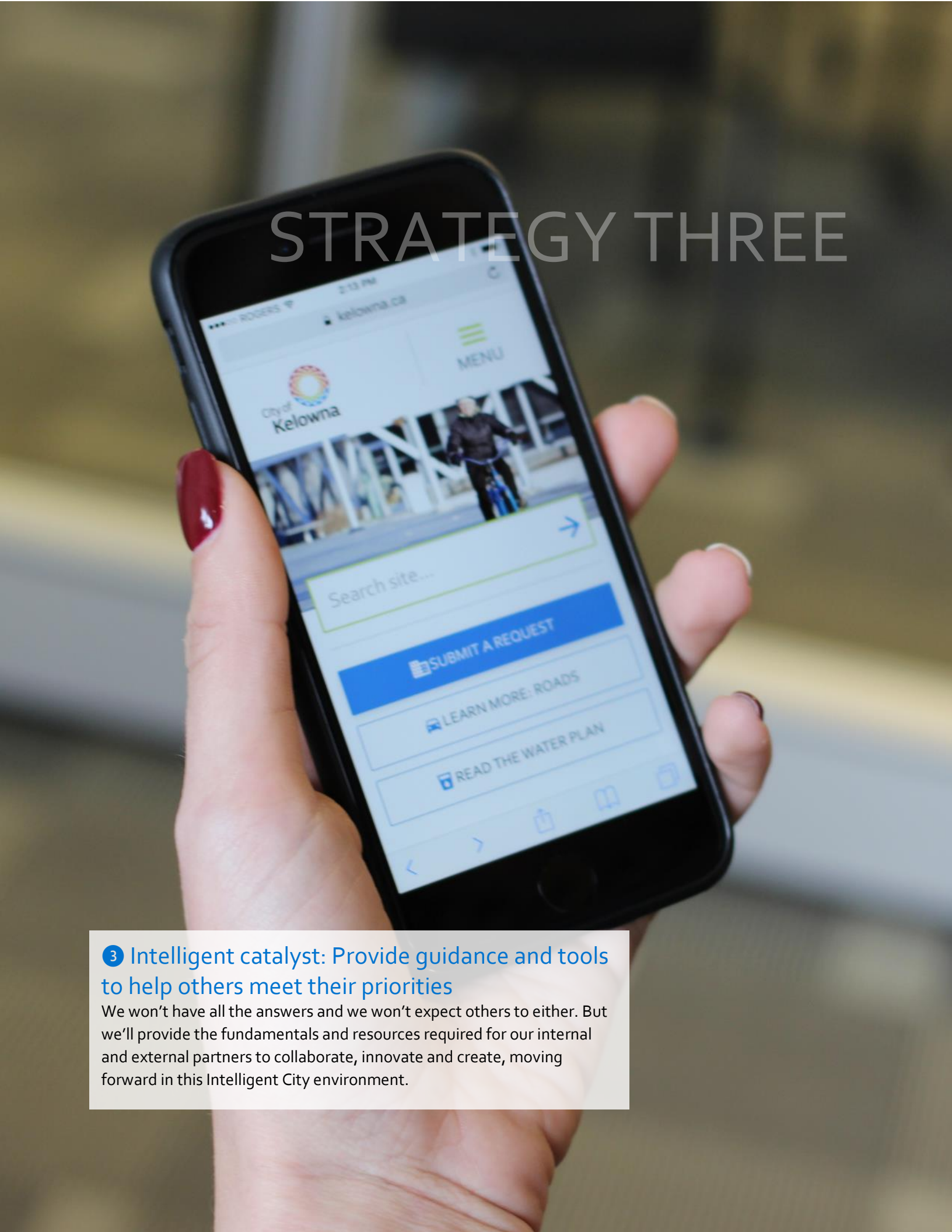
Principle legend: = collaborative | = innovative | = connected | = responsible

Sub-strategy	Action(s)
Provide options so that all residents can participate as we progress to an Intelligent City	Work with our private sector partners to ensure all residents have access to a fast and reliable internet connection
	Explore technology that bridges the digital divide and allows for residents to connect with the City online
	Test and pilot emerging technologies that can improve how we and our community operates
	Help prepare our community for a 5G network, which will improve connectivity and transform service delivery

What success looks like

- Increased online civic interaction across all demographics
- Support for mobile, home and public space interactions with the City
- Piloting innovations that improve connectivity in a 5G environment
- Platforms that allow some of our most vulnerable residents to participate online
- More partnerships that educate and support novice users on privacy, security and being a digital citizen

STRATEGY THREE



3 Intelligent catalyst: Provide guidance and tools to help others meet their priorities

We won't have all the answers and we won't expect others to either. But we'll provide the fundamentals and resources required for our internal and external partners to collaborate, innovate and create, moving forward in this Intelligent City environment.

To provide guidance and tools to help others meet their priorities requires that we…

3a● Develop the process and mechanisms for City departments and the community at large to innovate

To help facilitate innovation, collaboration and use of new technologies, we can provide guidance through advisory services, tools, resources and standards, as well as cultivate a culture of experimentation. We believe that one of our essential roles is to help staff better understand how they can test, pilot and implement new methodologies and technologies that will help them reach their corporate and departmental goals. Additionally, we will take the lead on developing Intelligent City approaches for our three focus areas (how we will support Council priorities), looking to leverage the expertise at the City and in the community through collaboration.

How we will support Council priorities

When it comes to **community safety**, we can use creative and collaborative problem-solving events and processes, like design jams, to gather stakeholders throughout City departments and in the community to come up with possible ways to address shared issues facing our community, such as property crime.

Sub-strategies & actions

Principle legend: = collaborative | = innovative | = connected | = responsible

Sub-strategy	Action(s)
Formalize intake and assessment of technologies that can improve outcomes	Create a way for staff and community partners to submit opportunities to the Intelligent City team
Develop resources and tools to help others be innovative and collaborative in problem-solving	Create standards and guidelines for piloting, project assessments, customer experience and service design
Champion Council and Corporate Priorities to ensure community vision is reflected in projects and outcomes	Prioritize projects based on significance to Council priorities, the organization and the community

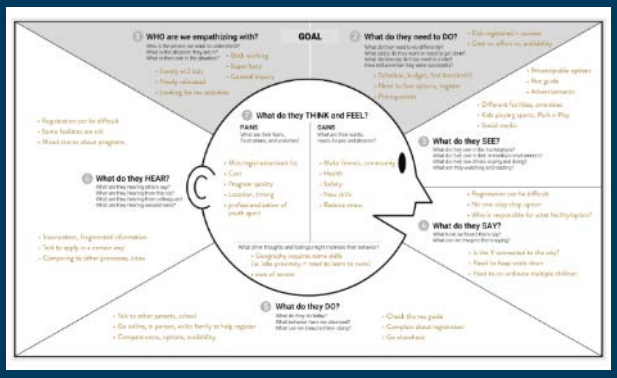
What success looks like

- Business units have the tools to meet their departmental and organisational goals
- Awareness of how to use or create technological change to solve business issues
- Collaboration with more business units to address Council and Corporate Priorities

Already underway: Using service design thinking to improve services

In honour of service design day (#ServiceDesignDay, June 1, 2019), we celebrated the progress we've made to improve City services by being user-focused throughout the design process, using service design thinking.

Service design thinking is a mindset and set of processes and tools that put the user at the centre of every stage of service discovery and development. The process usually involves creative collaboration exercises (like customer empathy maps & service safaris), prototyping, iterative development involving the service users, feedback loops for constant improvement and launch of the reimagined or new service.



Customer empathy map

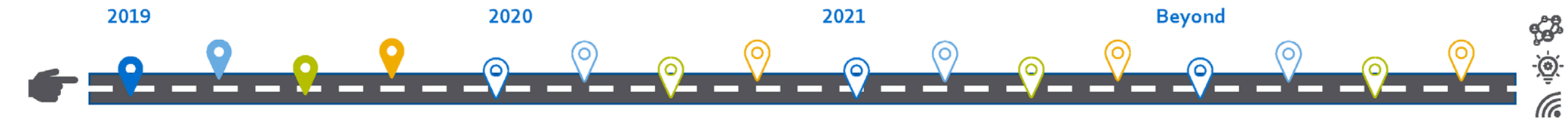
One of the service improvement projects currently underway involves the City's e-notifications (known as e-Subscribe and offering up a variety of different topics that people can sign up to receive email updates about). Working with customers of the service and providers of the service (staff), the project team has learned the many ways that the service is being used and uncovered ways to improve how it is delivered. To learn more, check out this short interactive online story.

Service delivery improvement and modernization, as well as fostering collaboration, are major focus areas for the Intelligent City team. By undertaking this project, we are well on our way to creating resources that others can use to adopt service design thinking and tools that help create better services and solutions for our residents.

our intelligent city

ROADMAP

OUR INTELLIGENT CITY ROADMAP



STRATEGY ONE: CREATE A DIGITAL & INTELLIGENT CITY

1a. Automate & digitize business & service delivery

- Service design pilot project: e-update platform review
- Develop Online experience standards
- Small cell infrastructure development
- Expand open data; create an open government hub for collaboration
- Partner to realize a 5G pilot network
- Develop services catalogue
- Online service assessments
- Service design project II
- Service design project III

1b. Enable data-driven decision-making

- Investigate and launch pilot chat bot: proof of concept for ylw.kelowna.ca
- Chat bot integration for other use cases and City services
- Explore AI for data-driven decision-making
- Digital twin, Phase 2
- Single sign-on customer portal

STRATEGY TWO: FOSTER A COLLABORATIVE NETWORK THAT LEVERAGES TECHNOLOGY TO SOLVE COMPLEX CITY PROBLEMS

2a. Engage & empower staff & community to collaborate

- Partner to increase digital literacy: education campaigns around safety and privacy online for staff and the community
- Offer other options for residents to engage with the City online (e.g. public kiosks)
- Establish focus area project teams
- Design jam on community safety
- Design sprint for community safety
- Collaboration on transportation & mobility
- Collaboration on environmental protection
- Intelligent Cities summit

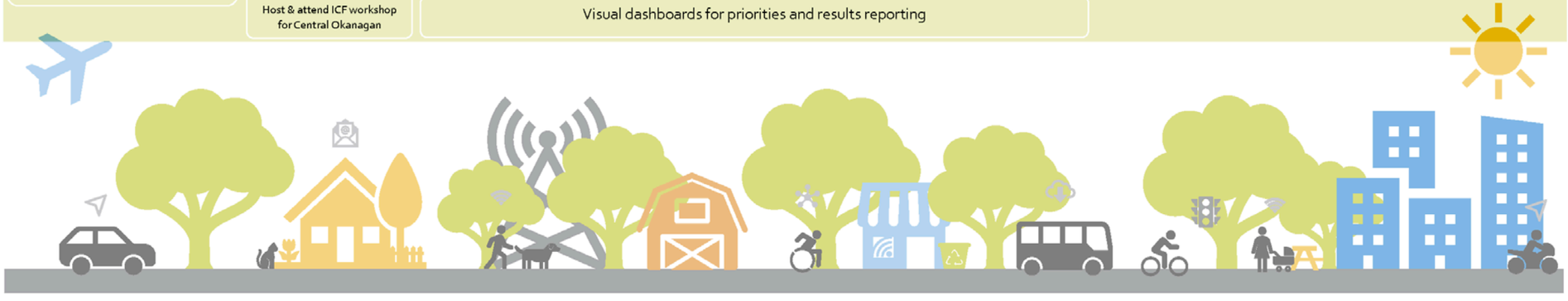
2b. Create digital equity & improved connectivity

- CCTV camera registry (with RCMP)
- Assess & improve data literacy
- Establish the City as a living lab for innovation
- Data partnership with community & regional stakeholders
- 5G and IoT partnership with academia & private sectors

STRATEGY THREE: PROVIDE GUIDANCE AND TOOLS TO HELP OTHERS MEET THEIR PRIORITIES

3a. Develop the processes & mechanisms for innovation

- Complete Intelligent City Strategy
- Review, update and create policies, guidelines & standards: e.g. privacy policy, data and transparency standards, online experience standards, service design guidelines
- Review & update Intelligent City Strategy
- Complete Community Solutions Network learning track – data standards & privacy
- Formalize Intelligent City project intake & assessment
- Develop piloting & partnership standards
- Host & attend ICF workshop for Central Okanagan
- Visual dashboards for priorities and results reporting



APPENDIX A: Definitions

Term	Definition
5G network	Considered the next generation of internet access, 5G uses a different frequency (then what is currently used for 4G or LTE coverage) to transmit data through the air, which reduces disruptions, increases speeds and improves reliability.
Artificial intelligence (AI)	AI is intelligence demonstrated by machines, as apposed to the natural intelligence of humans and animals. The term is also used to describe machines that mimic cognitive functions that humans associate with other human minds, such as learning and problem solving.
Augmented reality (AR)	AR is technology that overlays computer-generated information on a user's view of the real world, providing a modified view of reality, often with a smartphone or technology-enabled glasses/goggles. This can come in the form of a variety of sensory experiences, including visual, auditory and motion.
Automation	Automation is the partial or full replacement of manual or mechanical tasks with automatic ones, reducing human intervention to a minimum.
Blockchain	Blockchain is a system in which online transactions are made and maintained through several computers that are linked in a peer-to-peer network. It's like a digital ledger that is protected from user manipulation.
Chatbot	A chatbot is technology that often uses artificial intelligence to simulate human conversation, usually over the internet. Chatbots can be text or speech based. Often seen on websites, social media and smart devices (e.g. Siri, Alexa).
Collaboration	Collaboration is when individuals with a common purpose work together to achieve a benefit.
Community partners	In our context, community partners can include other levels of government, other local governments, public, private and non-profit organizations, academia, community groups and residents. Community partners are often mentioned along with collaboration and innovation.
Connectivity	Connectivity is the ability of devices to be able to connect to other devices through the internet. It can also refer to the ability of people to connect and communicate with each other.
Data	Data is information that is gathered for monitoring, reporting and analysis. This may include personal information and statistics.

Data-driven decision-making	Data-driven decision-making involves making decisions that are backed up by data rather than making decisions that are intuitive or based on observation alone.
Data literacy	Data literacy is a person's ability to collect, read, interpret and use data in a meaningful way.
Design thinking	"Design thinking is a human-centered approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success." (*Source: Tim Brown, IDEO*)
Digital (or online) services	Digital or online services are services that are provided over the internet.
Digital divide	Digital divide is the gap between people who have the resources to access and use technology and those who do not.
Digital literacy	Digital literacy is a person's ability to understand, use and communicate through digital platforms.
Digital twin	A digital twin is the digital copy of a city that can predict the impact of a suggested change to all aspects of a city.
Digitize	To digitize is to convert information or services to a digital or online format.
Ideation	Ideation is the creative process of generating, developing and communicating new ideas. The aim is to generate a large quantity of ideas that can be explored and filtered down into the best, most practical or most innovative ones to inspire new or better solutions and products.
Innovation	Innovation is doing something different that has an impact.
Intelligent City	An intelligent city is a municipality that focuses on finding collaborative and innovative solutions to complex and shared community problems, often with the aid of technology.
Internet	The internet is global system of computer networks, where users can access information or communicate with other computers with the proper access/permission. Internet is also accessible on other internet-enabled devices (e.g. smartphones).
Internet of Things (IoT)	The connection of devices in everyday objects ("things") over the internet, enabling them to send and receive data (e.g. sensors, wearable devices, smart home products).
Intranet	An intranet is a private or restricted network that is only accessible to a certain group of users. Intranets are often used by organizations to communicate information internally, i.e. to staff.
Model city	A model city is a 3D or digital copy of an actual city, which can be used to visualize the impact of changes to a city's environment.
Open data	Open data is data that is free for anyone to access, use, reuse and redistribute.

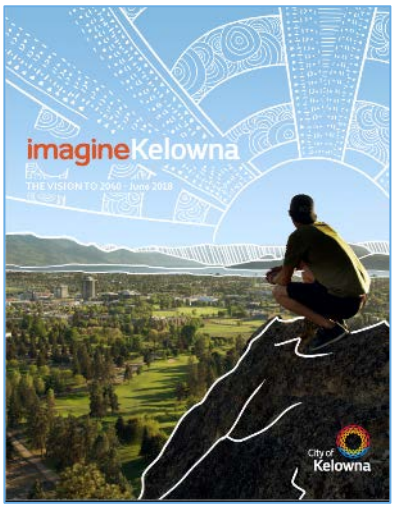
Open government	Open government is about transparency and providing open access to information about how a government is run.
Service delivery	Service delivery is how services are provided to customers.
Service design	Service design is the planning and organizing of all the parts of a service to improve its quality from both a customer and service provider perspective.
Smart City	A smart city is a municipality that uses sensors connected to the internet to collect data and then use it to improve the management of assets and resources.
Stakeholders	Stakeholders are people or groups of people who hold an interest or concern in something.
Test bed of innovation	A test bed of innovation is an environment that promotes creative problem-solving, collaboration, ideation, research, development and testing of innovative or new solutions.
Thought-leaders	A thought-leader is someone whose views or ideas carry authority and are considered influential.
Virtual reality (VR)	VR is an artificial environment that is created with technology and presented to the user in a way that could seem quite realistic, blocking out the physical world.

APPENDIX B: Strategic direction

When we move forward with any strategy, we are guided by the community's vision for the future (Imagine Kelowna), Council priorities and corporate strategic direction.

Imagine Kelowna

Imagine Kelowna is the community's vision, principles and goals to thrive in the face of unprecedented growth and change. For more detail, visit kelowna.ca/imagine.



The vision

In 2018, after an 18-month long conversation in the community about our future, a vision for the qualities we want to exemplify emerged. We want a community that puts people first, values its history, encourages curiosity and creativity, and recognizes the changing roles of individuals, businesses, governments and community organizations.

Principles & goals

The following principles and goals work together as a system to help the community achieve its vision:

Collaborative	A community where people of all backgrounds work together to meet collective challenges.
Smarter	A community willing to learn, adapt and grow so we can thrive amid rapid change.
Connected	A community where residents are connected to their neighbours, their city and the wider world.
Responsible	A community where decisions are made ethically and where social and environmental concerns are prioritized.

Council priorities

In *Council priorities 2019-2022, Imagine Kelowna: vision into action* (endorsed by Council on April 29, 2019), we identify the strategic shifts, improvements and changes that are important to Council, the community and organization. It is an open and accessible commitment to how the City will advance the Imagine Kelowna vision within the next four years. It will focus the work we do to become the Kelowna residents told us they want to see.

Council results

What's important to residents

Council results identify the areas where our residents want to see a difference. These are the services, programs, and infrastructure that help create a great place to live.

- Community safety
- Social & inclusive
- Transportation & mobility
- Vibrant neighbourhoods
- Economic resiliency
- Environmental protection

Corporate results

What the organization must do to deliver results for residents

Corporate results identify the areas where the City's administrative leadership will focus the organization to ensure we are a high-performance organization that delivers good value for money to our residents.

- Financial management
- Clear direction
- People

Council: the way we work

Council commits to working together as a team to advance what is important to residents in the community by being citizen focused, accessible, balanced, fair and firm, and seeking continuous improvement.

For more detail, visit kelowna.ca/councilpriorities.