

SMART CITY STRATEGY

PREPARED BY THE CITY OF EDMONTON 2017

Edmonton



OPEN CITY

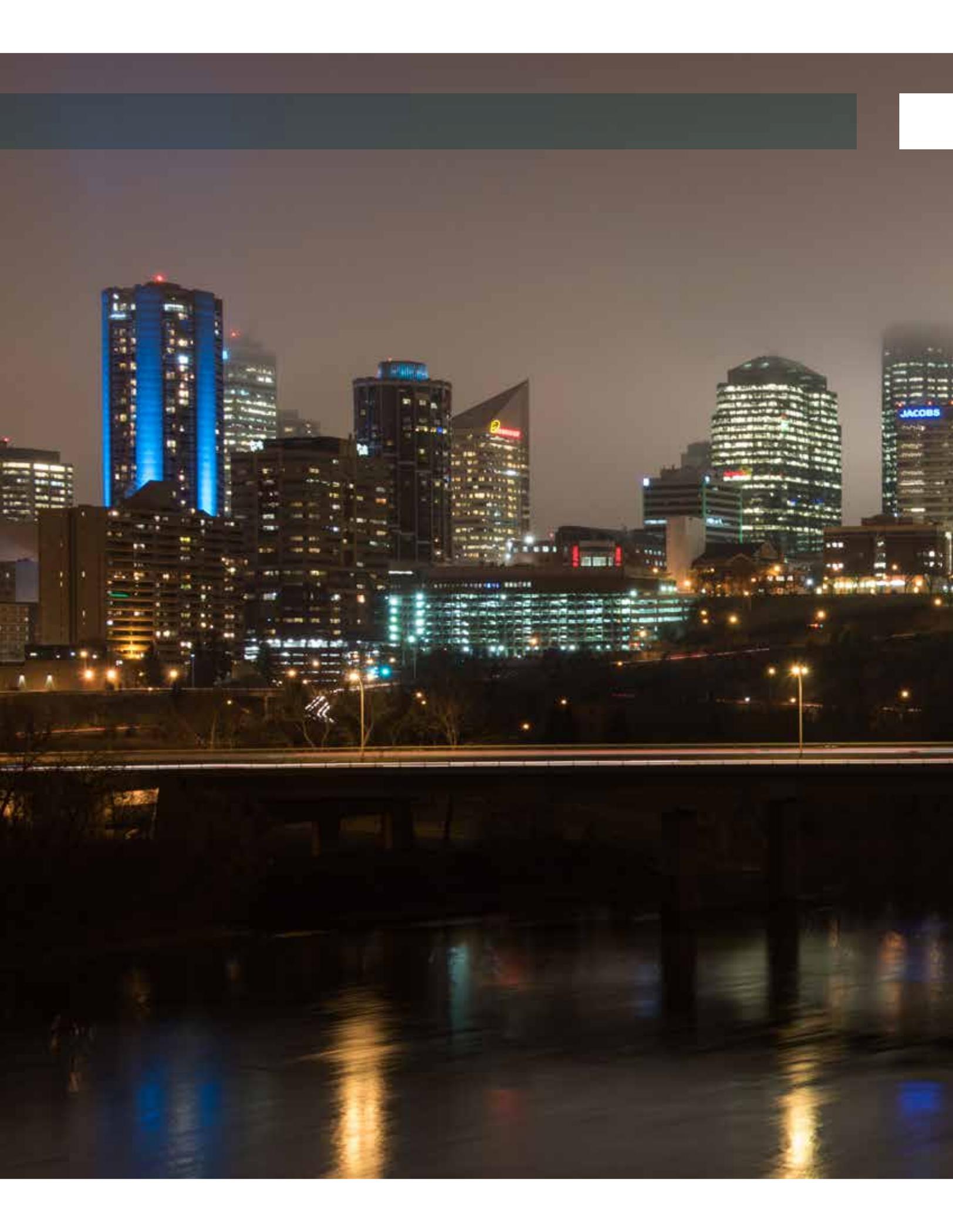
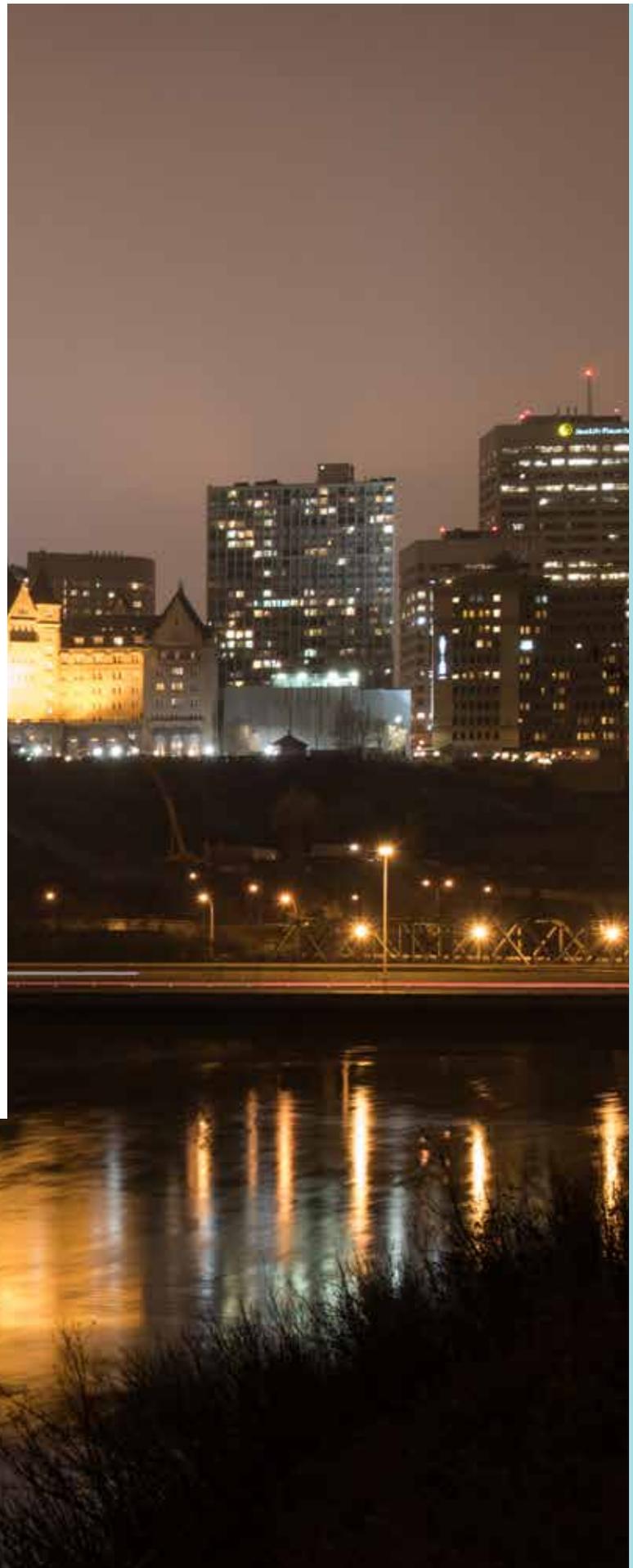


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SMART CITY STRATEGY

EDMONTON IS A SMART CITY

**A RESILIENT
CENTRE**

**A LIVABLE
COMMUNITY**

**A WORKABLE
CITY**

SMART CITY STRATEGY
MESSAGE
FROM THE
MAYOR

As the government closest to Canadians, municipalities touch almost every aspect of our citizens' daily lives.

As our city grows, we are tasked with providing an increasing array of services in a more open and responsive way.

In response, the City of Edmonton is shifting its view to recognize our role as part of a larger ecosystem. We are at the crossroads of a complex system of social, economic, political and technological networks. Embracing the perspectives from individuals, industry and academic sectors of the community is how we can best achieve our goals, deliver programs and services and provide an exceptional quality of life for citizens.

Embracing a Smart City is a cornerstone for our role as leaders in open municipal advancement. The next frontier for governments is how to use data and analytics to make better evidence-based decisions. All of this information has tremendous potential to influence how we plan, build and live in our city.

Edmonton is a Smart City, known for using technology to turn garbage into biofuels, fight crime, move people around and design a carbon-neutral community. As a Smart City, we will find new strategies and solutions for the challenges and opportunities that face cities all over the world. It will enable us to build a city that is more resilient, livable, workable and altogether more uplifting.



DON IVESON
MAYOR

.....



SMART CITY STRATEGY
**EXECUTIVE
SUMMARY**

Not that long ago, the City of Edmonton, the capital of Alberta, Canada, was primarily known as a utility provider with ownership of the local telecommunication, water and power services.

Edmonton is a different municipality as compared to the 1980s, a decade or even 5 years prior. In the past citizens and the City of Edmonton connected through face to face meetings, letter mail, faxes and landline telephone calls. However, in the last decade the community of Edmonton and the surrounding regions experienced and will continue to experience rapid, multi-faceted change as a result of larger social, economic, political and technical factors.

Edmonton is a Smart City. Judged by the 'Financial Times' to have "the best economic potential of any North American city," Edmonton's infrastructure, human resources, cost-effectiveness, high standards of living, and concern for a sustainable environment are recognized through a favourable position on foreign-direct investment ranking lists.

The City of Edmonton recognizes we need to work in an integrated and innovative ways with others in our environment. We are one element of a larger system of city building. Our government, post-secondary institutions, the arts, not-for-profits, school boards, private business and citizens are integral partners of this smart and intelligent community.

Citizen-driven change is a powerful force. Empowered and engaged citizens demand more from all orders of government – increased economic development, opportunities to be included in decision making processes and municipal programs and services delivered in an efficient manner. As an answer to this expectation, the City of Edmonton is facilitating transformational changes through Smart City initiatives which will direct the growth of the community for generations to come.

EDMONTON'S SMART CITY STRATEGY
ADVANCING THE
WAY AHEAD



The Way Ahead is a visioning document established by City Council in 2008 outlining Council's goals for change.

The Way Ahead forms the foundation of the City's work and guides the City's continued commitment to enhance quality of life for Edmontonians. It was updated in 2011 and 2014.

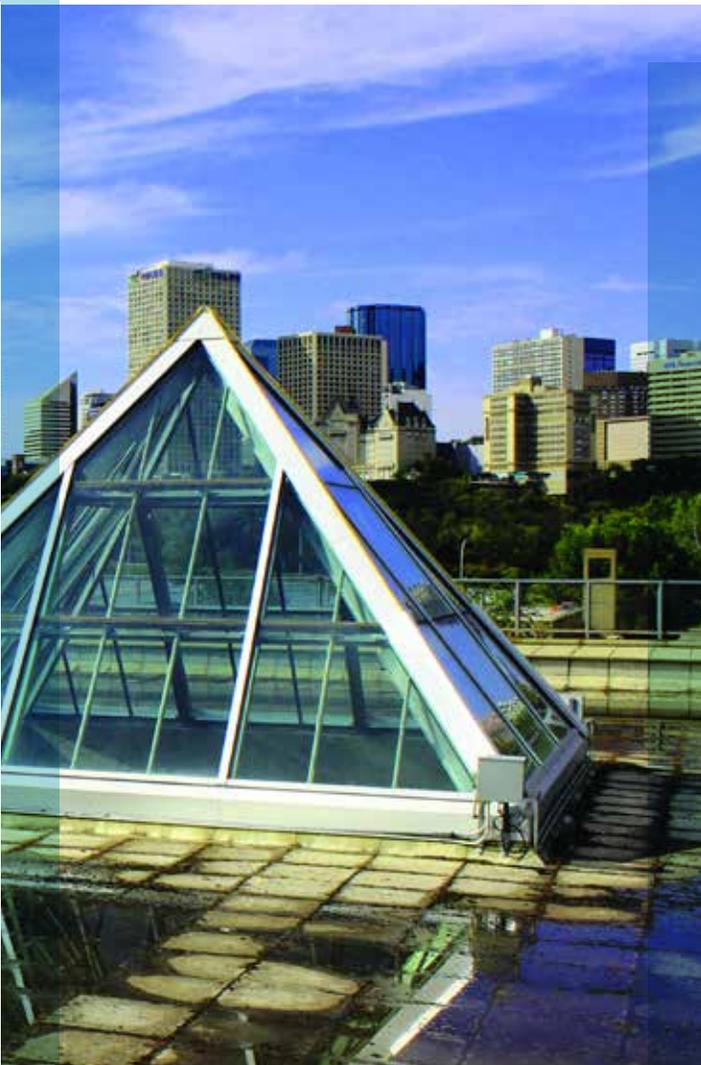
The City's Strategic Plan, The Way Ahead, began with a bold, citizen-built vision for what Edmonton will be in 2040. Since 2009, City Administration has used this plan to guide our progress toward six ten-year strategic goals that take us closer to that 2040 vision and provide focus to the City's efforts to deliver the greatest value of services and infrastructure to Edmontonians.

The 30-year, citizen-built City vision in The Way Ahead is a creative description of Edmonton's future in 2040. Six 10-year strategic goals describe the area where Council believes significant change is required to achieve this vision. The Smart City Strategy articulates the innovative work underway across the organization to support the strategic objectives and advance the City's Vision as defined in The Way Ahead.



WHAT IS A SMART CITY?

'Smart City' is a notion used by technologists, urbanists and economists around the globe connecting a wide variety of related concepts, initiatives and outcomes.



To some, a Smart City refers to a technology intensive city where Internet of Things (IoT), robots, autonomous vehicles and drones play a significant role in delivering efficient and effective services to the citizens. Their Smart City is a municipality where smart meters and energy saving systems manage buildings, cognitive analytics and machine learning algorithms manage multiple modes of transportation, and robots and drones manage infrastructure assets.

To others, a Smart City refers to an innovation ecosystem where technology is leveraged to improve the relationship between citizens and their government, to enable social innovation and to improve the quality of life. Their Smart City is a municipality where citizens collaborate with local government to improve service delivery, design their community, and co-create solutions to improve their quality of life.

SMART CITY STRATEGY

EDMONTON AS A SMART ECOSYSTEM

Although the City led the development of the Smart City Strategy, it is not just about the administration of municipal programs and services, it is about Edmonton as a thriving community. Edmonton's Smart City is an innovation ecosystem of government, academia, citizens and industry.

Edmonton is a creative community of changemakers and social innovators – where citizens are engaged with their community and lead the charge for a better future. The City of Edmonton addresses today's challenges and creates tomorrow's opportunities through collaboration between citizens, industry, academia and government.

This open innovation ecosystem provides creativity, engagement and partnership as we journey from a Smart City to an Intelligent Community.

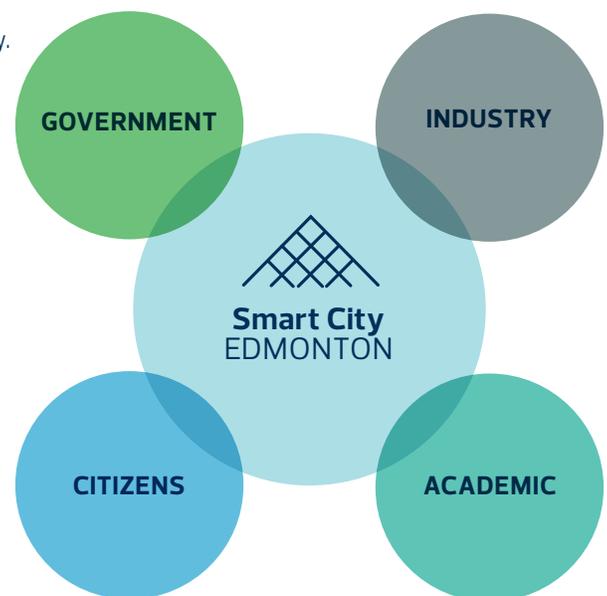
SMART CITY ECOSYSTEM BENEFITS

GOVERNMENT – Effective decision making, collaboration, cost reduction and resilient public services

CITIZENS – Better community connectivity, improved social equality, increased employment, better quality of life

ACADEMIC – Promote innovation, Accelerate startup formation and leverage talents/knowledge

INDUSTRY – Promote innovation, new business development, develop new products and services, and increase investments



SMART CITY STRATEGY
**SMART CITY
 TRANSFORMATION**

As opposed to a traditional government centered approach, Edmonton's citizen centric Smart City Strategy will create a unified experience for citizens as they benefit from efficient and effective City services.

- **Increasing economic development** - Uniting many City initiatives under a single 'Smart City' brand, offering a significant value proposition for citizens, investors and visitors
- **Advancing the Edmonton's Open City Philosophy** - Allowing Edmonton to fulfill its role as a preeminent global city which is innovative, inclusive and engaged
- **Delivering efficient and effective programs and services** - Allowing the City to improve the efficiency of services provided to citizens by leveraging data, information and analytics

TRADITIONAL MODEL
 GOVERNMENT CENTRED

VS.

SMART MODEL
 CITIZEN CENTRED



SMART CITY STRATEGY

WHAT DOES SMART CITY MEAN TO EDMONTON?

Similar to any other large municipality, the City of Edmonton is a complex system with a diverse range of social, economic, political and technical networks.

For Edmonton, a Smart City is not just about technology. Instead, it is about creating and nurturing a resilient, livable and workable city through the use of technology, data and social innovation into nine streams, as shown below.



The goals of the Smart City strategy go well beyond the creative uses of technologies and instead focus on bringing together citizens and businesses to transform the City of Edmonton into an intelligent Community

GOAL ONE**Resiliency**

A municipality that is resilient is adaptive, well-planned and flexible – one that can withstand external shocks such as economic crises, epidemics, congestions, transport breakdowns, and environmental pollutions.

GOAL TWO**Livability**

A municipality that is livable is one in which citizens are healthy, engaged with their community and actively minimize their environmental footprint.

GOAL THREE**Workability**

A municipality that is workable is one that connects its citizens through advanced transportation and mobility, broadband connectivity, educational institutions and smart infrastructure.



EDMONTON'S SMART CITY STRATEGY

GOAL ONE: RESILIENCY

A municipality that is resilient is adaptive, well-planned and flexible. It is one that understands threats and vulnerabilities and considers all the tools available to the Community in its plan for the future. It has diverse, planned adaptation processes that reduce vulnerabilities.

SMART CITY STRATEGY
RESILIENCY
FOCUS:
OPEN CITY

Edmonton's Open City Initiative was refreshed in 2017 to incorporate new ideas and guide the City's way forward in open government.

As an open city, Edmonton is working to build new ways to share and receive information from citizens, to find new opportunities for dialogue and make our services easier to access. Through the evolution of the City's collection and sharing of data guided by the Open City Initiative, citizen and business experience is enhanced.

**OPEN CITY
 ACTIONS**

Open City Foundation	Align practices to support openness, transparency and consistency
Open Engagement	Create opportunities for citizens to interact with the City and impact the design, development and delivery of public programs, services and policies
Open Data	Enhance the quality and increase the quantity of information available through the implementation of the Open Data Strategy
Open Information	Provide information to Edmontonians to promote participation and collaboration, increase knowledge and build capacity in the community
Open Analytics	Support informed policy development and decision making by leveraging the vast stores of City data and new analytic capabilities

SMART CITY STRATEGY

OPEN CITY INITIATIVES

OPEN DATA

The award-winning Open Data Portal (data.edmonton.ca) provides citizens access to trustworthy and usable datasets from the City's vast stores of municipal information. The Open Data Strategy incorporates the principles of Edmonton's Open City Policy and the International Open Data Charter. The Strategy delivers a road map to realize the social and economic value of open data.

CITIZEN DASHBOARD

The Citizen Dashboard (dashboard.edmonton.ca) provides citizens with interactive access to current municipal service performance indicators. Citizens are able to track process on the building of one of North America's great capital cities

OPEN ANALYTICS

Open Analytics (ace.edmonton.ca) showcases the City's programs which are leveraging analytics to improve outcomes for staff and citizens. Open Analytics also provides tools and resources to empower citizens to work with data themselves to gain their own insights into City data.

THE METRO EDMONTON OPEN DATA GROUP

The Metro Edmonton Open Data Group is a community of regional organizations brought together by the City of Edmonton for cross collaboration and information sharing. Members include other government organizations (cities, towns, districts, boards), health providers, academic organizations, regional boards and policing agencies.



SMART CITY STRATEGY
RESILIENCY
FOCUS:
CITIZENS

Edmonton is resilient due to the partnership that exists between the City and its citizens. Engaged citizens participate in government by identifying risks and forming creative solutions.

By including citizens in government processes, decisions informed by a wide variety of stakeholder result in sustainable program and service delivery. To continue this momentum, consideration and planning for changers in citizen demogrpahics and delivery allows for effective planning for the future.



**CITIZEN
 ACTIONS**

Develop strategies to assess the most appropriate methods of engagement with various citizen groups on issues facing the municipality now and in the future. Embrace new technologies as they become available

Consider the unique characteristics and needs of minority groups and develop strategies to address these needs

Understand the issues and challenges facing the youth of today and tomorrow to ensure that a resilient workforce is attainable

Ensure consistent access to programs and services for all Citizens

CITIZEN INITIATIVES



ONLINE ENGAGEMENT

Citizens engage with the City through a variety of online channels – a mobile friendly website (edmonton.ca), a 311 (service information and request) app and eServices (an online counter for city services). The City is also integrating service channels with internal and external partners to provide programs and services which are valued by the community.

THE EDMONTON INSIGHT COMMUNITY

The Edmonton Insight Community is an inclusive and accessible online citizen panel made up of diverse Edmontonians providing feedback on City policies, initiatives, and issues. Citizens are able to provide their perspectives at times and locations convenient through an online portal.

INDIGENOUS INCLUSION

The City recognizes that there is mutual need for indigenous people to be represented in the City workforce and for ongoing development of culturally sensitive municipal services that meet the needs of the indigenous community. This journey is guided by the Edmonton Urban Aboriginal Accord.

YOUTH COUNCIL

The City of Edmonton Youth Council provides information and advice to Council in relation to issues involving or affecting youth. The Council educates and empowers youth to provide meaningful input and to take action on local issues and municipal politics in Edmonton.



COUNCIL INITIATIVE ON PUBLIC ENGAGEMENT

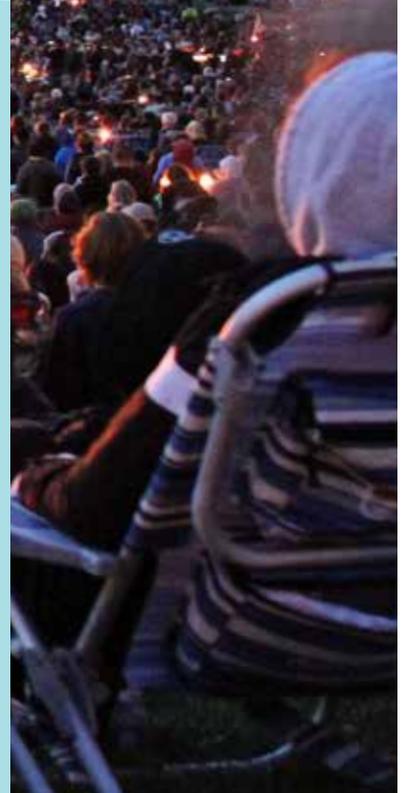
The Council Initiative on Public Engagement connects various ways of bringing people, community organizations, businesses, and government together to build an inclusive community that participates in civic government. More than 1,000 citizens from diverse Edmonton communities have participated in more than 40 workshops to discuss challenges and improve engagement with the City of Edmonton.

IDEA GENERATOR

The Idea Generator is the City of Edmonton's new digital suggestion box available to departments, branches and project teams with a need to solicit ideas from employees to improve a City program or services. The expansion of this tool to solicit input from citizens is being explored online portal.

EDMONTON SERVICE CENTRE

The Edmonton Service Centre consolidates all city customer service counters for permits, passes, payments, licenses and more into one location. The location is fully mobility accessible and located on major transit routes.



SMART CITY STRATEGY
RESILIENCY
FOCUS:
ECONOMY

As a result of social and economic investment by citizens and business alike, Edmonton withstood the impact of an economic recession.

A diversified economy with a resourceful community of innovation labs and incubator organizations has attracted new business to our community. Through the implementation of The City's The Way We Prosper – Economic Development Plan, Edmonton will advance new directions in economic development and leverage today's opportunities into a prosperous future.

**ECONOMIC
ACTIONS**

Support a competitive business climate and deliver business friendly services

Facilitate the development of established businesses and sectors

Support the advancement of high potential sectors

Attract talent and investment by making the City nationally and internationally competitive

Lead and participate in effective regional partnerships and collaborations





SMART CITY STRATEGY ECONOMIC INITIATIVES

EDMONTON ECONOMIC DEVELOPMENT

The Edmonton Economic Development Corporation (EEDC) is a not-for-profit company established by the City of Edmonton and is responsible for providing leadership to the economic growth strategy for Edmonton and the surrounding region. EEDC is accountable for supporting industry growth and diversification; stimulating entrepreneurship and innovation; marketing the city image in target markets; managing the Shaw Conference Centre; boosting tourism, events and attractions; and enriching the Edmonton Research Park.

TEC EDMONTON

TEC Edmonton is a joint venture between the Edmonton Economic Development Corporation and the University of Alberta. TEC Edmonton acts as a bridge between the University and the community, and collaborates with both community entrepreneurs and university-based researchers.

TEC Edmonton's purpose is to accelerate the growth of emerging technology-based companies in Edmonton and Northern Alberta. Through its people, networks and facilities, TEC Edmonton develops the Edmonton region's innovation reputation worldwide by commercializing technology, promoting innovation and fostering new enterprise development.

STARTUP EDMONTON

Startup Edmonton is an entrepreneurial campus and community hub which connects entrepreneurs and product builders with skills, community and space to support them as they take ideas to reality. Low-cost foundational workshops are provided to aid entrepreneurs with building a business model, developing the tools to build great products and services and operating a small business (legal, accounting, social media, sales, customer success, etc.)

ALBERTA INNOVATES

Alberta Innovates is a provincially-funded Corporation tasked with delivering on the research and innovation priorities of the Government of Alberta. The organization is a catalyst for innovation that leads to economic diversification, enhanced environmental performance and social well-being. Alberta Innovates also provides innovators, researchers and entrepreneurs access to cross sectoral knowledge, expertise, funding, networks and research facilities.

Technology Futures (a program area of Alberta Innovates) provides technical services and funding support to facilitate the commercialization of technologies and to develop new knowledge-based industry clusters.



SMART CITY STRATEGY

ECONOMIC INITIATIVES, CONTINUED

eHUB

eHUB is the University of Alberta's entrepreneurship centre. Offering resources, networking opportunities, and funding, eHUB offers members the opportunity to explore ideas that will transform into projects, initiatives and ventures. Students are empowered to seek solutions to problems in their communities, workspaces and their organizations. eHUB champions students to become agents of change and implement ideas that create value.

EDMONTON INTERNATIONAL AIRPORT

The Edmonton International Airport is a hub facility for Northern Canada and is Canada's largest major airport by total land area. Over 6 million passengers are served annually with regularly scheduled flights to all major Canadian cities, non-stop flights to more than 50 global destinations including 12 key U.S. hub cities and 15 international destinations. The airport's cargo capabilities are designed to expedite shipments to all parts of the globe quickly and cost effectively.

ALBERTA WOMEN ENTREPRENEURS

Alberta Women Entrepreneurs is a non-profit organization that enables women across Alberta to succeed in entrepreneurship ventures. Alberta Women Entrepreneurs provides unique programs and services to women at all stages of business through advising, financing, mentoring, and skills and network development.

EDMONTON RESEARCH PARK

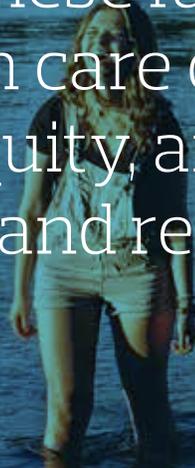
The Edmonton Research Park is an organization supporting more than 1,500 members at 55+ companies working in diverse fields, from biotechnology to energy. The Edmonton Research Park engages in advanced research in medicine, biotechnology, electronics, telecommunications, software, petroleum research and cold-climate engineering. Members are provided with supports including workspaces, on site programs, access to soft-landing programs, personalized referrals to funding agencies and facilitated access to other local and national accelerators, science parks and incubators.

EDMONTON'S SMART CITY STRATEGY

GOAL TWO:

LIVABILITY

A livable city is one in which healthy citizens are engaged with their community and actively minimize their environmental footprint. Livability is the sum of the factors that add up to a community's quality of life. These factors include access to health care options, social stability and equity, and cultural, entertainment and recreation possibilities.



**LIVABILITY
FOCUS:
HEALTH**

The City recognizes that municipalities are a vital component of the health care system and will actively work with other health stakeholders to promote healthy living and provide services for our most vulnerable individuals.

Community task forces and committees, with representation by diverse stakeholder groups, seek to address our challenges and propel Edmonton as a leader in healthcare innovation

**HEALTH
ACTIONS**

Develop and implement a strategy to end poverty in Edmonton

Address the challenges that are preventing Canada's health industry from realizing its full potential



SMART CITY STRATEGY

HEALTH INITIATIVES

ENDPOVERTYEDMONTON

The End Poverty Edmonton Strategy articulates a suite of priority actions from policy initiatives, program and services enhancements to community-based initiatives to end poverty within a generation.

End Poverty Edmonton is a city-wide effort involving Edmontonians, businesses, and organizations with a shared vision: to build on work already underway with the Government of Alberta and other agencies to find innovative solutions to poverty and to ensure that all Edmontonians achieve their full potential.

HEALTH CITY INITIATIVE

The Health City Initiative will position Edmonton as a leader in healthcare innovation and will shape the future of health innovation in Canada – transforming lives and driving growth by capitalizing on our talent, research capacity, and innovative spirit. The Initiative aims to increase access to capital funding for local health sector companies and accelerate the commercialization of new technologies and products.



**LIVABILITY
FOCUS:
COMMUNITY**

In addition to advocating for Edmonton as a centre for health, the City creates opportunities for citizen wellness – encouraging the development of civic imagination and creativity by supporting cultural and artistic endeavors.

Edmonton's spirit of inclusion and innovation extends to our relationships with other communities and their partners to respond collectively to challenges and problems. As a smart city, Edmonton learns from and integrates aspects of other community building activities through membership in the larger social ecosystem.

**COMMUNITY
ACTIONS**

Utilize place making to foster relationships, collaboration, experimentation and innovation

Engage in conversations about how cities evolve, how to connect people to places and to each other, and how to learn by testing or piloting innovative idea

Promote broad cultural and artistic investment across all aspects of the cultural spectrum

SMART CITY STRATEGY

COMMUNITY INITIATIVES

MAKE SOMETHING EDMONTON

Funded and guided by the Edmonton Economic Development Corporation, Make Something Edmonton is a community building initiative and a place to share projects and events, get help making them happen, and discover local stories. Make Something Edmonton's small group of staff connect citizens with ideas to the resources they need, provide supports for marketing and convene meetups to discuss ideas and activate the community.

CITYLAB

CITYlab uses place making as a tool to discuss how cities evolve, to connect people to places and to each other, to learn by testing or piloting innovative ideas and to highlight City planning goals. The initiative fosters relationships, collaboration, public engagement, experimenting, learning, innovation, and creativity.

Current initiatives include Let's Talk (a series which invites people to explore inspiring ideas), Evolving Infill (a collaborative project to advance residential infill) and fresh (Edmonton's Food and Agriculture Strategy).





SMART CITY STRATEGY

COMMUNITY INITIATIVES CONTINUED

EVOLVING INFILL

The City of Edmonton recognizes that infill is important to building a balanced and sustainable city. Edmonton's Infill Roadmap is the City's work plan to advance residential infill.

23 recommendations guide the City's collaboration with residents and partners.

EDMONTON ARTS COUNCIL

The Edmonton Arts Council is a not-for-profit organization that supports and promotes the arts community in Edmonton. The EAC works to increase the profile and involvement of arts and culture in all aspects of our community life through activities that:

- Invest in local festivals, arts organizations and individual artists through municipal, corporate and private funding
- Represent Edmonton's arts community to government and other agencies and provide expert advice on issues that affect the arts
- Build partnerships and initiate projects which strengthen the community
- Create awareness of the quality, variety and value of artistic work produced in Edmonton.

BETACITY YEG

BetaCityYEG is a regular meetup connecting public employees, citizens, and members of Edmonton's tech/data community in order to address the city and region's pressing issues. The group meets monthly at the Startup Edmonton space.

The BetaCityYEG team includes data analysts, geospatial experts, programmers, web designers, statisticians, and a range of tech-related skilled citizens. These diverse skill sets allows for vibrant discussions that are informed by understanding an issue holistically from a data management perspective. The intent is also to allow citizens and various groups with data/policy issues to present to the group for similar input.

In addition to discussing the issues presented, BetaCityYEG also proactively pursues innovative digital engagement and data collection tools, beta testing and testing for feasibility.

fresh

fresh is Edmonton's Food and Urban Agriculture Strategy and was developed in consultation with citizens, interested groups, businesses and related organizations. fresh is a high level strategy guiding Edmonton towards the vision of a resilient food and agriculture system that contributes to the local economy and the overall cultural, financial, social and environmental sustainability of the city.

fresh has resulted in the formation of the Edmonton Food Council, City Council approval of urban beekeeping and hens, City Council approval of zoning bylaw changes to enable more urban agriculture and a partnership with Northlands to increase local food purchasing by major distributors and institutions.

SMART CITY STRATEGY

LIVABILITY FOCUS: ENVIRONMENT

Through partnerships with citizens, academia and industry, the City will become a leader in setting and achieving the highest standards of environmental preservation and sustainability in both its own corporate practices and by encouraging and enabling the practices of its partners.

As part of The Way Forward, The Way We Green – the City’s Environmental Strategy – guides Edmonton through the introduction of new technologies and standards such as greenhouse gas reduction initiatives, net neutral homes, infill developments and energy/waste management.

ENVIRONMENT ACTIONS

Ensure that Edmonton's sources and uses of energy are sustainable

Implement practices to ensure Edmonton is resilient to disturbances that could affect its energy supplies and distribution systems

Become a carbon-neutral city

Ensure Edmonton is pollution free and environment friendly

ENVIRONMENT INITIATIVES

ENERGY TRANSITION STRATEGY

Supporting the City of Edmonton's environmental strategic plan (The Way We Green), the Community Energy Transition Strategy is designed to make Edmonton an energy sustainable city.

Actions are included which will:

- Reduce Edmonton's greenhouse gas emissions to levels consistent with limiting the long-term rise in average global temperature to 2°C
- Increase energy efficiency and conservation in all sectors
- Ensure Edmonton's energy delivery systems are resilient to shocks and disturbances from climate change
- Position Edmonton to participate in global economic opportunities as the world transitions to cleaner energy.

BLATCHFORD

Blatchford is an innovative and sustainable community under development which repurposes the large parcel of land previously home to the Edmonton Municipal Airport. Once complete, Blatchford will be home to up to 30,000 Edmontonians living, working and learning in a sustainable community that uses 100% renewable energy, is carbon neutral, reduces its ecological footprint, and empowers residents to pursue a range of sustainable lifestyle choices.

As part of the decommissioning of the Edmonton Municipal Airport, the former hangars were deconstructed (rather than demolished) which allowed the building materials to be sorted for recycling, reuse or waste management. This process has diverted 92% of building materials from the landfill in the first two stages of deconstruction. Also, the materials (concrete, asphalt and gravel) removed as part of the former runways will be used to construct the roads in the new community. Any excess materials will be sold for reuse elsewhere.



SMART CITY STRATEGY

ENVIRONMENT INITIATIVES CONTINUED



ENERKEM - WASTE TO BIOFUELS AND CHEMICALS FACILITY

The Waste to Biofuels and Chemicals Facility is a collaborative initiative between Enerkem, Alberta Innovates and the City of Edmonton. Using waste as a resource for fuel will contribute to greenhouse gas reduction, reduce the need for food crops as feedstock for ethanol and enable Alberta to lead the way in advanced biofuels production.

The facility is owned and operated by Enerkem Alberta Biofuels - a subsidiary of Enerkem Inc. It is the world's first major collaboration between a large city and a waste-to-biofuels producer to address waste disposal challenges and turn municipal solid waste into clean fuels and green chemicals - such as ethanol and methanol.

TOUCH THE WATER PROMENADE

The Touch the Water Promenade will enhance current and future development on the north bank of the North Saskatchewan River near the new Walterdale Bridge. The waterfront promenade will look to create places for citizens to gather and enjoy the riverfront, and may include amenities such as plazas, walkways, and docks. This includes the Mechanized River Valley Access project which will help make the river valley more accessible to people of all ages and abilities.

EDMONTON WASTE MANAGEMENT CENTRE

The Edmonton Waste Management Centre (EWMC) is a unique collection of advanced waste processing and research facilities. Owned and operated by the City of Edmonton, the EWMC is an integral part of Edmonton's sustainable approach to waste management. This sustainable process, along with established recycling programs, enables Edmonton to divert over 50% of its residential waste from landfill.

A modern office interior with large glass windows and people working. The scene is dimly lit with a blue tint. In the foreground, a man in a yellow shirt and jeans is walking away from the camera. To the left, a man in a dark shirt and a woman in a green dress are talking. To the right, a man in a light jacket is talking to two women, one in a blue shirt and one in a pink shirt. The background shows a large glass wall reflecting the interior and exterior.

EDMONTON'S SMART CITY STRATEGY GOAL THREE: WORKABILITY

A workable City is one that is connected technologically and physically through advanced mobile methods, educational institutions and smart infrastructures.

SMART CITY STRATEGY

WORKABILITY FOCUS: MOBILITY

Through the creation of world class roadway and broadband infrastructure systems, the City will foster faster, greener and more efficient modes of connection both physically and virtually.

Edmonton's system of moving people is inclusive and intelligent. An effective data-driven transportation system – whether it be by foot, cycle, transit or private vehicle – ensures mobility for all, regardless of income or ability.

MOBILITY ACTIONS

Promote collaboration between citizens and administration through digital equality and accessibility

Encourage the identification of innovative ideas from citizens and staff to improve the delivery of programs and services

Harness new technologies as they become available to capitalize on digital advancements

Set a framework for building a sustainable, modern city that will meet the needs of Edmonton's diverse and growing urban and regional population



SMART CITY STRATEGY
MOBILITY
INITIATIVES



SMART BUS

Edmonton Transit Service's Smart Bus technology allows buses to send, receive and broadcast real-time information to customers. The technology also allows for improvements to accessibility, safety, and collection of data. This data assists transit planners when designing transit service delivery

The Smart Bus equipment (GPS device, close circuit camera, mobile data terminals, automated passenger counters) has been installed in over 900 City buses. The near real-time data gathered by the Smart Bus system is shared with external service providers (ex. Apple Maps, Google, etc.) through the City's Open Data platform. (data.edmonton.ca)

AUTONOMOUS VEHICLES

The City of Edmonton is undertaking the development of an autonomous vehicle strategy. The City is building an interconnected, multi-modal transportation system where citizens can walk, bike and ride transit efficiently and conveniently to their desired location.

The City is committed to understanding the upcoming technology so that when deployed, it is ready to incorporate autonomous vehicles into the existing transportation system. It is anticipated that automated technology could be integrated into the transit system and shared fleets in addition to the deployment of privately owned autonomous vehicles.



SMART TRANSPORTATION

The Centre for Smart Transportation works to be a world-class transportation research, education, training and service group within the Department of Civil and Environmental Engineering at the University of Alberta.

Through partnerships with industry, government and academic agencies, the Centre for Smart Transportation aims to serve local national and global transportation needs, while advancing research and technology development and transfer.

INTELLIGENT TRANSPORTATION

The City is engaged in partnerships with several private companies to create predictive traffic modeling. The project's first focus is on Yellowhead Trail (a major road for both commuter and heavy truck traffic) where the City's vehicle detection data feeds a predictive traffic model. Using the projected future volumes, the City adapts the signal controls to optimize the corridor and the network.

SMART FARE

The City of Edmonton, in collaboration with the City of St. Albert and Strathcona County, is implementing a Regional Smart Fare initiative. The initiative will enable regional transit agencies to accept a variety of electronic means of payment and to transition away from paper-based transit passes/tickets and cash.

Smart Fare, when implemented, will allow riders to pay for transit fares using credit cards, debit cards, smartphones and watches, and smart cards compatible with the system.

**WORKABILITY
FOCUS:
EDUCATION**

Recognizing that educational institutions are a foundational element to allow citizens to learn, adapt and innovate, the City will identify areas of opportunity to develop the educational ecosystem.

The City promotes access to knowledge through partnerships with local school boards and academic institutions as well as digital equality – ensuring that all citizens can access broadband networks and information. Edmonton is a living lab where citizens learn by experimenting, supported by City Administration and programs which encourage innovation and foster creativity.

**EDUCATION
ACTIONS**

Partner with universities and colleges to share ideas and knowledge on City data and systems to encourage innovation and foster creativity

Promote Edmonton as a post-secondary city to encourage future investment and sector growth

Facilitate digital inclusion and literacy among all citizens

Collaborate with educational institutions to demonstrate the possibilities and prepare students for advancements in technologies and data analysis

SMART CITY STRATEGY

EDUCATION INITIATIVES

OPEN SCIENCE

Open Science is an innovative program guided by the Open City Initiative and is in alignment with the City of Edmonton's strategic plan, The Way Ahead. The Analytics Centre of Excellence and the Open Data Team collaborate to engage the academic and research communities on various projects improving planning, policy development and efficiency at the City. The Open Science Program is a collaborative partnership among researchers, professors and academic communities.

The goals of this collaboration are to:

- Promote innovative solutions to municipal challenges
- Develop a strong support system that will encourage the research community to tackle challenging City operational issues
- Engage researchers in developing practical solutions to current issues in our city
- Increase public engagement in planning and policy development based on data-driven decision-making.

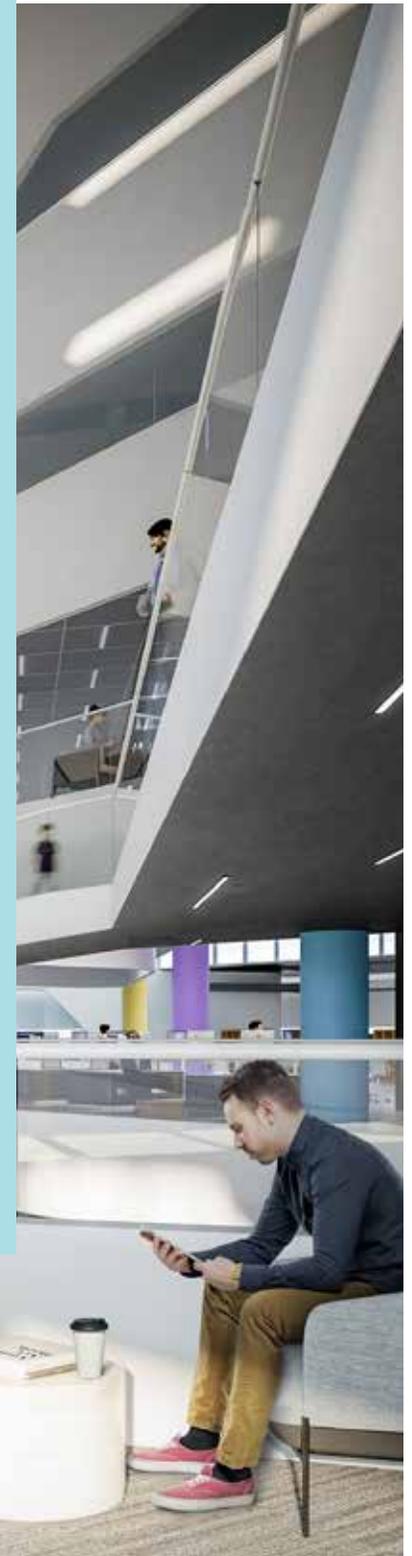
EDMONTON PUBLIC LIBRARY DIGITAL LITERACY

Over the last 20 years, the Edmonton Public Library has evolved its physical and digital public spaces so that residents are provided opportunities:

- To access the technology, applications and eContent needed to pursue their digital literacy goals
- Complete technology related tasks and projects
- Access digital forms of content and information
- Experience novel technology related trends and experiences.

The Edmonton Public Library engages in strategically targeted marketing, media and awareness outreach campaigns to those who might have the greatest needs such as low-income families and individuals, newcomers, seniors, at-risk youth and those experiencing homelessness.

Sample projects include a Makerspace, a lending library of loanable technology infrastructure (ex. lending eReaders, Raspberry Pis and/or Wi-Fi hotspots) and a robust eContent catalogue.



LIVABILITY FOCUS: INFRASTRUCTURE

Without high capacity and resilient physical and virtual infrastructure, the City will not be able to fully harness the benefits of technology such as smart sensors.

A smart infrastructure is crucial in connecting people, communities and businesses. Infrastructure also allows a sustainable municipality to adapt to population changes and increases in resource consumption.

INFRASTRUCTURE ACTIONS

Work with utility partners to provide smart energy and water metering

Upgrade our road networks with smart technologies to ensure adequate management of existing assets

Upgrade our ICT infrastructure to ensure high speed connectivity

Build sustainable and connected future communities

Smart building to manage infrastructure demand density (resource consumption within a building - power, water, transport, telecoms, waste)



SMART CITY STRATEGY

INFRASTRUCTURE INITIATIVES

OPEN CITY Wi-Fi

The City of Edmonton's Open Access Initiative has three guiding principles:

- Whenever possible and reasonable, the City of Edmonton will enable broadband services through partnerships
- The City of Edmonton will take an inclusive approach, working with providers and jurisdictions that are interested in collaborating with Edmonton
- The City of Edmonton will partner on innovative opportunities to make broadband and data networks more accessible for Edmontonians

The City of Edmonton's internally managed Open City Wi-Fi service is now available on 15 Capital Line LRT platform stations, and at 83 locations where the City of Edmonton operates.

Shaw Communications Inc. has also collaborated with the City to provide Shaw Go Wi-Fi including the installation of Shaw Go Wi-Fi service in City facilities and libraries. To date, 37 facilities and 17 libraries have been completed at no cost to the City. Several other facilities are being evaluated for their feasibility.

EPCOR

EPCOR, a utility provider for natural gas, electricity and water, utilizes advanced metering technology to wirelessly transmit customer electricity usage without the previous need to complete site visits. A modernized metering system helps EPCOR reduce operating costs and increase the reliability of electricity services.

When this system is teamed with EPCOR's grid management system, an automatic notification is completed if there is a customer outage. This results in a near real-time understanding of the outage scope and a rapid dispatch of service crews to resolve the issue.

VISION ZERO

The City of Edmonton is the first major Canadian city to adopt Vision Zero, a global initiative to eliminate fatalities and major injuries from motor vehicle collisions. A key component of this strategy will be the adoption of the Safe Systems Approach. Central to this approach is a shared accountability between road users and those who design maintain and operate all parts of the road transportation system.

The Safe Systems Approach is a holistic view that provides a framework to assess, guide and improve traffic safety.

This approach does not ignore risk-taking behavior, but acknowledges human fallibility and the need for greater allowances for human error. Planning and developing a Safe System means looking beyond standards and towards systematically planning and designing a sustainable and inherently-safe road and transportation system for all road users.



SMART CITY STRATEGY

INFRASTRUCTURE INITIATIVES CONTINUED

SOOFA BENCHES

The City has partnered with TELUS to deploy 12 Soofa Benches. Soofa Benches provide free Wi-Fi and USB-device charging from solar panels in various parks and transit stops throughout the city.

TELUS PUREFIBRE

TELUS Corporation committed \$1 Billion to expand the TELUS fibre optic network within the City of Edmonton. This fibre network brings internet connectivity directly into buildings rather than just to a node in a neighborhood. The first phase of this project delivered fibre connections to more than 25,000 premises in four neighbourhoods in Edmonton.

EPARK

EPark allows for the digital and remote payment of street parking fares from the previous coin metering system. The EPark System allows multiple methods of payment through either a kiosk or mobile app. In addition, the system can arrange for a call or email when a user's parking session is about to expire. Additional discounts are provided for on-street parking with a qualifying small vehicle.

CIVIC SMART CARD

The City of Edmonton is currently undertaking the development of a Civic SmartCard. A scalable, enterprise Civic SmartCard will consolidate the City's multiple access cards resulting in ease of access and payment for citizens. The data collected from the Civic SmartCard will provide City with a more complete understanding of how citizens experience City services.

APPENDIX
**COMMUNITY
PARTNERS**

The City of Edmonton is honoured to prepare this Smart City Strategy on behalf of the larger community and most importantly, its citizens. Private businesses and non-profit organizations across our community develop innovative and insightful ways to address municipal challenges and improve our quality of life.

The content gathered to complete this document was sourced from previous City of Edmonton publications in addition to news releases and public-facing websites from our community partners. The City of Edmonton is grateful for the opportunity to highlight these programs and the benefit they provide to the overall community.



We look forward to additional versions of this document in which the volumes of programs highlighted will increase as Edmonton matures in its implementation of Smart City.

APPENDIX

**COMMUNITY
PARTNERS**

RESILIENCY

Edmonton Economic Development Corporation - edmonton.com
TEC Edmonton - tecedmonton.com
Startup Edmonton - startupedmonton.com
Alberta Innovates - albertainnovates.ca
Edmonton International Airport - yeia.com
University of Alberta eHub - ehub.ualberta.ca
Edmonton Research Park - edmontonresearchpark.com
Alberta Women Entrepreneurs - webusiness.com

LIVABILITY

EndPovertyEdmonton - endpovertyedmonton.ca
Health City Initiative - canadashealthcity.com
Make Something Edmonton - makesomethingedmonton.ca
Edmonton Arts Council - edmontonarts.ca
BetaCity YEG - betacity.ca
Enerkem - enerkem.com

WORKABILITY

Centre for Smart Transportation - transportation.ualberta.ca
Edmonton Public Library - epl.ca
EPCOR - www.epcor.com
TELUS Communications - TELUS.com/en/ab/internet/fibre
SHAW Communications - edmonton.ca/programs_services/open-wifi



SMART CITY
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FROM SMART CITY TO
INTELLIGENT COMMUNITY

