



BECOMING CANADA'S HEALTHIEST COMMUNITY



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EXECUTIVE SUMMARY

Health is a hot topic in Airdrie. Research shows that focusing on preventative health has a much stronger impact in keeping Canadians healthy than access to medical care alone (Source: Canadian Medical Association). The Smart Cities Challenge and our focus on preventative health will help us to achieve our goal of making Airdrie Canada's healthiest community. And, we will be able to share our approach, technology and learnings through a comprehensive program that can be replicated to have the same impact in all other communities across Canada.

We are a community with two partners, the City of Airdrie and Airdrie & Area Health Cooperative, who are committed to supporting our community to become healthier and are taking tangible actions to make it a reality.

OUR PROPOSAL

The \$10 million from the Smart Cities Challenge will utilize data and connected technologies that will support our goal of increasing healthy life expectancy by 3+ years over 5 years and ultimately change the lives of every resident in our community. Our proposal includes:

1. **Optimizing open data and connected technologies.**
2. **Building the HealthSmart Community Operating System (COS)** – a community connector that facilitates data to be exchanged between individuals, organizations and businesses.

3. **Developing the Smart Service Inventory** – a smart navigation system allowing users to know what services are available locally, how to access, why to access, and why it is best suited to them based on their own individual profiles and will mobilize community information regarding the social determinants of health.

4. **Connecting the COS with several technologies** that are outside of the Smart Cities Challenge through an application programming interface. Examples of other technologies include the Community Health Information Resource Platform (a partnership between the Airdrie & Area Health Cooperative and Alberta Health Services) to support the outcome measures important in achieving our Challenge Statement, activity and fitness tracking (e.g., FitBit), micro-credentialing and eMental Health.

5. **Connecting users to the HealthSmart Technology** through the MyAirdrie Portal, native mobile apps and kiosks offering access to all residents around the city.

HealthSmart Airdrie will connect the work we are doing to change the culture of our community to one that focuses on health, by implementing Blue Zones. By optimizing our environment – those settings where we live, work, and play, which influence our behaviour – we can make the healthy choice the easy choice so that we naturally adopt healthy behaviours.

(Source: Becoming a Blue Zones Community Handout – Blue Zones Project).

To build a technology that meets the needs of residents and gives them easy access to healthy choices, we will:

- Focus on the social determinants of health and connecting the technology to meet the current and evolving needs of residents – Chapter 1: Vision.
- Measure well-being through Community Health to provide indicators for individuals to assess how they are doing in relation to these determinants – Chapter 2: Performance Measurement.
- Provide a variety of opportunities for stakeholder input into the development and implementation – Chapter 6: Engagement.
- Implement a diverse and inclusive approach to stakeholder identification, involvement and engagement – Chapter 6: Engagement.
- Ensure privacy and security of data is core to the project – Chapter 4: Technology and Chapter 7: Privacy and Data

The implementation of our Smart Cities Challenge program will include best practices in project management, the stakeholder engagement methodology from the International Association of Public Participation, a detailed data management, privacy and security plan, well defined governance and supporting structures, sound contractual agreements and the identification of risks and mitigation strategies in a risk register.

The Smart Cities Challenge allows us to engage community residents and build a technology over the next five years, providing Airdrie with a unique opportunity to have a real impact on people's lives. Ultimately, increasing healthy life expectancy by 3+ years over 5 years.

Airdrie is excited to be the proving ground for creating a technology that enables our residents to achieve better health outcomes. We are even more excited to share the learnings of our journey with the rest of Canada. Together we can create a country of healthy, resilient, engaged and supportive communities.





CHAPTER 1: VISION

It's the year 2025. Your destination, the city of Airdrie. A place you've heard of as having a small-town feel and big city amenities and an innovative and entrepreneurial spirit, but something has changed. You experience a city like no other; new communities are planned with connection in mind – pathways, shopping and recreation are in walking distance no matter where you are and access to healthy choices are easy.

You can connect to community organizations for mental health support, employment, affordable housing and senior networks, and services like continuing education classes, budgeting tools and transportation through your phone, computer or a community kiosk using HealthSmart Airdrie. Everyone you meet understands that health is more than physical and mental health; health and connection are a way of living in Airdrie.

You meet Brandon. Five years ago, he didn't know how to add more vegetables to his family's meal and how to do it on a budget. Through HealthSmart Airdrie, he accessed cooking classes for picky eaters, recipe ideas from local businesses and budgeting resources through his local bank. Today, adding vegetables to meals is easy and Brandon has paid off his loans.



You also meet Sam. She was having trouble with school and was having a hard time dealing with her stress. Through HealthSmart Airdrie, she accessed counselling services, found a tutor to help her with her homework and joined the Airdrie youth group. She is now getting good grades and leads activities for teens in Airdrie.

You decide to try out HealthSmart Airdrie and create a single sign-on, giving you access to local services. You find Don and Marg. They were looking to meet more people in the community by sharing their favorite game, crokinole, but were having a difficult time getting out because they're not able to drive. They use HealthSmart Airdrie to set up a community group, schedule crokinole games and book a shared ride service. They are now in charge of Airdrie's first Crokinole Club.



Through your search, you also find H&W Airdrie Inc., a company that supports people new to the community. Before HealthSmart Airdrie, H&W had to conduct various searches and send their clients to multiple organizations to access community services. Today, H&W can use HealthSmart Airdrie to better plan its services and access local services like doctors, housing and employment for its clients, all in one place. You schedule an appointment with them to learn how to become part of the Airdrie community.

How did we get there? Our community leveraged the \$10 million Smart Cities Challenge (SCC) award to work together to create a connected community – one where people connect with meaningful, individualized, local information, resources and expertise that

helps residents make better, more informed choices about their overall well-being and the health of their families. By working together and engaging everyone in Airdrie, we created a health and well-being-focused movement in our community, where everyone,

including Airdrie's most vulnerable, feel welcome, safe, are supported and know that they belong.



OUR VISION: **HOW ARE WE GOING TO ACHIEVE IT**

Airdrie's Challenge Statement is big. It commits to including all individuals, families and organizations in Airdrie and area to create an environment based on the social determinants of health (SDOH) – strategies that help connect the dots between people in the community with the policies that guide decisions and actions. It includes sustained community engagement and involvement to achieve the goal of increasing overall healthy life expectancy in Airdrie by 3+ years over 5 years.

Taking on this Challenge Statement will have impacts both provincially and nationally. Our success will be transformative in Airdrie, with learnings that can be applied across all communities in Canada. It will require a connected, caring community that supports everyone, embraces diversity and builds a culture where everyone can have a role in becoming Canada's healthiest community. And we know we can get there. Our vision is possible. Our proposal outlines three real and actionable ways to achieve this big goal:

1. We are a community with two partners, the City of Airdrie (CoA) and Airdrie & Area Health Cooperative (AAHC). We are uniquely positioned to focus on optimizing the technology opportunity presented

by the SCC and to engage the community in an intentional journey for health;

2. Our focus on health is underpinned by existing leading practices for community health; and
3. Our technology focus capitalizes on the SCC opportunity, by optimizing capacity within the CoA and AAHC and its partners to create a unique capability to connect individuals in the community and create an environment for smart community information to monitor outcomes toward our Challenge Statement.

A UNIQUE COMMUNITY: **STRONGER TOGETHER TO MAKE** **A BETTER TOMORROW FOR ALL**

Airdrie is a fast-growing and changing city. Today, we are 68,000 strong, with a diverse population that includes young families and an increasing senior population.

We are one of the fastest growing medium-sized communities in Canada with a projected population of 100,000 within the next ten years. Many view Airdrie as a prosperous city, with an average income of \$102,000 and many services for a city of its size.

Although Airdrie has many strengths, our community also has some significant challenges. The current economic climate has created unemployment, and a lack of full-time, good paying jobs amid a slow economic recovery.

We have additional challenges that need to be addressed if we are to reach our vision:

- Housing affordability.
- Lack of supports for youth mental health and service options for individuals of all ages. Stressors in the community are also evident regarding high rates of domestic violence.
- Lack of information regarding available services. Orienting newcomers to the vast array of services and programs available in Airdrie is a challenge in our growing community.
- Silos for service delivery.
- A desire for information enabling healthier individuals.

(Source: *Together for Tomorrow* - https://www.airdriearahealthcoop.ca/pdfs/2018_04_18_Community_Report.pdf)

IF AIRDRIE WERE A VILLAGE OF 100 PEOPLE



Aboriginal People: **5**

Visible Minorities: **13**

Immigrants: **12**



Employed: **81**



Low Income: **5***



Renters: **17**

Owners: **83**

Figure 1.1 shows what Airdrie would look like if we were a village of 100 people. Source: Statistics Canada, 2016 Census of Population.

For the past five years, our community has repeatedly expressed a desire for a hospital. After many discussions, the Alberta government responded that hospital services are only about 25 minutes away in Calgary, and therefore a hospital is not warranted in Airdrie. The Minister of Health encouraged our community to look at health differently and stated in December 2015, “I am supportive of a grassroots approach to health.”

This statement became the catalyst to a unique community opportunity in Airdrie:

1. We have a community vision focused on health; namely, to own our own health, becoming Canada’s healthiest community!
2. We have an organization, AAHC, focused solely on being a catalyst for a healthy community.
3. We have a municipality, the CoA, embracing this vision, along with the Mayor’s recent Proclamation that 2019 will be the Year for Healthy Living.

2019 YEAR OF HEALTHY LIVING

Whereas something different is happening in Airdrie. A new energy is moving through our community which draws strength from the collaborative spirit of our pioneer roots and shows us opportunity to flourish, grow and lead healthy lives as individuals and as a community, and

Whereas individuals within the community can be empowered to own their own health and the community as a whole can, together, own our own health, and

Whereas “healthy” is our mental and physical well-being. It extends to our minds, spirit, and our environment too, and

Whereas good health and wellness result in fuller lives, happiness, strength and prosperity, and

Whereas we are fortunate to live in a place with some of the best doctors, and health care workers and technologies in the world, and

Whereas we recognize our opportunities for fulfillment, activity, connection, and purpose happen naturally within our individual daily lives, and

Whereas health and well-being also require the support of our entire community, bringing together citizens, families, private sector and government to ensure that everyone living in airdrie has the knowledge to make informed health decisions in a city that actively promotes and protects good health and wellness, and

Whereas well-being begins at home and every individual should adopt an active and healthy lifestyle, and

Whereas healthy individuals make up healthy families. Healthy families make up healthy communities, and

Whereas we thrive as individuals, as families, as neighbours, and as a community, so, too, does our city. Together, we will make airdrie canada’s healthiest community.

Now therefore Council of the City of Airdrie proclaims 2019 as the year of healthy living. Own our own health.



The CoA and AAHC are bringing the best of our two organizations toward the Challenge Statement and this proposal:

- The CoA is the lead organization for the SCC and the lead for the technology development.
- AAHC is a partner in the technology development and will be managing the community health engagement plan and measurement of outcomes for community health in a parallel manner to SCC technology developments.

BEST PRACTICE: A COMMUNITY FOCUSED ON HEALTH

There are several leading practice documents to guide work in Airdrie to mobilize our vision for community health:

- An overview article from BC Healthy Communities (<http://bchealthycommunities.ca>) provides clear direction:
 - a. The fundamental core value of the healthy communities approach is capacity building and empowerment of individuals, organizations and communities.
 - b. The healthy communities approach needs to address multiple determinants of health and include five essential strategies: community engagement, multi-sectoral collaboration, political commitment, healthy public policy, and asset-based community development.
- *The Chief Public Health Officer's Report on the State of Public Health in Canada 2017* published by Public Health Agency of Canada focused on designing healthy living. The report ends with a call to action with specific focus on designing communities for Canadians to take charge of their own health.

The action plan for community health sponsored by AAHC incorporates concepts from the above documents (attached to the AAHC letter of support).

Realizing the community vision requires intentional and large-scale community engagement, AAHC has chosen the Blue Zones Project from the USA to bring their experience and methodologies for this city-wide community process. They also bring measurement expertise and the ability to provide predictive out-

comes regarding system-wide reduction in health care costs and projected impacts on life expectancy.

AAHC is building on this expertise with Alberta partners, including Alberta Blue Cross, for the well-being measure, to create a “made in Canada” measurement system. AAHC has also partnered with Alberta Health Services to create focused health policies and develop the Community Health Information Resource Platform (CHIRP – being developed in partnership with Alberta Health Services and the AAHC using in-kind contributions) to create dashboards with health outcome data.

Blue Zones also brings unique expertise in creating healthy living environments by collaborating with local developers, the CoA and Alberta Health Services to develop comprehensive built environment policies aimed at creating communities for healthy living.

The overall initiative, “Healthiest Airdrie, powered by a Blue Zones Collaborative”, will be the most comprehensive community engagement this community has experienced. It will begin April/May 2019 with an eight-month discovery process to plan community-specific engagement led by locally hired facilitators. Following this, there will be two years of structured engagement with the community. As outlined in Chapter 6: Engagement, there will be connections between stakeholder engagement related to technology development, Blue Zones and initiatives focused on community health and SDOH.

Fundamental to success with strategies for community health –as well as strategies that continue to meet resident’s needs in new ways —is to create a digitally connected and enabled community. The ability to inform and monitor the success of community health engagement requires smart community information, hence the importance of the HealthSmart Technology.

HEALTHSMART TECHNOLOGY: THE HEART OF AIRDRIE'S SMART CITIES CHALLENGE PROPOSAL

HealthSmart Technology will be a community connector - facilitating data to be exchanged between individuals, health and social service organizations, community not-for-profits, businesses, local, regional, provincial and federal government departments. It

will be extremely versatile and will be used to allow individuals to access a wide variety of data.

The underlying technology for the proposed HealthSmart Community Operating System (COS) is being used by many industries, including the highly regulated finance and insurance industries. The existing technology is expensive, well beyond the means of most municipal governments and is not presently designed to meet the more stringent privacy and risk legislation that municipal governments are held to. The creation of this technology with support from the SCC will allow local governments to become early adopters.

Airdrie's proposal to create a Smart Service Inventory (SSI – a smart navigation system allowing users to know what services are available locally, how to access, why to access, and why it is best suited to them based on their own individual profiles) will mobilize community information regarding the SDOH. By creating a system that allows for immediate access to personalized, verified, secure information, Airdrie and area residents will make meaningful connections to local resources, services, professionals, and social connections to help our residents make better, more informed decisions about their health and the health of their families.

HealthSmart Technology will also connect with the CHIRP. The goal is to create smart community information to support the outcome measures important in achieving the Challenge Statement.

At the foundation of our HealthSmart Technology, is learning from our benchmarking of other cities that have implemented smart technologies. Our benchmarking has shown that by focusing on the needs of a community, such as the goal to be a healthy city, technology is an enabler for community good and a significant catalyst for ongoing sustainability.

A FOCUS ON SOCIAL DETERMINANTS OF HEALTH: POWERED BY BOTH COMMUNITY HEALTH ENGAGEMENT AND TECHNOLOGY

Our submission focuses on SDOH, given their importance on impacting the community vision and the Challenge Statement. According to the World Health

Organization, SDOH “are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.”

The health of an individual, group, organization and the overall community is tied directly to the determinants of health. The determinants of health include the social, economic, physical and health care environments of a community and individual characteristics and behaviours of those in a community. For our project, we have decided to focus on eight determinants or factors for healthy living. (Figure 1.2)

The Community Health measures of well-being will provide indicators for individuals to assess how they are doing in relation to these determinants. Information from developing the SSI and monitoring usage trends will help the community understand the strengths and gaps related to SDOH, allowing us to improve health overall.



Figure 1.2 shows we are focusing on eight social determinants of health – housing, work, food, surroundings, family, friend & community, money & resources, transportation, and education & skills.

By focusing on health, we can build a smart community through which all environments and stakeholders are digitally engaged and enabled through open data, connected technologies and measurement. Open data and connected technologies allow for measurement

specific to individuals, families, need-based groups and the community and subsequently provide actionable insights. By focusing on health determinants, we can collectively focus on improving the lives of our residents and identify the real issues that need to be addressed in our community. Health is the common denominator.

PROGRESS TOWARDS OUTCOMES ACHIEVED DURING THE FINALIST PHASE

Over our comprehensive proposal development stage, we were able to flesh out the HealthSmart Technology more thoroughly to better understand how it can connect to other platforms and resources, the requirements for single sign-on, security and privacy, and how the technology will work, connect to and support our Blue Zones program. We were also able to conduct more research into the understanding and needs of our community.

During the proposal development stage, the Smart Cities Team attended AirdrieFest (a local festival aimed at promoting all that Airdrie has to offer), developed the HealthSmart Airdrie website, hosted an open house, sent out a survey, sent out email updates, and posted regularly on social media to ask Airdrie and area residents about health and what matters to them. Details of our findings can be found in Chapter 6: Engagement.

We created “HealthSmart Airdrie.” This includes a brand we have rolled out to the community through advertising, social media and a website (<https://healthsmartairdrie.ca/>). Our plan is to continue to use this brand to engage Airdrie and area residents in the SDOH, and the role they play in increasing individual and community well-being. Our aim is to increase understanding around SDOH, which would not only enable improved individual and population health, but also advance health equity. We are also working to “create social and physical environments that promote good health for all.” (Source: <https://www.cdc.gov/socialdeterminants/index.htm>)

City Council demonstrated their support for the health movement with a \$1.5 million contribution to bring the Blue Zones program to Airdrie. The movement, policy changes, and well-being measurement tools / data, which comes from the Blue Zones initiative, will help advance our Challenge Statement.

Recently City staff have been in discussions with major telecommunication carriers to advance fibre and wireless implementation strategies to get high speed fibre to every home and business in Airdrie and to expand 5G connectivity by the end of 2020. The CoA is in a good position to build upon partnerships to improve upon the services we deliver to our residents. This will improve technology access for all Airdrie residents.



AIRDRIE'S SMART CITIES JOURNEY

The City of Airdrie began implementing “smart city” initiatives in 2007 to collect data to better and more efficiently provide services to residents.

- 2007-2009 – Network connectivity at intersections
- 2007-2012 – Weather Stations report road conditions allowing for municipal business units to obtain real time data reducing fuel and resource costs
- 2008 – Centralized administration of all irrigation system for water conservation
- 2012 – Multi-Response Vehicle supports a multi-agency approach to assisting citizens in emergency situations
- 2014 – Flowpoint bulk water monitoring and distribution
- 2014-18 – CP Rail monitoring provides data to emergency responders
- 2015 – Remote monitoring and management of waste and water
- 2015 – UAV/Drone program to collect data for fire investigations, emergency operations and infrastructure inspections
- 2017 – Civic property protections
- 2017 – Broadband network infrastructure upgrade at intersections to support wireless communications, to collect road condition data, intersection pre-emption for emergency response vehicles, signal controls and timing, traffic count data
- 2018 – Municipal Enforcement in-car video offload to ensure chain of custody of video and audio footage from officer interactions
- 2019 – Telus will be connecting every home and business in Airdrie to the PureFibre network by the end of 2020 with 5G expansion future opportunities.

HOW OTHER COMMUNITIES CAN BENEFIT

All local governments can benefit from the creation of HealthSmart Technology. All communities, regardless of size, are struggling with sharing relevant information about local resources to help their residents, and the larger the community the more difficult it becomes.

There are three ways that other communities can benefit from the SCC investment in Airdrie:

1. The investment in technology (Chapter 4: Technology) will result in components that can be replicated in other communities.
 - a. The SSI will be an application that can be used in other communities.
 - b. The COS will be created with open technology for use by other municipalities in connecting data and systems. The more municipalities that connect to it, the more data we have and the stronger the technology becomes.

- c. The methodologies for making connections between systems and the policies to manage these will be useful in all municipalities.

2. The proposed CHIRP is being developed with Alberta Health Services in partnership with AAHC as a prototype for bringing together meaningful health and population formation for a community. This is critical to make better use of the many data sources and indicators available in large health systems. The frameworks to create community-focused information and the resulting dashboards will be available to other communities.
3. The partners will share learning and key success factors learned through the large-scale community engagement process.

Municipalities are responsible for providing a healthy environment for their residents to live, work and play, and our municipality's unique partnership with the AAHC allows us to deliver a truly collaborative focus on health that can be replicated in other communities across Canada.



CHAPTER 2: PERFORMANCE MEASUREMENT

Becoming Canada’s healthiest community will require continuous learning, engagement, and improvement to the health initiatives in our community. If we do not measure, we will not progress and achieve health gains in our community.

Our vision of becoming Canada’s healthiest community and achieving our Challenge Statement of adding 3+ years of healthy life expectancy over 5 years, can only be accomplished through a series of collective

efforts and projects. Our performance measurement will be achieved through two main components: 1. Community Health Engagement; and 2. Technology.

To increase healthy life expectancy, we need the participation of individuals, and we need to measure well-being, health outcomes and improved resource use. Monitoring results each year will provide feedback regarding successes and citizens’ needs to deepen community engagement work for community health. The availability of open data and connected technologies will be an important enabler to engage individuals and improved resource use.

The development of the Measurement System will be a year one initiative through a multi-stakeholder committee led by Airdrie & Area Health Cooperative (AAHC). This will build on expertise from Blue Zones and Alberta Health Service to create a “minimum data set of indicators” to monitor depth and scope of engagement, status of individuals relative to their perceptions of well-being, key indicators—leading and lagging—for health outcomes, and key indicators of changes in health care use. The objective is to express these indicators in dashboards for use in the community.

The measurement of well-being will be administered through individual participation and will provide them with an opportunity to reflect on their journey for health. There are several parameters in this survey that link to social determinants of health (SDOH) (Table 2.1).

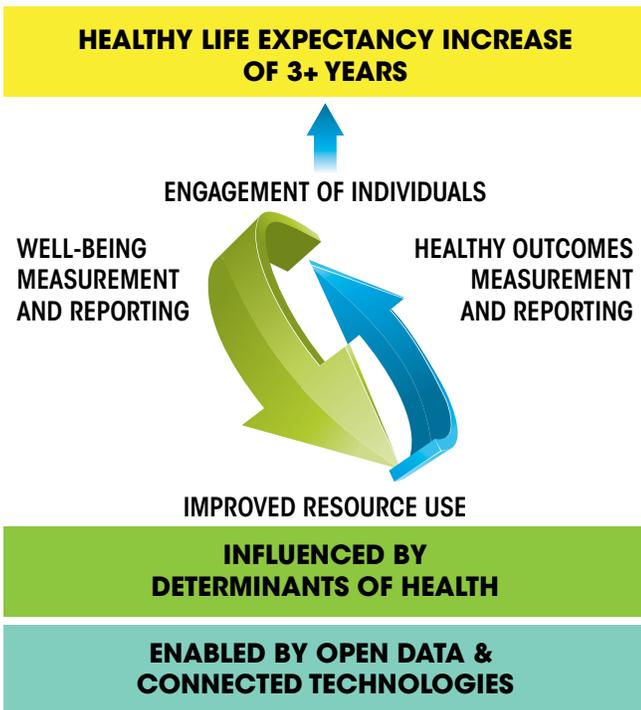


Figure 2.1 shows engagement of individuals, health outcomes, well-being and improved resource use, supported by the determinants of health and open data and connected technology can increase health life expectancy.

Table 2.1 provides an overview of the measurement development process for each of the four measures.

Outcome Indicator	Example Metrics		Information Source	Gathering Process
	Year 1	Years 2-5		
Engagement	<ul style="list-style-type: none"> • Technology Development • Community Health Initiatives 	<ul style="list-style-type: none"> • Technology Development • Community Health Initiatives • Use of COS App 	<ul style="list-style-type: none"> • Technology Development stakeholder engagement process • Tracking system for community health engagement • Service Inventory analytics 	<ul style="list-style-type: none"> • Chapter 6: Engagement • Documentation of activities, summaries • Ongoing; periodic reports, minimum of annual trends
Well-Being	<ul style="list-style-type: none"> • Well-being apps usage • Pilot of well-being measurement tool 	<ul style="list-style-type: none"> • Well-being apps usage & data • Well-being scores • Service and resource utilization from COS app 	<ul style="list-style-type: none"> • Individual reporting • Connected Apps • Well-Being Tool • COS App 	<ul style="list-style-type: none"> • Annual survey to community • Ongoing, annual trend analysis
Health Outcomes	<ul style="list-style-type: none"> • Leading & lagging indicators of health defined • Comparative data sources outside of Airdrie identified 	<ul style="list-style-type: none"> • Leading & lagging indicators of health • Comparative data beyond Airdrie 	<ul style="list-style-type: none"> • Alberta Health Services • Above, including provincial & national surveys of health behaviours 	<ul style="list-style-type: none"> • CHIRP annual reports • Periodic
Resource Use	<ul style="list-style-type: none"> • Baseline measures identified / defined • Key health care metrics defined 	<ul style="list-style-type: none"> • Trends in service use per SSI • Key health care metrics reports 	<ul style="list-style-type: none"> • COS App (Dashboards, SSI) analytics • Alberta Health Services 	<ul style="list-style-type: none"> • Ongoing, annual trend analysis • CHIRP annual reports



**Becoming
Canada's healthiest
community will require
continuous learning,
engagement, and
improvement to the
health initiatives
in our community**

The goal of increasing healthy life expectancy is an overall and long-term impact, that can be achieved after in-depth and multi-year community engagement and strengthening of SDOH. Blue Zones has experience in developing a predictive model to estimate such an impact and they will be requested to provide this assessment at the end of this five-year project. Involvement of Blue Zones as a strategic partner offers the Airdrie community the opportunity to strive to become a “Blue Zones Certified Community” and requires:

1. Personal: At least 20% of citizens take the Blue Zones® Personal Pledge and complete one action.
2. Schools: At least 25% of public schools become a Blue Zones School™.
3. Worksites: At least 50% of the top 20 community-identified employers become a Blue Zones Worksite™.
4. Restaurants: At least 25% of independently or locally owned restaurants become a Blue Zones Restaurant™.
5. Grocery Stores: At least 25% of grocery stores become a Blue Zones Grocery Store™.
6. Community Policy: Completion of the Blue Zones® Community Policy Pledge.

These measures are an impact and indicator of progress toward our vision of becoming Canada’s healthiest community. Although this is not directly replicable by other communities without a commitment to Blue Zones, Airdrie will share learnings from this process to help other communities put together their health engagement process.

COMMUNITY INVOLVEMENT FOR PERFORMANCE IMPROVEMENT

Several community groups will be using information and outcomes. This will be made possible by HealthSmart Technology and the resulting dashboards. Some of these groups are already established in Airdrie (Mental Health Task Force, Domestic Violence Coalition, etc.) while others will be identified through the stakeholder engagement process.

The Council Collaborating 4 Health (CC4H), established January 2019, is the community oversight and

stewardship body with over 20 local champions and leaders that is guiding the collective impact strategy to guide overall integration and coordination and community-wide learning from all initiatives in the plan for Community Health. This is included in AAHC’s letter of support. This community body endorsed the proposed Smart Cities Challenge submission on February 20, 2019.

This group will:

- receive annual updates on overall progress—for information and to link to other community initiatives,
- be responsible for monitoring key progress steps and annual measures of outcomes from the community engagement strategy, and
- be the community sponsor for action related to enhancing SDOH per information received from the Smart Service Inventory system.

PROJECT MILESTONES

Table 2.2 outlines the measurement requirements, milestones and timelines over the five-year project and Table 2.3 provides the payment schedule. Table 2.4 logic model links the activities from the measurement requirements, milestones and time lines table, to the ability to complete the SCC funded technology development and to have outcome measure linked to the SCC. More details are provided in Chapter 3: Project Management.



Table 2.2 provides an overview of the measurement development process for each of the four measures.

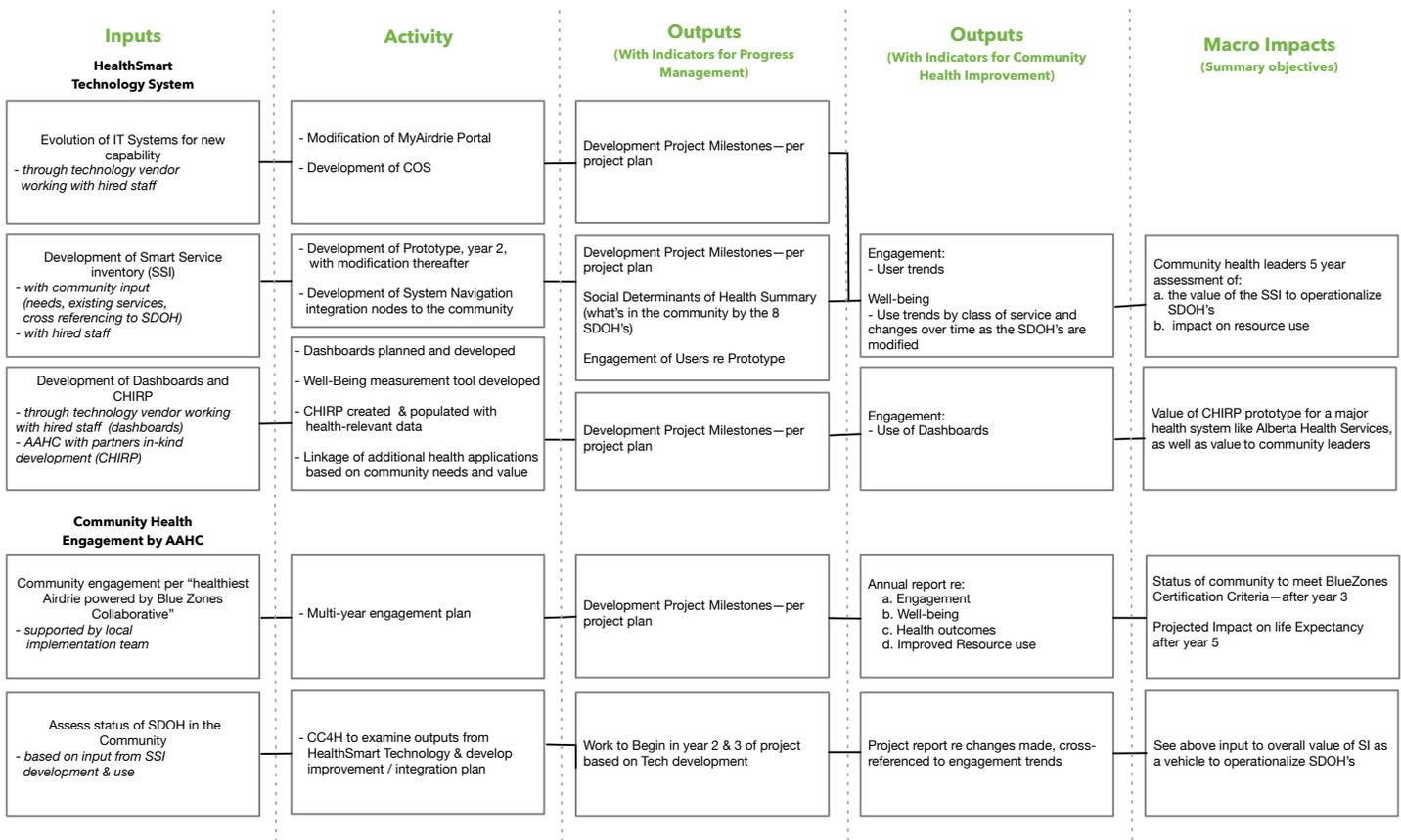
Measurement Type	Year 1	Year 2	Year 3	Year 4	Year 5
Technology Development & Implementation	<ul style="list-style-type: none"> • Project Team Assembled • Community Engagement re SSI • Technology Vendor Engaged • Technology Development Begins with Community input 	<ul style="list-style-type: none"> • Initial Technology Development completed • Prototypes available for community testing, response & evaluation 	<ul style="list-style-type: none"> • Technology Refinement / engagement 	<ul style="list-style-type: none"> • Technology Components in Place • Technology Refinement / engagement • Community engagement 	<ul style="list-style-type: none"> • Technology System in operation • Summary engagement
Community Health Engagement by AAHC	<ul style="list-style-type: none"> • Community Engagement Initiated • CHIRP Development begins including development of well-being measure • Measurement Plan defined • Baseline measures of outcomes 	<ul style="list-style-type: none"> • Full community engagement begins • Annual measure of outcomes Community input 	<ul style="list-style-type: none"> • Continued community engagement • Information from COS App (SSI) to be used to define SDOH plan 	<ul style="list-style-type: none"> • Evaluation re overall results & implications for sustainability, scale & spread • First indication of status re "Blue Zones Certified" Community 	<ul style="list-style-type: none"> • Community engagement in a mature phase • At end of year 5, Request to Blue Zones for assessment of overall results re change in life expectancy

Table 2.3 provides the project payment schedule over five years.

Project Payment Schedule	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
	\$3,579,513	\$1,643,034	\$1,575,616	\$1,591,838	\$1,609,999	\$10,000,000



Table 2.4 provides the logic model for the project.



RISKS AND ASSUMPTIONS

Table 2.5 outlines the risks and assumptions for the development of the HealthSmart Technology.

Risk	Mitigation Strategy
Development of the HealthSmart Technology	
Information Management Lifecycle: inadequate and/or outdated policies, practices and/or procedures that may hinder ability to provide high quality information assets that meet its strategic and operational goals and objectives.	<ul style="list-style-type: none"> • Leverage our investment in technology. • Increase quantity, range, complexity and relevance of information. • Increase the need for the maintenance of electronic information. • Increase electronic service delivery. • Increase expectations of the public and stakeholders.
Inability to utilize analytical procedures, budgets and other information to identify variances, unexpected results, or unusual trends for subsequent follow-up.	<ul style="list-style-type: none"> • Enhance functional activity management involving direct management review of performance and activities.
Compliance risk: lack of compliance with legislation and regulatory requirements may result in unacceptable performance and cause an inability to achieve financial, operational, and stakeholder objectives.	<ul style="list-style-type: none"> • Enhance functional activity management involving direct management review of performance and activities. • Development and implementation of organizational legislative compliance monitoring program.



CHAPTER 3: PROJECT MANAGEMENT

PROJECT SCOPE

The scope of the project includes the following:

- A HealthSmart Community Operating System (COS)
 - o The framework that allows data to be securely accessed by individuals, groups, organizations and the community. The COS provides a “virtual handshake” allowing the transfer of data from one party to another. Only encrypted transactional data is stored. Aggregated unidentified data may require storage. No other data storage will occur.
- The packaging and preparation of the HealthSmart Core COS to allow for implementation in a municipality / community environment. Airdrie will be providing a template for other communities in Canada. Other communities will be able to adopt and modify the Airdrie model to fit their needs.
- HealthSmart COS Application Programming Interface (API) (<https://www.youtube.com/watch?v=s7wmiS2mSXY>)
 - o The COS API will be the master API that other applications can use to connect to each other. The master API is the sole location providing the connection point for all applications.
 - o Custom API development for other systems to connect to the COS.
- Smart Service Inventory (SSI) – a smart navigation system allowing users to know what services are available locally, how to access, why to access, and why it is best suited to them based on their own individual profiles.
- Web portal integration for user access.
- Mobile applications for user access.
- Governance on how the technology will be managed and sustained.
- Stakeholder consultation and community engagement for release timelines, accessibility and usability of the web portal and mobile applications.
- Stakeholder engagement and landscape analysis on SDOH for what service inventory is most important in order to prioritize versions of service inventory.
- Stakeholder engagement of businesses, not for profits, and public organizations.

PROJECT METHODOLOGY

The City of Airdrie (CoA) follows a standard project methodology in accordance with the Project Management Body of Knowledge (PMBOK®) with adaptations to align with public organizational practices for use of public funds, approvals and procurement legislation.

Table 3.1 provides an outline of the standard CoA Information Technology Project Life Cycle..

PM Phase	Purpose	Gate Reviews & Approvals
Initiate	To identify that: a problem or opportunity exists within the business; the solution may be non-trivial in nature; and, a Business Sponsor is willing to be accountable for the solution.	At the Project Initiate Gate, the following decision is reached: Is the project request endorsed and prioritized by the Program / Project Steering Committee. Project Resources are assigned.
Assess	To produce more detailed information, that will be required by funding, technical and business groups.	At the Project Assess Gate, the following decision is reached: Is there financial or business viability? Does the Program / Project Steering Committee approve? Formal presentation to the Program / Project Steering Committee.
Plan	This phase is used to develop a description of what the project will deliver, who is involved and how and when it will be done	
Implement	This phase is used to develop a specific, detailed solution concept. The solution, as defined in the concept, will be designed, developed, tested, and turned over to operations. Any training requirements will be delivered in this phase.	At the project implement gate, the following decision is reached: Has the scope been delivered and does the implemented solution meet the needs of the business?
Go-Live	During this phase, the project goes live and is delivered to the intended users.	During go-live phase, the following decision is reached by IT leadership: Is the project team and operational staff prepared for the change?
Closeout	This phase begins after the solution has been delivered and the Steering Committee has confirmed that the project is complete.	At the Project Closed Gate, the following decision is reached: Have the administrative closeout tasks been completed and the financial and schedule summary been reviewed?



SCHEDULING, SEQUENCING AND DEPENDENCIES

Table 3.2 provides a summary of the milestones for the project.

Milestone	Finish	Output
Governance		
Governance model for project implementation	November 2019	Approved Governance Model
External Audit of Funding	Annually starting September 2020	Annual Audit Report to Infrastructure Canada
Community Employment Benefits (CEB) Reporting	Annually starting in August 2020	Annual CEB Report to Infrastructure Canada
Initiate		
Program Steering Committee approval of project scope	November 2019	
Assess		
Stakeholder Engagement & Communications – Visioning & Ideas for COS	March 2020	What We Heard Report
Requirements approval	March 2020	
Program Steering Committee approval of business case	April 2020	Business Case
Post Request for Proposal	May 2020	Proposal Request for Vendors
Tentative award	September 2020	Contract Negotiation
Execute contract	October 2020	Technology Vendor Contract Awarded
Implement		
COS Go Live	July 2021	Foundational System is Live
COS Dashboard V1	November 2021	Dashboard V1 is Live
COS Dashboard V2	November 2022	Dashboard V2 is Live
COS Dashboard V3	November 2023	Dashboard V3 is Live
COS Dashboard V4	November 2024	Dashboard V4 is Live
Not for Profits (NFP) functionality added to City of Airdrie (CoA) Business Directory	December 2019	NFP able to create accounts in CoA Business Directory
Census API	April 2021	Census API go live for COS
Perfect Mind API	April 2021	CoA Recreation System API go live for COS
Wearables API	April 2021	Wearables API go live for COS

Milestone	Finish	Output
Implement continued		
GIS Data API	June 2021	GIS Data API go live for COS
Social Media API	July 2021	Social Media API go live for COS
Local, Provincial, & Federal Open Data Platforms API	January 2022	Government Open Data Platform API go live for COS
Stakeholder Engagement & Communications Service Inventory	June 2020	What We Heard report
Service Inventory V1 & API	January 2021	Service Inventory V1 & API connected to COS
Service Inventory V2 & API	October 2021	Service Inventory V2 & API connected to COS
Service Inventory V3 & API	June 2022	Service Inventory V3 & API connected to COS
Service Inventory V4 & API	March 2023	Service Inventory V4 & API connected to COS
eMental Health API & Dashboard	April 2021	API & Dashboard built & connected to COS
Well-Being Tool API & Dashboard	September 2021	API & Dashboard built & connected to COS
People Like Me API & Dashboard	November 2021	API & Dashboard built & connected to COS
Micro Credentialing (Employers & Volunteers) API & Dashboard	January 2023	API & Dashboard built & connected to COS
Clinical Systems API & Dashboard	April 2023	API & Dashboard built & connected to COS
Accessibility & Usability Communications & Stakeholder Engagement	February 2021	What We Heard Report
Web Interface for COS connectivity	August 2021	COS connected to MyAirdrie Community Portal
Mobile Apps V1 for COS connectivity	October 2021	Mobile Apps V1 available to connect to COS
Mobile Apps V2 for COS connectivity	October 2022	Mobile Apps V2 available to connect to COS
Mobile Apps V3 for COS connectivity	October 2023	Mobile Apps V3 available to connect to COS
Mobile Apps V4 for COS connectivity	November 2024	Mobile Apps V4 available to connect to COS
Evaluation		
Communications & Stakeholder Engagement – Evaluations & Ongoing Sustainment	September 2024	Community Evaluation Report
Closeout		
Closeout Report & Presentation to Program Steering Committee	November 2024	Closeout Report

Table 3.3 provides the project plan based on approximate start date of September 2019. This date is dependent upon receipt of funding.

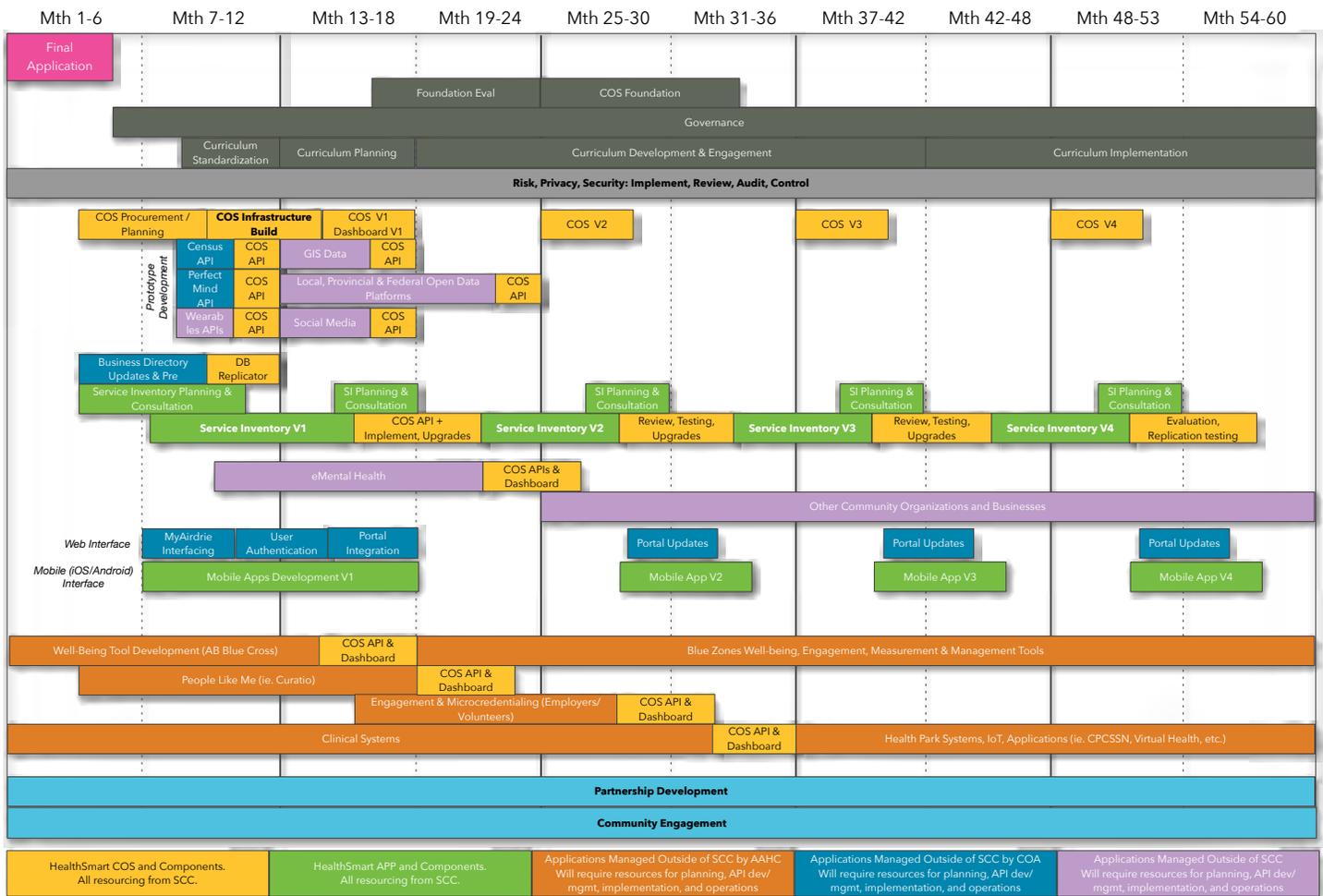


Table 3.4 provides a high level project overview. The detailed project plan is included in the financial appendices.

WBS	Task Name	Work	Duration	Start	Finish
0	Smart Cities Challenge Implementation Plan	28,741 hrs.	1410 days	Tue 19-09-03	Wed 24-11-20
1	Governance	775 hrs.	1380 days	Tue 19-09-03	Thu 24-10-10
1.6	Set up project team	12 hrs.	10 days	Tue 19-11-26	Mon 19-12-09
1.8	Signature Approvals of partnership agreement	2 hrs.	5 days	Thu 19-11-07	Fri 19-11-15
1.9	Annual External Audit of Funding Use	375 hrs.	1115 days	Fri 20-08-28	Thu 24-10-10
1.1	Annual Community Employment Benefit Tracking and Reporting	110 hrs.	1065 days	Fri 20-08-28	Mon 24-08-05
1.11	COS Governance	169 hrs.	126 days	Fri 20-09-11	Thu 21-03-04
1.11.1	Determine COS governance scope	10 hrs.	5 days	Fri 20-09-11	Fri 20-09-18
1.11.2	Determine requirements	10 hrs.	5 days	Fri 20-09-18	Fri 20-09-25

WBS	Task Name	Work	Duration	Start	Finish
1.11.3	Procurement for Foundation Governance Consultant	43 hrs.	39 days	Fri 20-09-25	Wed 20-11-18
1.11.3.1	Prepare & Gather Quotes	7 hrs.	6 days	Fri 20-09-25	Fri 20-10-02
1.11.3.2	Evaluation of Quotes	7 hrs.	5 days	Fri 20-10-02	Fri 20-10-09
1.11.3.3	Reference checks	6 hrs.	1 days	Fri 20-10-02	Mon 20-10-05
1.11.3.7	Award contract	0 hrs.	0 days	Tue 19-09-03	Tue 19-09-03
1.11.5	Review consultant COS governance report	3 hrs.	1 day	Wed 20-12-30	Thu 20-12-31
1.11.6	Legal Review of governance recommendations	20 hrs.	45 days	Thu 20-12-31	Wed 21-03-03
1.11.7	Determine COS governance model	3 hrs.	1 day	Wed 21-03-03	Thu 21-03-04
2	Initiate	40 hrs.	12 days	Fri 19-11-15	Mon 19-12-02
2.1	Needs assessment	28 hrs.	9 days	Fri 19-11-15	Wed 19-11-27
3	Assess/Envisioning	1,381 hrs.	310 days	Tue 19-09-03	Thu 20-10-29
3.2	Phase 1 Stakeholder Engagement & Communications	350 hrs.	78 days	Wed 19-12-04	Fri 20-03-20
3.2.1	Planning stakeholder assessment and plan	40 hrs.	20 days	Wed 19-12-04	Fri 20-01-03
3.2.2	Visioning & ideas for COS	310 hrs.	58 days	Fri 20-01-03	Fri 20-03-20
3.3	Requirements gathering	182 hrs.	45 days	Fri 20-01-03	Wed 20-03-04
3.4	Create business case	62 hrs.	30 days	Wed 20-03-04	Wed 20-04-15
3.5	Program Steering Committee review & approval of business case	6 hrs.	1 days	Wed 20-04-15	Thu 20-04-16
3.7	RFX Procurement	701 hrs.	105 days	Thu 20-04-16	Thu 20-09-03
3.7.1	Prepare & Post RFX	36 hrs.	56 days	Thu 20-04-16	Thu 20-07-02
3.7.2	Stage 1 evaluation - mandatory	70 hrs.	42 days	Thu 20-05-14	Thu 20-07-09
3.7.3	Stage 2 evaluation - core business requirements	76 hrs.	49 days	Thu 20-05-14	Mon 20-07-20
3.7.4	Stage 3 evaluation - other requirements, corporate evaluation	168 hrs.	55 days	Thu 20-05-14	Tue 20-07-28
3.7.5	Stage 4 evaluation - reference checks	9 hrs.	56 days	Thu 20-05-14	Wed 20-07-29

WBS	Task Name	Work	Duration	Start	Finish
3.7.6	Stage 5 evaluation - demonstrations	264 hrs.	22 days	Tue 20-07-28	Tue 20-08-25
3.7.7	Stage 6 evaluation - pricing	78 hrs.	6 days	Tue 20-08-25	Wed 20-09-02
3.13	PIA/PRA	4 hrs.	30 days	Wed 20-09-02	Thu 20-10-15
3.15	Financial setup for project	5 hrs.	300 days	Tue 19-09-03	Fri 20-10-16
3.16	Execute contract	1 hrs.	2 days	Fri 20-10-16	Tue 20-10-20
4	Implement	24,482 hrs.	1343 days	Mon 19-12-02	Wed 24-11-20
4.1	COS	3,754 hrs.	1107 days	Tue 20-10-20	Wed 24-11-20
4.1.1	Design	300 hrs.	40 days	Tue 20-10-20	Fri 20-12-11
4.1.3	Development / Configuration	922 hrs.	123 days	Mon 20-12-14	Wed 21-06-02
4.1.12	Go Live	14 hrs.	5 days	Tue 21-06-29	Wed 21-07-07
4.1.13	COS Dashboard V1	649 hrs.	102 days	Wed 21-07-07	Tue 21-11-23
4.1.13.1	Design	150 hrs.	20 days	Wed 21-07-07	Tue 21-08-03
4.1.13.2	Development / Configure	347 hrs.	46 days	Tue 21-08-03	Mon 21-10-04
4.1.13.8	Go Live	88 hrs.	15 days	Tue 21-11-02	Tue 21-11-23
4.1.14	COS Upgrades & Dashboard V2	569 hrs.	92 days	Thu 22-07-21	Wed 22-11-23
4.1.14.1	Design	150 hrs.	20 days	Thu 22-07-21	Wed 22-08-17
4.1.14.2	Development / Configure	347 hrs.	46 days	Wed 22-08-17	Tue 22-10-18
4.1.14.8	Go Live	14 hrs.	5 days	Wed 22-11-16	Wed 22-11-23
4.1.15	COS Upgrades & Dashboard V3	568 hrs.	92 days	Thu 23-07-20	Mon 23-11-20
4.1.15.1	Design	150 hrs.	20 days	Thu 23-07-20	Tue 23-08-15
4.1.15.2	Development / Configure	347 hrs.	46 days	Tue 23-08-15	Tue 23-10-17
4.1.15.8	Go Live	14 hrs.	5 days	Mon 23-11-13	Mon 23-11-20
4.1.16	COS Upgrades & Dashboard V4	569 hrs.	92 days	Thu 24-07-18	Wed 24-11-20

WBS	Task Name	Work	Duration	Start	Finish
4.1.16.1	Design	150 hrs.	20 days	Thu 24-07-18	Wed 24-08-14
4.1.16.2	Development / Configure	347 hrs.	46 days	Wed 24-08-14	Tue 24-10-15
4.1.16.8	Go Live	14 hrs.	5 days	Wed 24-11-13	Wed 24-11-20
4.2	Not For Profit Organizations added to Business Directory	53 hrs.	15 days	Mon 19-12-02	Fri 19-12-20
4.3	Census API	99 hrs.	36 days	Thu 21-03-11	Fri 21-04-30
4.4	Recreation Center Platform API	99 hrs.	34 days	Mon 21-03-15	Fri 21-04-30
4.5	Wearables API	101 hrs.	34 days	Mon 21-03-15	Fri 21-04-30
4.6	GIS Data API	101 hrs.	34 days	Fri 21-04-30	Wed 21-06-16
4.7	Social Media API	101 hrs.	34 days	Wed 21-06-16	Mon 21-08-02
4.8	Local, Provincial & Federal Open Data Platforms API	721 hrs.	126 days	Mon 21-08-02	Thu 22-01-20
4.9	Service Inventory	8,320 hrs.	790 days	Thu 20-04-16	Thu 23-03-23
4.9.1	Phase 2 Stakeholder Engagement and Communications	220 hrs.	39 days	Thu 20-04-16	Mon 20-06-08
4.9.3	Service Inventory V1 & API	2,050 hrs.	200 days	Wed 20-04-29	Thu 21-01-28
4.9.4	Service Inventory V2 & API	2,050 hrs.	200 days	Thu 21-01-28	Wed 21-10-27
4.9.5	Service Inventory V3 & API	1,750 hrs.	180 days	Wed 21-10-27	Mon 22-06-27
4.9.6	Service Inventory V4 & API	2,050 hrs.	200 days	Mon 22-06-27	Thu 23-03-23
4.1	eMental Health COS APIs & Dashboard	375 hrs.	50 days	Thu 21-01-28	Thu 21-04-08
4.11	Well-Being Tool COS APIs & Dashboard	375 hrs.	50 days	Tue 21-06-29	Fri 21-09-03
4.12	People Like Me (Curatio) COS APIs & Dashboard	375 hrs.	50 days	Fri 21-09-03	Fri 21-11-12
4.13	Community Involvement COS APIs & Dashboard	375 hrs.	50 days	Wed 22-11-23	Mon 23-01-30
4.14	Clinical Systems COS APIs & Dashboard	375 hrs.	50 days	Mon 23-01-30	Thu 23-04-06
4.15	Accessibility and Usability	9,258 hrs.	1058 days	Mon 20-12-14	Thu 24-11-07
4.15.1	Phase 3 Communications and Stakeholder Engagement	210 hrs.	36 days	Mon 20-12-14	Wed 21-02-03

WBS	Task Name	Work	Duration	Start	Finish
4.15.2	Web Interface	956 hrs.	813 days	Mon 20-12-14	Wed 23-12-13
4.15.2.1	MyAirdrie Interface	221 hrs.	56 days	Mon 20-12-14	Tue 21-03-02
4.15.2.2	MyAirdrie User Authentication	219 hrs.	56 days	Tue 21-03-02	Tue 21-05-18
4.15.2.3	MyAirdrie Portal Integration	219 hrs.	56 days	Tue 21-05-18	Mon 21-08-02
4.15.2.4	Portal Updates	99 hrs.	35 days	Mon 22-04-04	Thu 22-05-19
4.15.2.5	Portal Updates	99 hrs.	35 days	Tue 23-01-17	Mon 23-03-06
4.15.2.6	Portal Updates	99 hrs.	35 days	Fri 23-10-27	Wed 23-12-13
4.15.3	Mobile Apps (IOS / Android) Interface	8,092 hrs.	1022 days	Wed 21-02-03	Thu 24-11-07
4.15.3.1	Mobile Apps Development V1	2,998 hrs.	188 days	Wed 21-02-03	Mon 21-10-18
4.15.3.2	Mobile Apps Development V2	1,698 hrs.	128 days	Mon 22-05-09	Wed 22-10-26
4.15.3.3	Mobile Apps Development V3	1,698 hrs.	128 days	Mon 23-05-15	Tue 23-10-31
4.15.3.4	Mobile Apps Development V4	1,698 hrs.	128 days	Tue 24-05-21	Thu 24-11-07
5	Phase 4 Communications and Stakeholder Engagement	124 hrs.	38 days	Fri 24-07-12	Tue 24-09-03
5.1	Phase 4 Evaluation & Ongoing sustainment	124 hrs.	38 days	Fri 24-07-12	Tue 24-09-03
6	Closeout	89 hrs.	8.27 days	Thu 24-11-07	Wed 24-11-20
6.5	Present Closeout Report	2 hrs.	1 days	Tue 24-11-19	Wed 24-11-20
7	Project Management	1,850 hrs.	1396 days	Wed 19-09-04	Fri 24-11-01
7.1	Sponsor meetings	124 hrs.	1373 days	Tue 19-09-10	Tue 24-10-08
7.2	Project Team Meetings	810 hrs.	1389 days	Wed 19-09-04	Wed 24-10-23
7.3	Schedule Management	538 hrs.	1389 days	Thu 19-09-05	Thu 24-10-24
7.4	Budget management	126 hrs.	1394 days	Fri 19-09-06	Fri 24-11-01
7.5	Risk management review and analysis	126 hrs.	1394 days	Fri 19-09-06	Fri 24-11-01
7.6	Create project status report	126 hrs.	1394 days	Fri 19-09-06	Fri 24-11-01

PROGRAM IMPLEMENTATION TEAM RESOURCES AND STRUCTURE

PROJECT IMPLEMENTATION TEAM

Steering committee members are representatives from the CoA and the Airdrie & Area Health Cooperative (AAHC) and provide program oversight and governance. Members are existing staff of both the CoA and the AAHC. Possible members from AAHC: Chief Executive Officer, Chief Financial Officer, Chief Technology Officer; CoA: Chief Administrative Officer or delegate Director of CAO Office, CFO / Director of Corporate Services, IT Manager.

The Project Manager, two Developers, Business Analyst and Data Analyst will be new full-time positions and the Program Manager will be a new part-time position, all hired specifically to work on the project implementation. These positions are based on agile development and will be hired when their area of expertise is required for work to be completed.

COA ORGANIZATIONAL SUPPORT RESOURCES

Support resources required for specific tasks with limited time engagement.

- IT Developer
- IT Applications support

- Technology and security subject matter expert
- GIS Analyst
- Procurement services
- Corporate information governance leads
- Risk, privacy and governance
- Communication and engagement subject matter expert

AAHC ORGANIZATIONAL SUPPORT RESOURCES

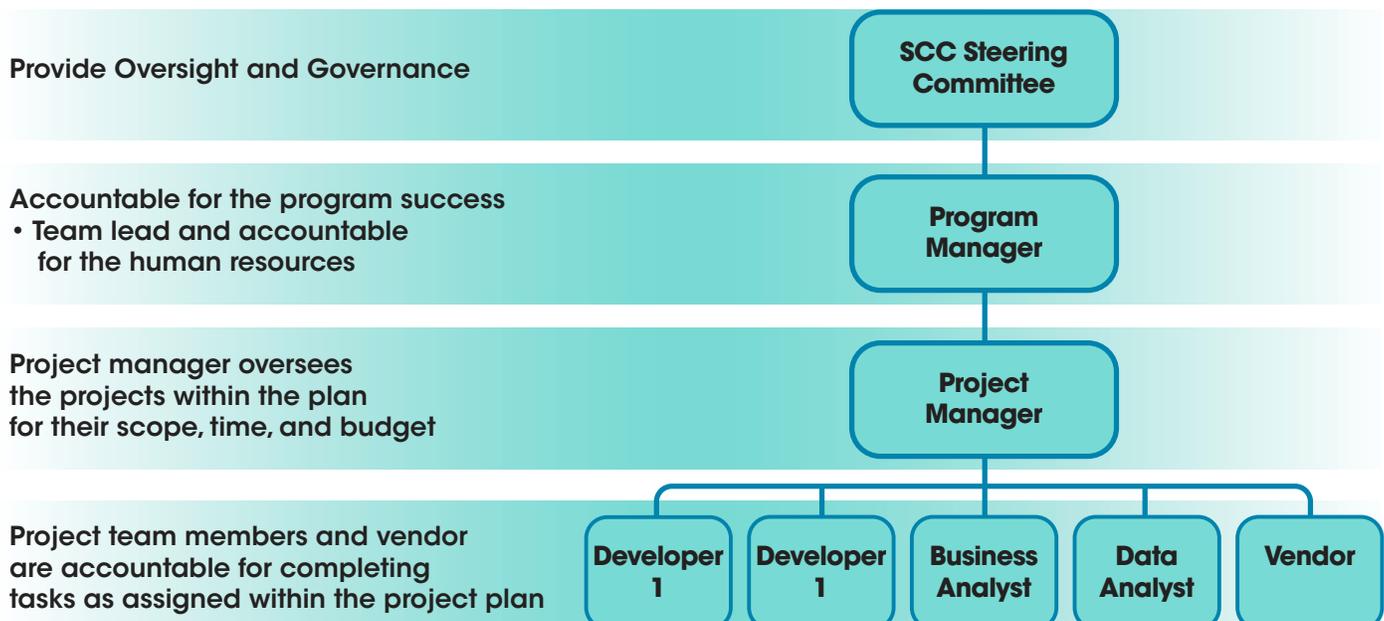
Support resources required for specific tasks with limited time engagement.

- Finance subject matter expert
- Technology and security subject matter expert
- Risk, privacy and governance
- Health subject matter expert
- Communication and engagement subject matter expert

TECHNOLOGY COSTS

Software Development costs are estimated at \$4.5M based on quotes provided by vendors that build this type of technology. Chapter 8: Financial and the financial plan in the appendices for details.

Figure 3.1 shows the structure our Smart Cities Challenge initiative.



RISK STRATEGIES

Project risk will be managed based on standard project risk management methodology. Project Risk Management outlines the principles of effective risk management:

- Plan Risk Management
- Identify Risks
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Risk Responses
- Implement Risk responses
- Monitor and Control Risks

(Source: PMBOK Sixth Edition)

A risk register will be used to capture, manage and monitor risk details, including:

- Cause and effect
- Probability of risk occurring
- Impact to project if occurs
- Response strategies and actions

Risk mitigation and response strategies will be determined based on whether the risk is a threat (negative) or opportunity (positive).

THREAT RISK RESPONSES

- Avoid
 - o Avoid / eliminate risk by creating workarounds (e.g., changing the project schedule, adjusting the project objectives (scope), or taking other action to avoid the event). Protect the project from the impact of any risk.
- Transfer
 - o Transfer responsibility to manage the risk to a third party, with shared responsibility of ownership of the risk, usually for a fee.
- Mitigate
 - o Seeking options to reduce the probability and/or impact of the risk to an acceptable threshold (e.g., spend extra time or monies to reduce the risk on the project objectives).
- Accept
 - o Take no action until and unless the risk occurs and deal with the possibility of it occurring.

Table 3.5 lists a of sample risk events that may occur and that the project team will identify, analyze, manage and monitor.

Type of Risk	Examples
Technical, Quality, or Performance Risks	Reliance on unproven or complex technology, unrealistic performance goals, long term performance, process roadblocks, new emerging initiatives, increases in complexity, etc.
External Risks	Shifting regulatory environment, labor issues, changing customer priorities, government agency risks, and weather. Consultant and vendor contract risks, contract type and contractor responsibilities.
Organizational Risks	Lack of prioritization of projects, inadequacy or interruption of funding, inexperienced and poorly developed and trained workforce, and resource conflicts with other projects in the organization.
Project Management Risks	Poor allocation of time and resources, inadequate quality of the project plan, lack of project manager delegated authority, and lack of project management disciplines.
Change Management Risks	Poor user adoption, users not aware of existence, lack of knowledge of how to use the technology or its functionality.

OPPORTUNITY RISK RESPONSES:

- Exploitation
 - o Aiming to take advantage of a positive risk (e.g., PM and project team take advantage of a holiday weekend to work on the project uninterrupted).
- Enhancement
 - o Tries to make the conditions just right for a positive risk to happen. A tremendous amount of time can be saved and project costs if a milestone were to be finished by a given date, and to do so, extra resources need to be added to help the effort-driven work so that the team can complete the milestone by the specific date.
- Sharing
 - o This risk response allows the project team to partner or team with another entity (third party) to realize an opportunity together.
- Accept
 - o Willingness to take advantage of an opportunity if it arises but not actively pursuing it.

PROCUREMENT STRATEGIES

All procurement opportunities for the project implementation will follow the CoA's procurement policy, which establishes the general directions, philosophies, values for the procurement of goods and services, and addresses the legislative and liability restrictions the CoA works within.

The CoA Procurement policy can be found on the CoA's website. (<https://www.airdrie.ca/getDocument.cfm?ID=5914>)

CITY OF AIRDRIE PROCUREMENT POLICY STATEMENT:

The CoA is committed to the acquisition of goods and services at the best value while treating all vendors equitably through a procurement process that ensures integrity, transparency, accountability, efficiency and consistency.

The CoA acts under all applicable legislation including:

- *Alberta Municipal Government Act* (MGA)
- *Agreement on Internal Trade* (AIT) (referred to as the Canadian Free Trade Agreement as of July 1, 2017)
- *Comprehensive European Trade Agreement* as of July 1, 2017
- *New West Partnership Agreement* (NWPTA)
- Applicable competitive bidding laws
- *Freedom of Information and Protection of Privacy Act* (FOIP)

STAKEHOLDER ANALYSIS

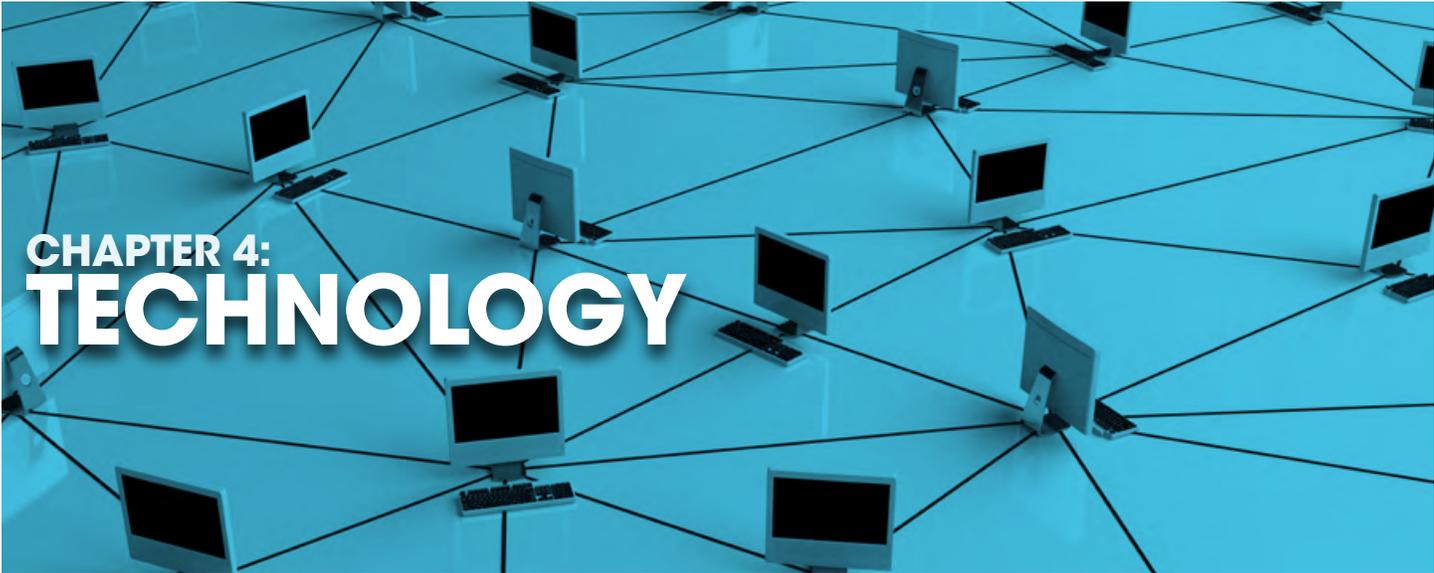
We will be developing an integrated stakeholder engagement and communications plan focused on involving stakeholders in the design, functionality and usability of the technology, understanding their needs and requirements and providing them with ongoing information about the project and how to get involved. The summary of this plan can be found in Chapter 6: Engagement.

COMMUNICATIONS AND STAKEHOLDER ENGAGEMENT STRATEGIES

We will develop an integrated stakeholder engagement and communications plan focused on external stakeholders. More information can be found in Chapter 6: Engagement.

We will develop a plan for internal project communications to ensure the project team and partners are keep up-to-date about project activities, planning and implementing for engagement and communications activities and feedback collected to support the build and upgrades to the technology, and to ensure an ongoing understanding of roles and responsibilities.

We will be using activities like recurring meetings, project updates, status reports, lessons learned, share folder access, project planning tools and information flow as part of our project management strategy.



CHAPTER 4: TECHNOLOGY

TECHNOLOGY OVERVIEW

Smart Health Information (SHI) is all about connecting disparate data sets to generate new insights, which will inform health efforts by individuals, groups, organizations, and the overall community. The HealthSmart Community Operating System (COS) enables SHI and will inform actions. SHI will identify new connections and linkages in the community, strengthen and drive new and existing health initiatives and foster innovation and change. Through our existing efforts in the community, we are creating a SHI roadmap towards better health and well-being for all. The COS will enable our efforts, breaking down silos and creating the capacity for existing platforms to communicate and share data securely and privately.

The COS is a smart information exchange. We do not need to recreate existing platforms or data repositories, nor will we need to store data. The COS is a connector, allowing information to securely flow between existing systems. We will reform the data landscape away from data acquisition, collection, storage, and toward the concept of knowledge / insight sharing, enabling the following:

- data mapping, sharing, and utilization
- the ability to measure and monitor
- providing customized content to inform improvement efforts
- information flow in support of effective planning and decision making
- system interoperability

Figure 4.1 shows the COS and the Smart Service Inventory connecting to user dashboards, MyAirdrie (the City’s service platform), other systems and platforms, and the CHIRP.



- engagement and community building
- innovation

Availability of data is not the issue. Data is all around us. The issue is bringing the right data together to answer questions specific to a need. In parallel to the development of COS, the Airdrie & Area Health Cooperative (AAHC) will be developing a Community Health Information Resource Platform (CHIRP). CHIRP will be used to manage health and wellness specific tools and data sources. A connection between CHIRP and COS will allow for the answering of the health and wellness specific measurements as outlined in Chapter 2: Performance Measurement. The COS will also connect to other data sources, both open and those managed by the City of Airdrie (CoA). Information in each of these sources will be enhanced by engagement in the community. COS creates an information engine allowing for continual improvement.

A HealthSmart COS App will be an interface to individuals, groups, organizations, businesses, and the community to information. Available through any platform, either on the web or as a native mobile app, the COS App will act as a “Way Finder for Health,” providing insights through a smart service inventory and user managed dashboards. Gamification will be integrated throughout with an emphasis on fostering community engagement. Gartner Glossary defines gamification as “the use of game mechanics and experience design to digitally engage and motivate people to achieve their goals”. Gamification will allow for healthy competition across the community, fostering behavioural change. Built-in translation services will allow for any language based on community needs. The App will be built using open source technologies and will be available freely to other communities to use and customize to their own needs and will consist of three main



components: The Smart Service Inventory; Health Dashboards; and Profile Manager.

1. SMART SERVICE INVENTORY (SSI)

We will build a smart digital community inventory of available programs and services related to health and health care that can be digitally accessed and used by all individuals, groups, and organizations in the community. This inventory will be a community connector and way finder helping users and organizations navigate their available options, collaborate for gap filling, avoid redundancies, and optimize time spent on health activities. It also lays the groundwork for stakeholders working together to eliminate duplication and collaborate to identify and fill gaps in programs and services.

We will engage local individuals, groups, and organizations and expand the existing CoA Business Directory to include all organizations and social services. We will utilize the data from this existing Directory to provide the foundational informational elements (that can be produced by any other community). A project development team will be hired to build an interface and smart functionality (using open source technologies) that organizations can use to access, input, and collaborate. The SSI will allow for individuals, groups, and organizations to navigate to find resources, powered by artificial intelligence, pushing relevant information to users.

Development of the SSI will be influenced by local groups including Council, Collaborating 4Health, Mental Health Task Force, and Domestic Violence Coalition. These and other groups have spent countless hours working in the community and understanding the community landscape. This group will help co-create an inventory of available programs and services available in the community that are well understood and can be well utilized by citizens. Groups will come

together with subjective organizational views – moving to create community ownership for a connected and informed community making decisions together and moving to a software that supports a shared information source. The SSI will become greater than the sum of its parts, allowing all users to contribute and collaborate.

2. HEALTH DASHBOARDS

Health dashboards will connect individuals, groups, and organizations directly to the data through a series of visualization tools. Content will be provided to users allowing them to both be informed and to compare themselves to others. The dashboards will be populated from data connected through the COS. Dashboard views will be customized to meet the needs of an individual, group, organization, or the overall community. Dynamic tools will be integrated to allow for viewing data in different formats, across time and for specific needs.

Insights and gamification will be available, providing motivation for participation and involvement. We will work with local organizations to create a rewards system, further informing and connecting the community. Surveys and user inputs will allow for a more customized experience.

The Health dashboards will utilize a combination of business intelligence tools and custom created code. Metrics and reporting through the dashboards will allow for informed insights and decision making, once again acting as a way finder in the journey towards becoming Canada’s healthiest community.

3. USER PROFILE MANAGER

Users will be provided with a profile administration tool within the COS App. Through the profile administration, users will have the ability to:

- a. Manage account information – Each user will need to set-up their own account and login information. Basic demographic information will be captured to allow for secure authentication and capacity for connecting to the COS and associated data sources.
- b. Select connected services – The Profile Manager will inform the user as to what apps and services are currently compatible with the COS. Users will have the ability to select the services they would



Figure 4.2 shows four main components, Community, Core, API and Modules connecting to the COS.

like to connect and integrate with. As services are connected, additional information will be available to the user providing a more robust dashboard and smarter navigation in the community inventory.

- c. Share information – Users will be able to create a network of peers and groups through the capacity to share information. Users will be able to select what they would like to share, whether it be specific data elements or a generalized dashboard. Sharing information will enable community development and accountability.
- d. View and manage information access – Users will have access to a comprehensive information audit log, allowing them to see how their data is used by themselves, connected services, and by shared individuals and groups. Full transparency and control will allow each user to own their own information.

TECHNOLOGY DETAILS

The COS will be a private blockchain, an algorithmic and distributed data structure for managing electronic information among people (<https://www.youtube.com/watch?v=3xGLc-zz9cA>), built on open source technologies. Based on our current research, the Hyperledger (<https://www.youtube.com/watch?v=js3Zjxbo8TM>) project will be best suited as it prioritizes user privacy and security. According to IBM, “Channels, supported in Hyperledger Fabric allow for data to go to only the parties that need to know.” The COS will have four main components: COS Core, COS Community, COS API (Application Programming Interface), and COS Modules.

HEALTHSMART COS CORE

Built using open source blockchain, COS Core will establish an infrastructure and provide foundational components such as authentication, access, and security. User permissions and authentication will be vital to establishing a private and secure infrastructure to build upon. Unless an individual provides authorization to data, that data can only be seen by the individual.

HEALTHSMART COS COMMUNITY

COS Community is the customization of the core to meet the needs of the community. Customization will include administrative tools and configurations, algorithms, logic and capacity for system learning and evolution over time. We will establish a standardized set of development protocols without the constraint of a single development language. COS Community will be compatible with a wide array of development languages (Python, NodeJS, Java, etc.) allowing for increased interoperability, innovation and shared expertise. We will work with a technology vendor to customize the blockchain to the needs of Airdrie, providing a proof of concept for other communities.

HEALTHSMART COS API

COS API (a master Application Programming Interface) (<https://www.youtube.com/watch?v=s7wmiS2mSXY>) will be developed, enabling a comprehensive data interchange and providing a central mapping and access point for data sharing. The COS API fosters interoperability through defining protocols and standards for system connectivity and information sharing. Third parties, innovative members of the community, and entrepreneurs can engage with and connect to this product / service. This will facilitate innovation and the potential of new businesses in the community and support the healthy community engagement initiatives to support a culture and shared vision of community engagement around health and the social determinants of health (SDOH).

COS Community and COS API work together to form a platform for individuals, groups, organizations, and the community to have access to, understand, and utilize information.

HEALTHSMART COS MODULES

Taking a modular approach will improve collaborative

efforts as development will not be confined to one vendor. COS Modules provide building blocks for shared development and innovation. We will be providing the capacity for new and existing applications to connect with the COS. COS Modules will be based on best practices / industry standards, allowing for future friendly development and additions based on community needs and technology advancements. As COS is replicated in other communities, innovations and connected modules created in one community can be shared and utilized in another.

APPROACH TO FUTURE-PROOFING

We live in a world of apps, platforms, and devices. We are not trying to re-create the wheel. Interoperability is a core function of the COS. The concept of “works with” has been used by Google, Amazon, Apple and many other of the leading technology companies. We will be implementing this concept at a community level. We will be taking a strategic approach when it comes to connecting apps and services. Apps, platforms, devices and other services will be vetted based on local community needs.

We recognize that use cases and needs will evolve over the next five years. For every connection, we will be providing learning for other communities, including a connection “recipe book”, experiential learning, and policies. We will also be providing the code required to connect and integrate data into the COS App. We will work with subject matter experts and consultants to optimize implementation and user experiences. At the time of writing, we plan on focusing on the following use cases and connecting the following services (creation of APIs) as part of our smart community project:

- Activity and Fitness Tracking. We will connect to devices like FitBit, Google Fit, and HealthKit. We will also connect to our local recreation system platform.
- Health and Wellness Measurement. The (AAHC) has established partnerships with Alberta Blue Cross, Alberta Health Services, and Blue Zones. Through these partnerships, a health and wellness measurement tool will be developed that will allow for individual and organizational health scores and tracking metrics. This tool will provide the capacity

to measure and track healthy life expectancy (Chapter 2: Performance Measurement).

- **Community Connections.** Users can connect with others that are like them and share insights, access resources, and come together for a shared and connected health journey.
- **Community involvement and Micro-credentialing.** Provides the capacity of micro-credentialing and involving individuals and organizations through connecting opportunities for volunteering and employment.
- **eMental Health.** The local Mental Health Task Force has identified youth mental health apps as a strategy for change in our community. We will be working with this Task Force to integrate selected apps.

The SDOH will be driving factors as applications are selected to be connected into HealthSmart Technology. We will create a partnership ecosystem where everyone can work together towards the shared vision of becoming Canada's healthiest community. Our operating structure will allow for co-development and focusing on meeting our community needs rather than on any one specific product.

SECURITY AND PRIVACY

Security and privacy will be central to the COS. We will develop a System Security Plan (SSP) that will comply with best practices identified through consultations with leading security experts. We will work with partners to conduct regular internal and external audits monitoring system security, risk, and privacy. The SSP will clearly delineate roles and responsibilities and will have tight control and monitoring systems. We will also be working closely with privacy experts and organizations. A risk framework and standardized approach will be interwoven in every stage of the

project. We will be in full compliance to local, provincial, and federal privacy laws.

The design of the COS is underpinned by data and privacy considerations. COS will utilize leading edge principles and standards to authenticate and create identity maps for each participant. Keycloak, an open source identity and access management solution, will be integrated into the COS, providing capacity to have a secure single sign-on (one master login for multiple platforms) and enabling interoperability between existing systems without the need to store user credentials while keeping information secure. Keycloak is built on standard security protocols, providing support for OpenID Connect, OAuth 2.0, and

SAML. Users will be able to manage their own accounts, including the ability to view history of use and connected systems that have been authorized for the single sign-on. Regular system utilization audits will be facilitated through an automated system access and usage log. Predefined rules will be built-in to automatically flag data breaches and/or inappropriate access, and the appropriate parties (individual, organization, authority, etc.) will be notified. We will follow

the rules identified by FOIP, PIPEDA, HIA, and GDPR. AAHC will work with Alberta Health Services and Alberta Health to define consistent audit standards and requirements.

The COS will allow for the sharing of data (e.g., insights, benchmarking, data transfer, etc.) as directed by the data owner or by predefined applicable and permissible use cases (e.g., medical emergency, preauthorized access) within the confines of the local, municipal, provincial, and federal privacy guidelines. Users will be able to select what information they want to have access to and will be in control of who else can access that data.



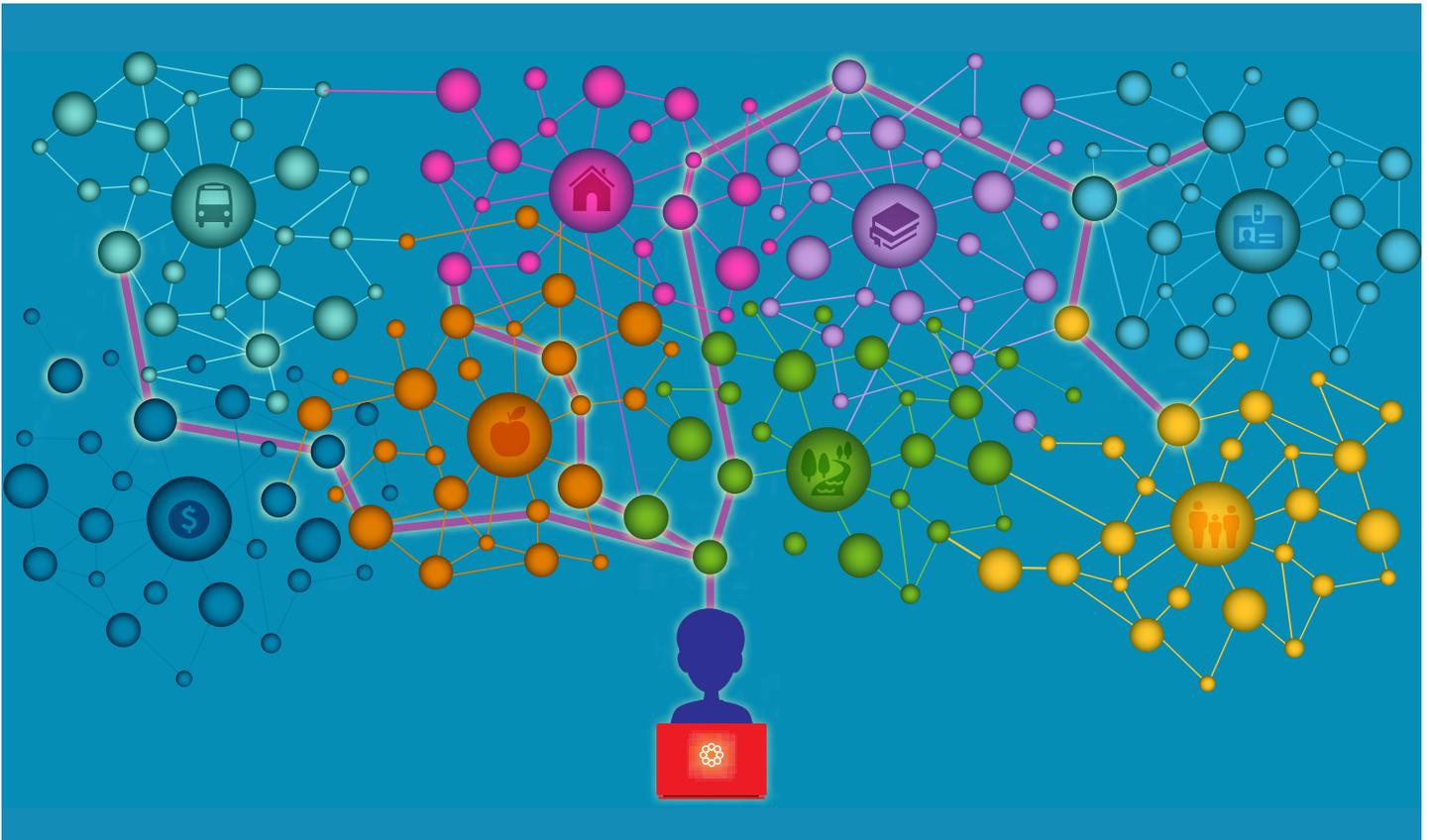


Figure 4.3 shows a search query connecting a user to various health related information.

Curriculum will be developed locally, based on the technologies used in the COS, that will empower anyone to participate. We will use best practices to guide standards and processes and take advantage of existing curriculum platforms providing free coding training and tutorials. We will host hackathons and connect those with ideas to those with technical expertise to bring new innovations to life. Exposure to the community through healthy community engagement efforts will be further strengthened providing fuel for economic growth and development in Airdrie. Our movement is community driven, our technology will support and even further strengthen the ability of the community to get involved. Information enables impact and we see this as a vital component of our community transformation.

The COS will require a collection of efforts from partners and experts. It will require community engagement and collaboration. Interoperability will be fostered as the COS will be both vendor and development language agnostic. Anyone will have the potential to contribute. We will partner with experts and industry leaders to ensure best practice.

DATA MANAGEMENT

No individual or identifiable data will be stored in the COS. Data stored by the COS will be for the use of verification, security, mapping, and utilization of data including algorithms, data maps, and other configuration details. Some aggregated, non-identifiable data may also be stored to allow for baseline analytics and comparative benchmarking. A series of information mapping and supporting databases will contain information such as the transactional ledger, containing mapping and configuration details for each participant and allowing for every system interaction to be securely verified and logged. All ledger information will be encrypted and will allow individuals to have full transparency as to who, how and where their information is being used. All information will be stored on a Canadian-based servers.

Partnerships will be developed with data custodians and managers to utilize APIs and other connectivity tools to establish interoperability of existing platforms and tools. The COS will have the capacity to execute search queries to retrieve relevant information from the appropriate sources as existing platforms are

connected to the COS. Information from the queries will be surfaced and cached temporarily through the encrypted COS App. Authentication through the App will be required in order to display usable information, providing security against hackers or breaches of the data channels. Where possible, metadata and knowledge about the data (content) will be surfaced instead of the actual raw data.

A primary concern of any data centric engagement is data security. We will be leveraging zero-knowledge proof principles to create a trustless (a system that operates in the same manner regardless of the user's intentions honorable or malicious) and secure data management system that maximizes data integrity and truly allows individuals to own their own information. In addition to local, provincial, and federal privacy laws (e.g., *Health Information Act*, *Personal Information Protection and Electronic Documents Act*, *Freedom of Information and Protection of Privacy Act*, *Digital Privacy Act*, etc.) we will also be adhering to the *General Data Protection Regulation* (as a new set of rules, established by the European Commission, designed to empower citizens, to govern the privacy and security of personal data) to ensure that individual privacy is of foremost importance. No sensitive individual or entity data will be stored within the COS.

DATA/ INFORMATION SOURCES

We have identified four categories of information sources:

1. Municipal Information Assets. The CoA has access to several data sources, including the Census, Recreation Centre, and Business Directory. These data sources will be essential in establishing community denominators as well as locally specific context.
2. The CHIRP platform. Owned and managed by AAHC is used to manage health and wellness specific tools and data sources.
3. Open Data Sources. Open data sources will be connected and utilized based on use cases and community needs. Managed externally, sources such as StatsCan or Alberta Open Data will be vital to provide comparative data and benchmarking.
4. Other Data Sources and Platforms. Community organizations, external partners, and others may

have access to other data sources that are not managed by the CoA or AAHC. Connections will be made based on use cases and community needs. An example of another data platform will be our local food bank, and their use of the Link-2Feed platform. We will create connections and linkages to this platform to meet a specific need or requirement.

The management of tools, applications, and data hosting is the responsibility of our partnering organizations.

ACCESSIBILITY AND USABILITY

Accessibility and usability of the COS App will be core to our technology efforts. Our development team will be working with design consultants that have expertise in gender-based analyses and accessibility. We will make the App cross-platform to allow for ready availability on any device. We envision three main access points for the COS App:

1. HEALTHSMART WEB APP THROUGH THE MYAIRDRIE PORTAL

The MyAirdrie Portal is currently used by the CoA to provide citizens with information about their homes, taxes, licensing, and several other services. Currently, over 22,000 households have registered accounts through the Portal. We want to provide a single connection point to facilitate access. The HealthSmart web application will be accessed through the MyAirdrie Portal. A single authentication between the MyAirdrie sign in and the COS login will allow for users to log in once to view all their information in one location. In addition to existing services on the MyAirdrie Portal, users will have access to new tabs containing the different components of the HealthSmart App. These will be embedded into the MyAirdrie Portal using encrypted web technologies and appear to the user as a seamless integrated experience.

2. NATIVE MOBILE APPS

Native mobile apps (iOS / Android) will be developed, allowing users to have all their information securely available at their fingertips. The apps will be made available for free and work asynchronously with the web app.

3. KIOSKS

Mobile Kiosks will be strategically placed in public locations (library, recreation centre, City Hall, etc.). These kiosks will be preloaded with the HealthSmart App, allowing for secure access and utilization by anyone in the community. Protocols and rules will be

developed to ensure access to personal information is available only with the proper authentication. Other smart communities have instituted smart cards to authenticate users. We envision something similar for the public kiosks and data stations.

Table 4.1 identifies the components of an effective technology risk management evaluation.

Risk	Description
Standard Risk Considerations	
Strategic	First, we need to evaluate whether we want to be at the leading edge of adoption or wait to adopt until the technology matures. Second, given the peer-to-peer nature of the technology, it's important to determine the right network and who to partner with as our business strategy may be impacted by the different organizational cultures participating on the chain. Third, the choice of the underlying platform may pose limitations in the services or products that can be delivered via the platform.
Business continuity	Blockchain technologies are generally resilient due to the redundancy resulting from the distributed nature of the technology. However, the processes built on blockchains may be vulnerable to technology and operational failures as well as privacy breaches due to cyberattacks. We need to have a robust business continuity plan and governance framework to mitigate such risks.
Reputational	Unlike other IT type applications, blockchain technology is part of core infrastructure and will have to work seamlessly with legacy infrastructure and legacy data platforms. Failure to do so may result in poor client experience and regulatory issues.
Regulatory risk	Across the globe there's uncertainty around the regulatory requirements related to blockchain applications. Additionally, there may be regulatory risks associated with each use case, the type of users in the network, and whether the framework allows domestic or cross-border transactions. This may also include business cross-border regulations related to privacy and data protection.
Operational and IT	Existing policies and procedures will need to be updated to reflect new business processes. Additional technology concerns may include speed, scalability, and interface with legacy systems in implementing the technology.
Contractual	There will likely be several service-level agreements (SLAs) between participating nodes and the administrator of the network, in addition to SLAs with service providers that will need to be monitored for compliance.
Supplier	Firms may be exposed to significant third-party risks since most of the technology might be sourced from external vendors.

Risk	Description
Value Transfer Risk Considerations	
Consensus protocol	The transfer of value in a blockchain framework occurs using a cryptographic protocol that arrives at a consensus among participant nodes to update the blockchain ledger. There are several such cryptographic protocols that are used to achieve consensus among participant nodes for updating the blockchain ledger. Each such protocol will have to be evaluated in the context of the framework, the use case, and network participant requirements.
Key management	While the consensus protocol immutably seals a blockchain ledger and no corruption of past transactions is possible, it is still susceptible to private keys theft and the takeover of assets associated with public addresses. Digital assets may become irretrievable in the case of accidental loss or private key theft, especially given the lack of a single controller or a potential escalation point within the framework.
Data confidentiality	The consensus protocol requires that all users in the framework can view transactions appended to the ledger. While the transactions in a permissioned network can be stored in a hashed format to not reveal the contents, certain metadata will always be available to network participants. Monitoring the metadata can reveal information on the type of activity and the volume associated with the activity of any public address on the blockchain framework to any participant node.
Dispute Resolution	The current school of thought for blockchain risk has warned of that the adoption of distributed ledger technology may introduce new liquidity risks. In current business models, intermediaries typically take on the counterparty risks and help resolve disputes. Dispute resolution in a distributed trust environment is a requirement that will rely on predicted arrangements.
Smart Contract Risk Considerations	
Business and regulatory	Smart Contracts should accurately represent business, economic, and legal arrangements defined between parties in the framework. The smart contracts that are defined on a blockchain network will apply in a consistent manner to all users across the network. Therefore, these smart contracts will have to be capable of exception handling, and the consequences of these exceptions in the form of a programmatic output on the blockchain framework will have to be tested across the universe of all other smart contracts within the network for adherence to business and legal arrangements and compliance with regulations.
Contract enforcement	Currently there is no legal precedent around the enforcement of a smart contract in lieu of a physical contract and there are no regulations governing smart contracts. The data on a blockchain framework is immutable, care should be taken to amend smart contracts to avoid breaches of existing regulation by acting on data from the past on the blockchain that are not within the statutory legal limits for a financial arrangement.
Legal liability	In a permissioned network, the legal liability remains unclear for an improper, erroneous, or a malicious administration of a smart contract resulting in a transaction with two or more entities on the network, causing assets to leave the network via those transacting entities.
Information security	Smart contracts may be susceptible to security breaches and improper administration. Participant entities or the network administrator will need a strong governance and change control process to deploy new or amend existing smart contracts. They will also need a robust incident management process to identify and respond to glitches in smart contract operations. Oracles are entities that exist outside the blockchain framework but feed data to the network, they may trigger the execution of the smart contracts within the network. The biggest risk to a blockchain framework may lie within these oracles as these may be subject to malicious attacks to corrupt the data being fed to the blockchain. This may cause a catastrophic domino effect across the entire network.



CHAPTER 5: GOVERNANCE

Governance is the process of identifying expectations, structure, and rules for participation. It is identifying the right stakeholders who will work together to plan, implement, monitor, and evaluate the project and initiatives. There are two governance frameworks that will comprise the governance plan for our project under the Smart Cities Challenge (SCC) initiative. The first will set the expectations, structure and rules for participation for the project implementation; and the second, for the ongoing operation and sustainability for the HealthSmart Technology.

The City of Airdrie (CoA) is formed under the *Municipal Government Act of Alberta*, providing municipalities with broad powers. A Municipal Council can provide services, facilities and other things that are necessary or desirable for all or a part of the municipality. Health falls into this category.

Through this enabling legislation, Airdrie City Council has committed to several health initiatives with a view to making Airdrie “Canada’s healthiest community.” To this end, City Council has supported several initiatives:

- City Council directed staff to enter into a grant agreement between the CoA and the Airdrie & Area Health Cooperative (AAHC).
 - In 2016, City Council provided a \$400,000 grant to the AAHC for health initiatives.
- In February 2018, City Council supported the submission of an application to the SCC in partnership with the AAHC, based on Airdrie becoming the

healthiest community in Canada.

- In August 2018, City Council directed staff to work with the AAHC to explore the role the CoA may play in furthering the initiatives of the AAHC.
- In November 2018, City Council endorsed partnering with the AAHC on the initiative to make Airdrie a Blue Zones community.
- In January 2019, City Council proclaimed 2019 as the Year of Healthy Living in Airdrie, that will be supported by a municipal communications plan.

The CoA has partnered with the AAHC.

The AAHC was incorporated under the *Cooperatives Act* in 2016 with the following mandate:

To protect, promote and restore the physical and mental well-being of the members and to facilitate reasonable access to health services without financial or other barriers by broadly addressing the SDOH (social, economic, physical, health and health care environments and a person’s individual characteristics and behaviours) specific to the members and their community (city of Airdrie and surrounding areas).

The Cooperative aims at providing a proactive, participative, interdisciplinary and integrated approach to health and health care by involving members, local government, local businesses, local employers, local institutions and not-for-profit organizations to ultimately improve the quality and delivery of health care services through the Cooperative and other entities

organized for that purpose including entities in which the Cooperative holds an interest.

Further, the Cooperative must at all times act in a manner that is consistent with the principles set forth in the *Canada Health Act* including the principles of accessibility and universality which promote equal access to all residents to publicly insured and publicly funded services.

Each organization brings a unique set of skills, expertise and knowledge to the table. As the CoA is not currently in the health or health care business, the expertise and leadership of the AAHC in this grass roots initiative is invaluable. Both the CoA and the AAHC are committed and ready to implement the COS as an integral piece in achieving our Challenge Statement of increasing healthy life expectancy by 3+ years in 5 years.

GOVERNANCE FRAMEWORK – IMPLEMENTATION

The CoA and the AAHC will enter into a formalized partnership agreement to ensure the completion and success of the SCC initiative. Although work has begun on a formalized partnership agreement, it will not be completed until such time as the SCC winners have been announced.

As outlined in Chapter 3: Project Management, the

governance structure for the implementation will follow a typical project methodology. There will be an Executive Sponsor from each organization – the Chief Administrative Officer for the CoA and the Chief Executive Officer for the AAHC. The Executive Sponsors sit on the SCC Steering Committee and are responsible for ensuring our program is in alignment with the SCC and the shared goals and expectations of the two parties. These shared goals and expectations will be outlined within the partnership agreement.

Overall program oversight and governance will be provided by the Steering Committee. The Steering Committee will be ultimately responsible for the success of the program. Steering Committee members will not be compensated for their time or work on the program.

Both parties will have equal say at the Steering Committee table, with each party selecting three members. The Steering Committee will operate under a collaborative decision-making model. In the event a collaborative decision cannot be attained, the Executive Sponsors will decide jointly. There will be an escalating alternative dispute resolution process included within the partnership agreement.

As the grant recipient, the CoA will assume fiscal responsibility for the program. A paid Program Manager will report directly to the Executive Sponsors

Table 5.1 identifies the risks with the partnership governance model.

Risk	Mitigation Strategy
Conflicting goals between the parties	Discussions, meetings and partnership agreement revisions will occur to ensure the shared goals, understanding and expectations between the parties are clearly documented within the partnership agreement.
Conflicting direction to program team members	Terms of reference for the Steering Committee will be prepared and clearly articulate the decision-making process and decision flow (Steering Committee to Program Manager to Project Manager to implementation team). The terms of reference will clearly articulate how program team members are to manage events that occur outside the agreed-upon flow.
Political interference	The CoA has formalized Council-Administration Information Protocols that outline how program team members are to manage inquiries/ direction from City Council.
Conflicting priorities	For the most part, conflicting priorities will not occur with the program team members as they will be hired specifically for the SCC project. Internal resources in both organizations, however, may experience conflicting priorities and capacity issues. It will be the role of the Executive Sponsor in each organization to ensure specialized internal resources can be accessed.

and be accountable for the overall program success. The Program Manager chairs the Steering Committee and establishes and maintains the program strategy and roadmap. This person aligns the program strategy with the shared goals and expectations established by the Executive Sponsors. The Program Manager provides regular status updates and escalates program risks, issues or decisions to the Steering Committee. The Program Manager will be responsible for the human resources required for the program and identifies, tracks and manages key metrics.

A paid Project Manager will report directly to the Program Manager and be accountable for the projects and work outlined within the project plan. The Project Manager will be accountable for project scope, identifying and mitigating risks, timelines / project schedule and budget. The Project Manager will lead a team of developers, business / data analysts and vendors in their technical work.

Various support resources and subject matter experts will be drawn from within the CoA and AAHC as required. These resources / experts will include technology, procurement, information governance, privacy, security, risk, finance, health, communications and engagement and will be compensated on an hourly basis.

GOVERNANCE FRAMEWORK - COMMUNITY OPERATING SYSTEM (COS)

As outlined in both Chapter 3: Project Management and Chapter 4: Technology, the governance model for

the community operating system is currently under review. Typically, successful open source platforms are governed under a foundation model. Early research has indicated foundations can be quite costly to establish. For this reason, funds have been set aside early in the project plan to research and determine the best governance model for the COS. The global collaboration of Hyperledger, hosted by the Linux Foundation, is one of the options that will be considered.

As outlined in Chapter 4: Technology, the COS will not house any personal or identifiable information and has been designed in such a way that the municipality will control access. Residents will access the COS through the MyAirdrie Portal. A single authentication will allow users to log in once and view their information in one location. This ensures that the municipality retains control over sensitive and personal login data, which is then subject to the *Freedom of Information and Protection of Privacy Act of Alberta*. For other municipalities in Canada, access will be controlled by the municipality and be governed by that municipality’s privacy legislation.

The CoA has received letters of support from Premier of Alberta, the Minister of Alberta Economic Development and Trade and from the Minister of Health. These letters recognize the benefits that Airdrie’s proposal will provide to its community and communities across Alberta and Canada.

A letter of support is included from AAHC and from Alberta Blue Cross. All letters may be found in the appendices.

Table 5.2 identifies risks in terms of governance of the COS.

Risk	Mitigation Strategy
Determination of detailed technology governance and sustainability beyond project implementation.	Incorporate into the project plan time and resources to explore the most appropriate governance model for the community operating system. The project team has identified the need for expertise in this area and strong legal advice.



CHAPTER 6. ENGAGEMENT

BACKGROUND – PREVIOUS STAKEHOLDER ENGAGEMENT

The City of Airdrie (CoA) and the Airdrie & Area Health Cooperative (AAHC) have conducted various surveys and hosted stakeholder engagement sessions to gather feedback from Airdrie residents on health. This information has been used to develop the stakeholder engagement and communications approach.

CITIZEN SATISFACTION SURVEY

For the past four years, respondents to the CoA's annual satisfaction surveys have consistently identified health as one of the most important issues for Airdrie residents.

AIRDRIE & AREA HEALTH COOPERATIVE STAKEHOLDER ENGAGEMENT

The AAHC sponsored a stakeholder engagement process from Fall 2016 to Winter 2018, engage residents on health and health care. This included face-to-face sessions with hundreds of individual and organizations and two community events – one for the top 80 community leaders and one for health and health care leaders. These sessions informed a report to the community, *Together for Tomorrow*, April 2018 (http://airdriearahealthcoop.ca/pdfs/2018_04_18_Community_Report.pdf).

Participants in the stakeholder engagement processes identified several themes, including the following related to the HealthSmart Airdrie project:

- Access to their personal health related information.
- Need for health-related information and access to services and resources through digital, online technology.
- Sharing of information, they choose to share, between health providers.
- Ability to manage and track their health through technology.

This information was used to shape our initial proposal and our finalist proposal for the Smart Cities Challenge.

As a follow up to the report, a four-day stakeholder engagement session was held in May 2018 to examine the potential of developing a partnership with Blue Zones. Over 600 individuals participated and provided support for moving forward with Blue Zones. Plans were formalized with Blue Zones in February for implementation of “Healthiest Airdrie, powered by a Blue Zones Collaborative.”

PRE-PROPOSAL STAKEHOLDER ENGAGEMENT

The CoA and AAHC developed and implemented a communications and stakeholder engagement plan to build awareness of the Smart Cities Challenge proposal based on our eight selected social determinants of health (SDOH), and HealthSmart Airdrie. This included the announcement of being selected as a finalist in the Smart Cities Challenge, stakeholder engagement at Airdrie Fest, the development of the

HealthSmart Airdrie website, an open house on December 6, ongoing promotion of HealthSmart Airdrie through social media and radio, the Mayor’s health blog (<http://www.mayorhealthblog.ca>), wellness challenges related to the SDOH and a citizen survey.

What we heard from citizens during this stakeholder engagement is that they are excited about the HealthSmart Airdrie initiative and how it can help support their health. Of the over 104 people that answered the survey, most respondents mentioned mental, physical and spiritual when asked about wellness. When we dug down into the SDOH, friends, family, community, food and our surroundings were the top three most important.



Figure 6.1 shows community, social network, habitat and inner self connecting in the Blue Zones program.

This limited stakeholder engagement has as told us that we need to continue to focus on building awareness about HealthSmart Airdrie and what we are trying to achieve, and not move to asking them to take action too quickly (see Table 6.1 Five Stages of Communications). This includes providing residents with information about the timing and phases for the project, sustaining communications throughout and providing opportunities for residents to get involved that are simple and easy.

APPROACH TO STAKEHOLDER ENGAGEMENT AND COMMUNICATIONS

CoA and the AAHC know that decisions are improved through stakeholder engagement of citizens and stakeholder groups and is committed to involving the public on issues that affect our community. We believe public participation will build stronger relationships

with our residents, increase public knowledge, increase transparency, and ultimately lead to better decisions. We will develop an integrated stakeholder engagement and communications strategy and plan that ensures citizens are informed, consulted and involved throughout the entire development process.

COORDINATION OF STAKEHOLDER ENGAGEMENT

Our stakeholder engagement related to health with include two processes: 1. HealthSmart Airdrie stakeholder engagement led by the CoA; and 2. The Community Health Engagement using Blue Zones methodology led by AAHC. These two processes will be coordinated, and stakeholder engagement activities leveraged where possible, and information shared between both projects.

A brief summary of the Community Health Engagement is provided below to provide additional context, with the details for the HealthSmart Airdrie stakeholder engagement and communications following this information.

The purpose of the Community Health Engagement Project is to lead and ignite a community-by-community well-being transformation, where people live and work together for a better life.

The approach used by Blue Zones Project is unique because it takes a systematic environmental approach to improving well-being through policy, building design, social networks and the built environment. By optimizing our environment – those settings where we live, work, and play, which influence our behaviour – we can make the healthy choice the easy choice so that we naturally adopt healthy behaviours. (Source: *Becoming a Blue Zones Community Handout* – Blue Zones Project). We will be the first city in Canada to adopt Blue Zones and will be developing a “Canadian version” of the project. We will be hiring a local team of five and will receive world class training from the Blue Zones Project team to create local capacity and sustainability.

HEALTHSMART AIRDRIE STAKEHOLDER ENGAGEMENT

BEST PRACTICES

The CoA follows best practices as outlined by the International Association of Public Participation (IAP2),

including the use of the Public Participation Spectrum and Code of Ethics in its Public Participation Policy. Specifically, for the COS, access and usability, residents and stakeholders will be engaged at the Involve level of the Spectrum (Figure 6.2). We will identify and work with residents and stakeholder groups to identify their ideas and concerns and will work to incorporate them or address these in the development of the technology.

Our approach to stakeholder engagement will be iterative, where input will be sought through each phase of implementation. We will work with internal and external stakeholders in both the design and evaluation of the technology, ensuring each version of the technology is inclusive of citizen feedback, addresses their concerns, and meets citizens’ expressed needs.

Our stakeholder engagement and communications will be based on the following core principles:

- a strategy and plan focused on the audience and stakeholders first and foremost and that connects to their values and what matters to them.
- an inclusive process that aims to identify and include all stakeholders to understand diversity of people and perspectives and needs, and seeks to understand different cultural values around the SDOH.
- transparent, plain language and two-way communications and stakeholder engagement that educates and creates awareness about the technology, gathers feedback, demonstrates how input was used, and provides rationale for why any input was not used.
- an accessible format where stakeholder engagement activities can be easily accessed by everyone in the community. This means physical accessibility (such as providing online, in-person and in-situ activities)

Table 6.1 provides an overview of the five stages of communications and how they relate to HealthSmart Airdrie.

	Awareness	Understanding	Buy-in	Action	Sustainment
Audience	The audience may be unaware or aware but not interested.	The audience may be aware of how to be healthier but have not taken action to live healthier.	The audience has decided they need to do something but has not taken action yet.	The audience takes action and needs reinforcement.	The audience is living a healthy lifestyle related to the SDOH and makes healthy choices.
Communications Strategies	<ul style="list-style-type: none"> • Build awareness through communications channels that appeal to them and their interests. • Meet them where they are at (knowledge wise) and where they are having conversations (location). • Ask them questions about health, provide them with the information they are interested in and begin to discuss the benefits of healthy living. • Engage influencers and community champions. 	<ul style="list-style-type: none"> • Provide them with information about health and the benefits of healthy living. • Provide them with easy access to information, tools and resources to help them to further understand how to become healthier. • Focus on issues people care about and how they can think about it in their daily lives. • Leverage events. 	<ul style="list-style-type: none"> • Show them the benefits of the action now (extra three years of healthy living) and how easy it is for them to take. • Show them how to use the tools and resources and how easy it is to live a healthier life. • Provide them with personalized ways to become healthier. • Provide them with training and learning opportunities using the technology. 	<ul style="list-style-type: none"> • Show them the benefits of their action and how they can track their journey. • Help them to develop connections with other residents to build support networks. • Provide them with ways to share their story to support others to live healthier lives. 	<ul style="list-style-type: none"> • Sustain their actions by providing them with new ways to participate, access to more resources and tools. • Show them how their participation is making a difference personally and in their community. • Incorporate lessons learned into future planning. • Ongoing communications and updates.

as well as ensuring everyone has an opportunity to learn about and participate in the development and evaluation of the technology, regardless of language, access to technology or other barriers.

- show residents how they can be involved and use the technology and offer hands-on, interactive experiences.

The CoA and AAHC are asking people to change their behaviour to become healthier and focus on the SDOH. We will frame communications with this focus and ensure we understand where an audience is at with what they think, feel, know or are doing with regards to the technology, framed within the five stages of communications and our communications principles.

FIVE STAGES OF COMMUNICATIONS

What stage an audience is at will be determined by how much they know about HealthSmart Airdrie, the information they would like to have access to and opportunities and barriers to using the technology. Table 6.1 provides the five stages of communications.

STAKEHOLDER ANALYSIS SUMMARY

We have completed an initial identification and analysis of stakeholders for HealthSmart Airdrie. As part of our planning process during project implementation, we will conduct a more detailed assessment, contact each stakeholder / group directly to discuss their interests and specific needs, and ensure we haven't missed any stakeholders.

Table 6.2 provides a summary of the stakeholders and strategies for stakeholder engagement and communications.

Stakeholder	Strategies
Airdrie and Area Residents	
General - Includes a demographic mix ranging in age, socio-economic status, ethnicity and interests. - Resident interest, influence and impact are medium to high. Below is a break down of specific resident stakeholder groups.	- Provide a variety of stakeholder engagement activities that will appeal to different demographics. - Provide online stakeholder engagement opportunities through each phase, making it easy for people who are connected to participate. - Provide links to the online tools from the CoA's and AAHC's websites where residents already go for information. Leverage partner sites going forward.
Youth - may not participate in a general stakeholder engagement session open to all residents.	- Provide youth with an opportunity to participate where they hang out. - Leverage the CoA's youth advisory group to offer connections.
New to Canada and English as a second language - may not participate as asking for help or talking about needs may be a stigma in their culture. English may not be their first language and may be a barrier to participation.	- Work with community / culture champions and established service organizations to make connections and meet them where they are located. - Provide translators at events and materials in multiple languages to ensure residents can understand what is being asked and offer input.
Indigenous - may not participate in stakeholder engagement activities because of literacy and education, cultural differences, racism /discrimination / stereotypes, self-esteem, poverty and poor housing, lack of transportation or child care.	-Work with community / culture champions and established service organization to make connections. - Provide them with easy and accessible opportunities to participate with different options, in their community.

Stakeholder	Strategies
Airdrie and Area Residents	
<p>Seniors – may not participate in stakeholder engagement activities due to mobility, lack of knowledge or access to technology and may not understand the benefits of or why they should make changes at this stage to live a healthier life (apathy).</p>	<ul style="list-style-type: none"> - Provide them with easy and accessible ways to provide input – including both paper and technology-based methods. - Build an understanding of how easy the technology will be to use (show them) and the benefits to living a healthier life style now. - Include in-person activities throughout the project as seniors often prefer face-to-face conversation and the ability to ask questions.
<p>Single parents may require child care in order to participate or may not participate because of the cost or time commitment.</p>	<ul style="list-style-type: none"> - Offer this group an opportunity to participate with their family and include activities for their children in a safe, child-friendly environment, at a time that works for them. This means hosting an open house outside of dinner hours, including information in promotions about accommodating children and hosting pop-ups in family-friendly venues such as libraries and rec centres.
<p>Women – women make the majority of consumer decisions. Research shows that diversity of thought and perspective leads to better performance, better business strategies and stronger organizations as a whole. Women often bring different perspectives and therefore can help eliminate blind spots.</p>	<ul style="list-style-type: none"> - Include a gender lens to stakeholder engagement activities and consider gender-based factors to gather input. - Offer specific opportunities for women to get involved in the design and testing of the technology, e.g., women focused stakeholder engagement sessions. - Apply a gender lens when seeking partnerships to develop and build the technology where possible.
<p>People with mental health issues – may not participate for a variety of reasons because of a lack of awareness, ability, and/or anxiety about participating and apathy.</p>	<ul style="list-style-type: none"> - Engage established service organizations to determine strategies to best engage this group and make connections. - Provide a variety of ways to participate so there are activities that are comfortable and encouraging.
<p>Homeless – may not participate because of discrimination, lack of transportation, lack of access to technology and may not understand how HealthSmart Airdrie can benefit them.</p>	<ul style="list-style-type: none"> - Provide them with easy and accessible ways to participate, show them potential opportunities for how they can use and access the technology, and how participation will benefit them. - Work with community champions and established service organizations to make connections. - Meet them where they are using stakeholder engagement activities such as Streeter surveys, pop-up events, interviews and use of public kiosks.
<p>People who don't have access to technology/no access to data or Wi-Fi – may not participate because of lack of access to technology and lack of understanding that they can participate</p>	<ul style="list-style-type: none"> - Provide them with information about how they can participate using City-owned technology and in-person tools and let them know how participation will benefit them. - Ensure communications and promotions are not only digital such as roadside signs, posters, TV and radio ads.

Stakeholder	Strategies
Organizations	
<p>Community Organizations Includes faith-based, youth, senior, crisis / addiction, health and wellness, housing, Indigenous, immigrant, financial, recreation, arts and associations / society / clubs and are either not-for-profit, non-profit or social enterprises. This group also includes support organizations in Calgary that Airdrie and area residents rely upon. These organizations provide residents with the resources and supports they need, often free or for a small fee. Often these groups have limited time and resources.</p> <p>Their impact and interest are high, influence medium to high.</p>	<ul style="list-style-type: none"> - Provide them with information about ways that they can get involved and how participating can benefit their organizations and the people that they support. - Provide workshops during the business hours to accommodate representatives of these organizations.
<p>Local/Provincial Businesses Includes retail, health and wellness, restaurants and providers of services such as financial institutions. These companies provide paid services to residents.</p> <p>Some of the business may be interested in becoming a partner in HealthSmart Airdrie.</p> <p>Their impact and influence are medium and interest medium to high.</p>	<ul style="list-style-type: none"> - Provide them with information about how they can get involved and be part of HealthSmart Airdrie. - Provide a variety of ways to share input to accommodate different interests and schedules.
<p>Educational Institutions Includes elementary to high school, post secondary and adult education.</p> <p>Their impact and influence are high and interest medium to high.</p>	<ul style="list-style-type: none"> - Provide them with information about how education fits within the SDOH, the technology and how participating can benefit their organization and help the people they support. - Provide a variety of ways to share input to accommodate different interests and schedules.
<p>Alberta Health Services (AHS) Provides health care to residents and is a partner with the AAHC in developing the community health information resource platform.</p> <p>AHS impact and influence are high and interest medium.</p>	<ul style="list-style-type: none"> - Provide them with an opportunity to partner in the project. To respect the unique concerns AHS might have, provide opportunities to talk to the project team outside of public events.
<p>Primary Care Networks, Physicians and Health Providers Highland PCN supports primary health care in the community with strategies and resources for health that support physician practices. Airdrie also has a range of community health and health care professionals, typical of any community.</p> <p>Their impact and influence are high and interest medium to high.</p>	<ul style="list-style-type: none"> - Provide them with information about how they can get involved and the benefits for them and their patients. - Provide multiple ways to share input and make stakeholder engagement easily accessible to accommodate shift workers and demanding schedules. To respect the unique concerns this group may have, provide opportunities to talk to the project team outside of public events.
<p>Surrounding Municipalities Includes the MD of Rocky View, Balzac and The City of Calgary.</p> <p>Their impact and interest are medium and their influence low.</p>	<ul style="list-style-type: none"> - Provide them with information about the project, ask them to be involved, keep them informed and offer opportunities for partnership. - Offer opportunities for one-on-one interviews and opportunities to talk to the project team outside of public events to accommodate out-of-town representatives.

Stakeholder	Strategies
Organizations	
<p>Provincial Government Their impact, influence and interest are medium.</p>	<ul style="list-style-type: none"> - Provide them with information about the project, keep them informed and give them opportunities to participate. To respect the unique concerns the Alberta Government might have, provide opportunities to talk to the project team outside of public events.
<p>Airdrie City Council Their impact, influence and interest are high.</p>	<ul style="list-style-type: none"> - Provide them with information about the project, ask them for their help in getting citizens excited / participating and provide them opportunities to get involved. To respect the unique concerns the Airdrie City Council might have, provide opportunities to talk to the project team outside of public events. - Invite them to participate in public events so they can hear first hand what is important to residents about the technology.
Partners and Sponsors	
<p>City of Airdrie The CoA is a partner in the HealthSmart Airdrie initiative. It also employs 630 Airdrie and areas residents who may work on part of this program and may be asked by their family and neighbours about it or want to participate.</p> <p>Employee interest, influence and impact are medium to high.</p>	<ul style="list-style-type: none"> - Provide CoA employees with information about the project, how the CoA is involved, how they can get involve and the benefits of being involved, and information to help answer questions. - Invite them to attend public events to provide input from both an employee and resident perspective.
<p>Airdrie & Area Health Cooperative The AAHC is a partner in the HealthSmart Airdrie initiative. It also employs eight Airdrie and areas residents who may work on part of this program, be asked by their family and neighbours about it, or want to participate.</p> <p>The AAHC also has members who may be interested in HealthSmart Airdrie.</p> <p>Employee interest, influence and impact are medium to high.</p>	<ul style="list-style-type: none"> - Provide AAHC employees with information about the project, how the AAHC is involved, how they can get involve and the benefits of being involved, and information to help answer questions. - Provide them with information about the project and the benefits of getting involved.
<p>Potential sponsors Organizations that are willing to provide in-kind or financial support to the project.</p> <p>Their impact is medium, influence low and interest medium to high.</p>	<ul style="list-style-type: none"> - Provide them with information about opportunities for sponsorship that are unique to their organization and how sponsorship can support and benefit their organization.
<p>Potential partners Organizations that are looking to take a leadership role in the development, use, promotion, integration, etc. of the HealthSmart Technology.</p> <p>Their impact, influence and interest is high.</p>	<ul style="list-style-type: none"> - Reach out to develop partnerships with aligned organizations. - Provide them with information about partnership opportunities that are unique to their organization and how sponsorship can support and benefit their organization.

STAKEHOLDER ENGAGEMENT AND COMMUNICATIONS RISKS

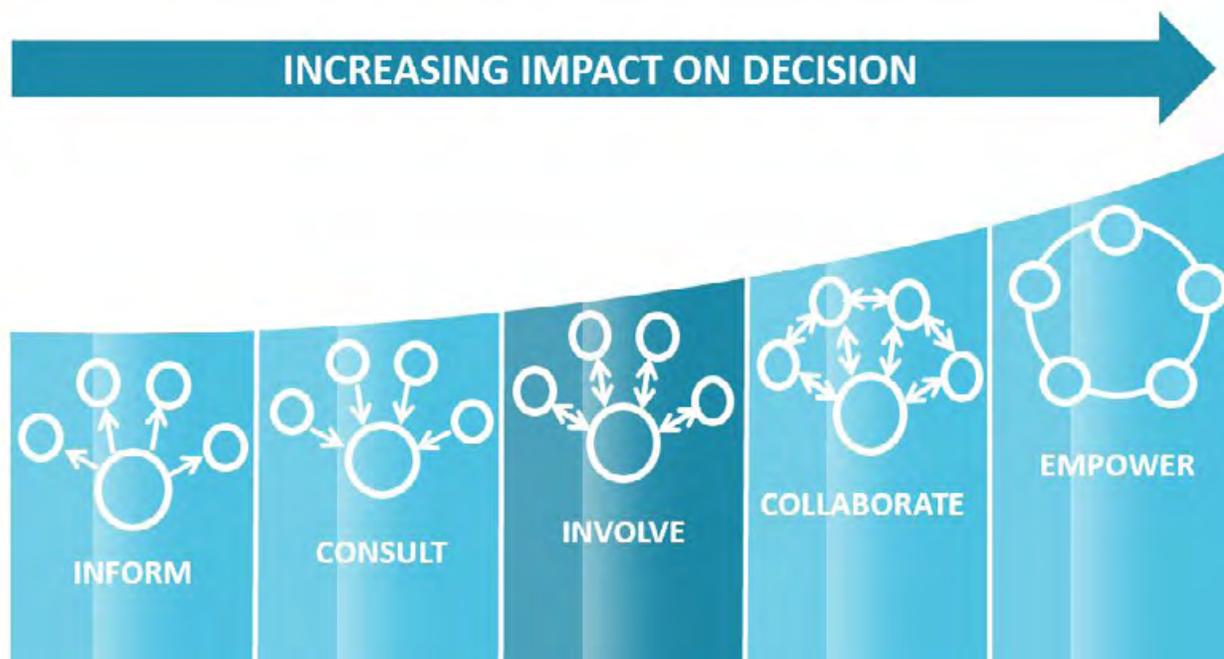
Table 6.3 identifies several stakeholder engagement and communications risks. For the purposes of this proposal, we have only included the risks that ranked “high” in our evaluation criteria.

Risk	Mitigation Strategy
<p>Not identifying all the stakeholders / Not reaching all the stakeholders.</p> <p>Missed stakeholder groups can cause project delays, the perception of lack of transparency and stakeholder engagement, and lack of gathering the data required to build a technology that meets the needs of residents and stakeholder groups.</p>	<ul style="list-style-type: none"> - Seek input from identified stakeholders about who else should be involved and included as part of the stakeholder identification task. - Ask stakeholders how they want to receive communication and how they want to be engaged, including channels / activities location and timing as part of the stakeholder analysis
<p>Input not used in the development of the technology.</p> <p>Resident want to feel heard and will only use a technology that they feel like they had a part in creating. Also, the technology needs to meet the needs of the residents and show how it is meeting their needs.</p> <p>Residents may feel their participation was a waste of time and may not support the technology. This may also lead to decrease in participation in future project and may lead to a distrust of the HealthSmart Airdrie partners.</p>	<ul style="list-style-type: none"> - Ensure citizens understand how the input they provide will be used. - Report back on the input that was gathered, how the input was used to influence the design of the technology and, if input was not used, why it was not used in the development of the technology.
<p>Keeping sustained interest throughout implementation and beyond / stakeholder burn out.</p> <p>HealthSmart Airdrie is a multi-year project that does not “come to life” for citizens until two years into the project and is not fully built for five years. Stakeholders may lose interest or not “believe” the project is going to be implemented</p>	<ul style="list-style-type: none"> - Build an understanding of the length of the project, phases and when they will have an opportunity to get involved. - Provide opportunities for meaningful stakeholder engagement and be strategic in the use of citizen’s time to offer feedback. - Ensure communications is sustained between stakeholder engagement events. - Offer citizens ways to get involved that connects to the technology and offers them health-related benefits. - Develop a shared communication and stakeholder engagement plan with the Blue Zones Collaborative by integrating information and leveraging stakeholder engagement where possible.
<p>Reputation of the CoA Reputation of the AAHC.</p> <p>Reputational issues may come up in a variety of ways related to the money being spent, the technology not working, perceptions about lack of transparency, privacy, security and/or stakeholder engagement, lack of connecting to all platforms, public promises not kept, alignment around messaging, etc.</p>	<ul style="list-style-type: none"> - Ensure the CoA and AAHC are aligned in their messaging and communications to stakeholders. - Create agreement about who is a project spokesperson. - Provide key messages and coaching to project champions. - Ensure project team is aware of stakeholder engagement and communications plans and timing.

Risk	Mitigation Strategy
<p>Confusion / lack of coordination between programs – HealthSmart Airdrie, Blue Zones, Health Park, Needs-based networks, etc.</p> <p>Citizens may not understand or may be concerned with the multiple projects connected to HealthSmart Airdrie and may feel like the approach to stakeholder engagement and communications is uncoordinated and repetitive, or the stakeholder engagement efforts may cause participant fatigue.</p>	<ul style="list-style-type: none"> - Ensure stakeholder engagement and communications of related projects is coordinated and aligned where possible. - Leverage events between projects. - Ensure the stakeholder engagement and communications representatives from each project are kept informed about plans. - Provide citizens with an understanding of how the projects are connected.
<p>Lack of trust of the CoA / lack of trust of the AAHC.</p> <p>Citizens may feel like they are “being watched” or their data is being used for alternative purposes.</p> <p>They may have concerns with the CoA and/or AAHC’s ability to develop a technology of this scale.</p> <p>They may have had an experience with the and/or AAHC that has caused distrust.</p>	<ul style="list-style-type: none"> - Ensure citizens understand the breadth and scope of the project, the use of data and security and privacy. - Provide citizens with an opportunity to express their concerns, provide input and be part of design of the technology and what they need to be comfortable to use it. - Work with community champions to help communicate about the project and its benefits. - Address specific historical concerns by listening, reflecting, asking and answering when requested.
<p>Inability to motivate end users to provide input on the technology / lack of interest / resistance to change.</p> <p>Citizens may be apathetic towards the project, may not have time to participate and/or may not be interested.</p>	<ul style="list-style-type: none"> - Provide citizens with multiple ways to participate, in a variety of ways and locations. - Provide them with information about the benefits of participating. - Show them how their input will be used and how their input has been used to design the technology.

Figure 6.2 shows the IAP2 spectrum of public participation, inform, consult, involve, collaborate and empower. Our level for SCC is involve.

IAP2 SPECTRUM OF PUBLIC PARTICIPATION



STAKEHOLDER ENGAGEMENT

Blue Zones has a stakeholder engagement process to gather input from residents and a process for engaging / involving the community to focus on changing behaviours and participate in building a culture of health. The stakeholder engagement for HealthSmart Airdrie is specific to gathering input from residents about the technology, while at the same time, building awareness about the SDOH. Stakeholder engagement for HealthSmart Airdrie will be coordinated with the stakeholder engagement activities for Blue Zones including leveraging and scheduling of the events where possible.

STAKEHOLDER ENGAGEMENT ACTIVITIES

A variety of stakeholder engagement activities will be used throughout the implementation of HealthSmart Technology to provide residents and stakeholders multiple ways and opportunities to participate, in a manner that best suits their preferences. The tools are based on what has worked well in Airdrie in the past and new tools to ensure all stakeholders have an opportunity to provide input. We will offer a mix of in-person, in-situ and online opportunities that offer face-to-face and technology-based ways to have a conversation, learn about other's ideas and offer feedback. Below is a sample list of key activities we will use to engage residents and will be modified for each stakeholder group.

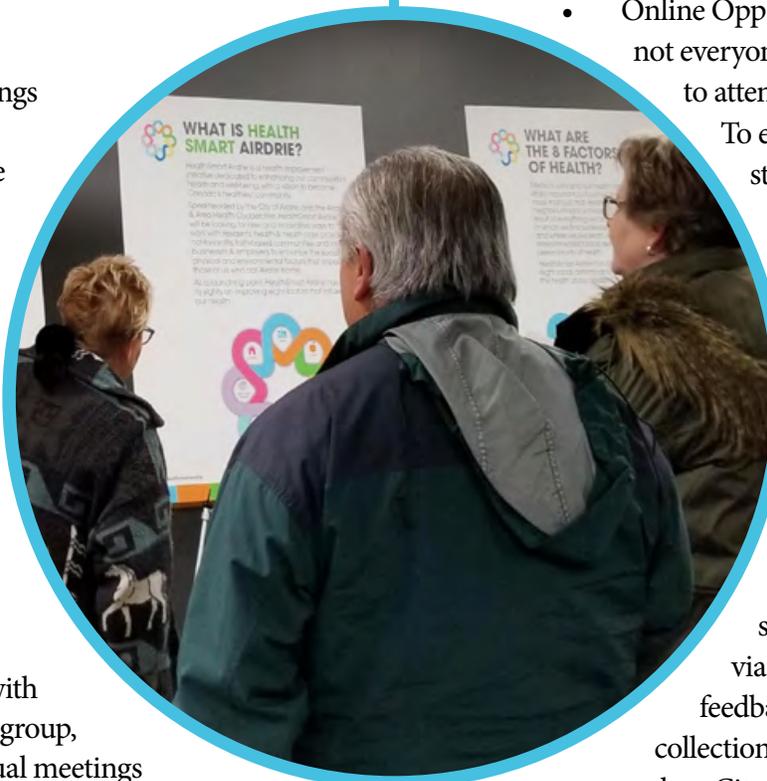
- Key Stakeholder Meetings / Workshops – in each phase of the project, we will bring together representatives of the appropriate key stakeholder groups (for that phase) to give them an opportunity to provide input, recognizing their involvement and concerns may be different than those of the public. Where possible we will meet with these stakeholders as a group, however some individual meetings

may be needed. Key stakeholders that we will include in these meetings are agencies, community organizations, educational institutions, Alberta Health Services, Primary Care Networks, the CoA, AAHC, Alberta government, and regional municipalities.

- Open House – we will host an open house in Phase 1 of the stakeholder engagement process that will include a graphic recorder to help illustrate stakeholders and residents' vision for the technology and its outcomes. A summary report of the feedback received will be provided via the HealthSmart Airdrie website.
- Pop-Up Events – best practice and research indicate stakeholders are more likely to participate if we were to go to them. We will provide residents an opportunity to have a conversation with the project team at popular gathering places in Airdrie, such as coffee shops, malls, theatres, parks, the library, Genesis Place (recreation facility) and grocery stores.
- Streeter Surveys / Interviews – this technique will be used to engage hard-to-reach individuals – such as vulnerable populations – and provide an opportunity for people out and about to talk to team members doing interviews on the street.

- Online Opportunities – we know not everyone can attend, or wants to attend, a public open house.

To ensure all residents and stakeholders have the same opportunity to provide input, we will mirror our face-to-face activities online. Residents can view the same materials online, then provide their input directly through an online tool hosted on HealthSmartAirdrie.ca, submit a feedback form via email, or they can leave feedback forms at a designated collection spots in their community such as City Hall or Genesis Place.



COMMUNICATIONS TOOLS

Table 6.4 outlines a list of sample communications tools that we will use throughout the various phases of the project.

City Connections – newspaper insert	Highway electronic billboard	Radio ads
Mayor’s Radio Show – every Tuesday	Signage at partnering locations	TV – interstitials
Airdrie Now newsletter – City business	Signage at City facilities	Media launch
Airdrie Today – City newsletter	Videos	Media stories
HealthSmart Airdrie social media	HealthSmart Moment (radio, print)	Celebration / launch event for community
City of Airdrie social media	Infographics	Incentive campaign for participation
City Council social media	Email updates	Blog / articles
AAHC Social Media	App / dashboard notifications	Wellness challenges
	Influencer messaging	HealthSmart Podcast
	Transit advertising/bus wrap	

- Kiosks – installed across the city where those who are not digitally connected or are unsure about how to use technology can use City-owned technology to provide their input, with guidance from on-site personnel.
- Instastory Polls – social media will be used to promote opportunities for stakeholder engagement, communicate important messages, and provide quick polls that will help us to understand our residents needs.
- What we Heard – a report back about what we heard in each phase of stakeholder engagement will be sent to all participants and will be made available online.

EVALUATION

A successful stakeholder engagement plan ensures early identification of issues of concern, areas of conflict and opportunities for the development of a technology that truly meets the needs of the community. It also ensures stakeholder time is used efficiently, and that the input received has been incorporated as much as possible; or if it hasn’t been, stakeholders understand why not.

The communications activities ensure stakeholders are provided the information needed to participate in a meaningful way, to understand and to be aware of the opportunities available for providing input and to receive information that is both clear and relevant to them.

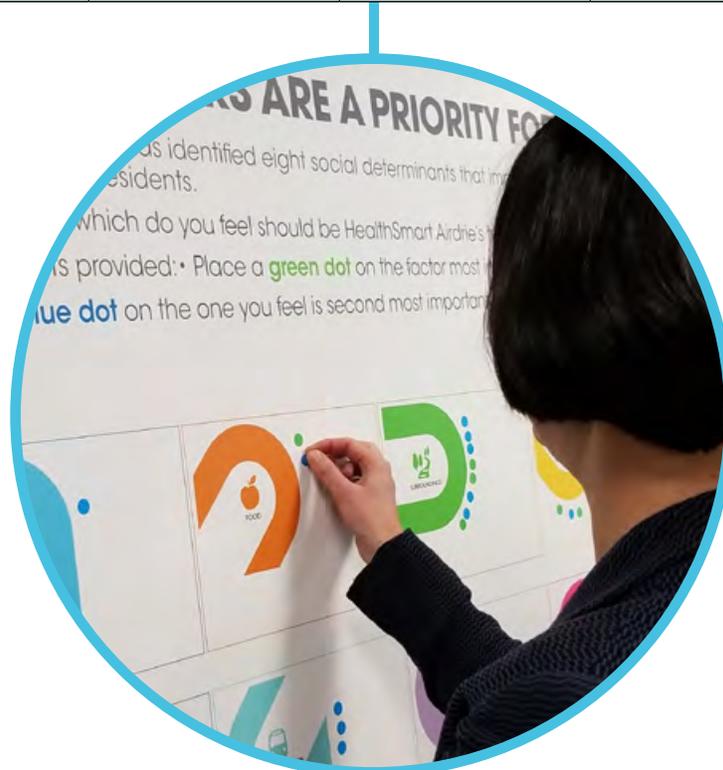
Communication and stakeholder engagement activities will be measured throughout this project using tools such as feedback forms, online comment opportunities and by tracking against the schedule and goals. Measurements will indicate whether stakeholders understand the information that is being presented, whether enough information on the project has been provided in order to participate in a meaningful way, if participants can see how their input has been used, and if not why not, and whether the activities they participate in are perceived to be valuable to them. The plan and schedule may be revised based on evaluation results.

STAKEHOLDER ENGAGEMENT AND COMMUNICATIONS PLAN OVERVIEW

Table 6.5 provides an overview of potential stakeholder engagement and communication plan phases. Based on the stakeholder analysis and confirmation of project timing, this plan will be updated and developed into a detailed workplan.

	Planning - Stakeholder Assessment and Plan	Phase 1 - Visioning and Ideas for the COS	Phase 2 - Service Inventory	Phase 3 - Accessibility and Usability for MyAirdrie Portal, mobile apps, kiosks	Phase 4 - Evaluation and ongoing Sustainment
Objectives	<ul style="list-style-type: none"> - Develop a comprehensive stakeholder engagement strategy that identifies all stakeholders and how they will be meaningfully engaged throughout the project. - Identify potential risks and mitigation strategies. - Include communications strategies and tactics to support the stakeholder engagement. 	<ul style="list-style-type: none"> - Generate awareness about the project, the opportunities to provide input and an understanding of how input will be used. - Gather feedback on the stakeholder engagement plan. - Gather input from stakeholders and residents to build a vision for what the technology can include and how it can benefit and meet the needs of Airdrie and area residents - Ensuring we capture everyone's ideas. 	<ul style="list-style-type: none"> - Share how input from Phase 1 was used and if input was not used and why not. - Gather input from service providers about how they would like to be involved in the technology and the services they can offer. - Gather input from residents about the types of services they would like to see included in the technology. 	<ul style="list-style-type: none"> - Share how input was used Phase 2, and if input was not used and why not. - Generate ideas about the COS dashboard / Portal / mobile apps / kiosk design, usability, functionality and access to the technology. - Ask citizens to test the technology and provide feedback on functionality. 	<ul style="list-style-type: none"> - Evaluate citizen understanding of the project and outcomes. - Seek feedback on the stakeholder engagement process and communications. - Evaluate citizen use of and access to the technology. - Identify lessons learned to be applied to future phases and projects, and technology upgrades.
Strategy	<ul style="list-style-type: none"> - Engage key stakeholders and community leaders in the development of the plan. - Share the draft plan with all stakeholders to solicit their feedback in Phase 1. 	<ul style="list-style-type: none"> - Provide a wide variety of opportunities in many locations to understand the opportunities and benefits the technology will have. - Use input from this phase to assist in finalizing the stakeholder engagement and communication plan to best suit stakeholder needs for information and participation. 	<ul style="list-style-type: none"> - Engage residents to understand what providers and services they would like access to through the technology. - Engage service providers to gauge their interest in connecting to the technology, the type of information and services they can offer, and what, if any, applications they currently work with. 	<ul style="list-style-type: none"> - Engage stakeholders to understand priorities around function and sequencing and solicit innovative ideas such as gamification opportunities. - Ask residents to test the technology's functionality and usability and provide feedback. 	<ul style="list-style-type: none"> - Seek feedback on how the technology is working - what is working well, what isn't, and ideas for how it can be improved. - Evaluate the stakeholder engagement process to develop lessons learned that will improve future projects.

	Planning - Stakeholder Assessment and Plan	Phase 1 - Visioning and Ideas for the COS	Phase 2 - Service Inventory	Phase 3 - Accessibility and Usability for MyAirdrie Portal, mobile apps, kiosks	Phase 4 - Evaluation and ongoing Sustainment
Activities	Key stakeholder meetings/workshops – these will be used to generate ideas and solicit feedback on the draft stakeholder engagement and communication plan	<ul style="list-style-type: none"> - Open House - Key stakeholder meetings / workshops and interviews - Streeter surveys / interviews - Pop-ups – locations will include a mall, theatre, Genesis Place (recreation centre), library, high school, park - Online tool + kiosks at popular city locations - Instastories (polling) - Ongoing communications 	<ul style="list-style-type: none"> - Workshops for service providers - Interviews with service providers - Online tool + kiosks at popular city locations. One potential method of collecting input is asking residents to share photos or screenshots of their favourite service providers via Instagram or an online platform such as Photovoice to create a visual inventory of local providers. - Pop-ups - Ongoing communications 	<ul style="list-style-type: none"> - Design Workshops - with key stakeholder groups and residents to design their own dashboard and share their ideas. - Online – feedback form following testing of the technology - Kiosks will be set up with the technology for testing. A survey available on kiosk to collect feedback. - Pop-ups - Ongoing communications 	<ul style="list-style-type: none"> - Online evaluation survey will be available on HealthSmart Airdrie site and at kiosks around the city - Instastories (polling) - Streeter surveys to solicit feedback from those who are not connected - Ongoing communications





CHAPTER 7: DATA AND PRIVACY

The Smart Cities Challenge (SCC) is being implemented under a partnership governance model between the City of Airdrie (CoA) and the Airdrie & Area Health Cooperative (AAHC) as outlined in Chapter 5: Governance. The CoA and the AAHC recognize the various legislative / regulatory requirements surrounding the privacy of information. As the CoA is held to the higher standard with respect to privacy, the implementation phase will be managed under the *Freedom of Information and Protection of Privacy Act of Alberta*. For the purposes of the Act, the CoA will be the custodian of information. Where required, *Alberta's Health Information Act* and other relevant federal and provincial legislation will be met.

PRELIMINARY PRIVACY IMPACT ASSESSMENT (PIA)

A Preliminary Privacy Impact Assessment has been completed and forwarded to the Office of the Information and Privacy Commissioner of Alberta (OIPC). We received initial feedback as outlined in the attached letter and have re-submitted the preliminary PIA in accordance with that feedback. Further discussions will need to occur prior to development. The CoA and AAHC are committed to working with the OIPC throughout development of the HealthSmart Technology. The preliminary PIA has shown that there is work needed to be completed in terms of formalizing specific policies and processes prior to any development work on the SCC program commencing. The CoA has committed to complete this work prior to year end.

PERSONAL INFORMATION PROTECTION AND ELECTRONIC DOCUMENTS ACT (PIPEDA)

Attached to the PIA is a PIPEDA self-assessment that demonstrates Airdrie's compliance to federal legislation. As outlined above, there are some underlying policies and processes that have not yet been formalized at the CoA.

PARTNERS

The SCC project will be leveraged by all in the community. Aside from the main partnership between the CoA and AAHC, a series of partnerships will be created to share information ultimately breaking down information silos. For any partnership to be successful, there will need to be trust that information will be used responsibly, and the regulation of data, privacy, and security will be required throughout implementation and into the future. There will also need to be transparency as to how data is used and how it is protected, and users will need to have the tools to be able to control their own data and engagement with jointly generated content.

Strong partnerships can attract additional interest, investment and participation from other companies, governments, agencies and non-profits and can show and encourage future collaboration.

OUR APPROACH TO PARTNERS

It is through the strength of partnerships that HealthSmart Airdrie will be a success. We will:

- Identify private, public and non-profit partners.
- Involve everyone from the beginning.
- Articulate the relationships between the partners – How do they or how can they support each other given our Challenge Statement to increase healthy life expectancy by 3+ years over 5 years? What do the partners have in common?
- Identify win-wins for the partners – What is the value proposition? Why would a partnership be beneficial? What are the potential partnerships?
- Identify expectations and requirements of the partnerships. Establish proper agreements, protocols and privacy requirements. Ensure alignment with vision, goals and objectives of the SCC.
- Establish formal agreements and accountability structures, including timelines, term and financial responsibilities.
- Establish a medium for collaboration and oversight – we want to be able to establish a system of collaboration across all partners.
- Determine the investment model – Who pays for what and on what terms?
- Start small and early and build trust.
- Establish a knowledge management strategy – knowledge sharing and a formalized plan for how information will be shared and protected are vital.
- Identify and define approaches for utilizing information to gather knowledge – Information can be explicit (extracted from data that flows as a result of the smart city) or tacit (generalized data about citizens and stakeholders). Knowledge is gained through a combination of both.
- Develop a clear stakeholder engagement and inclusion strategy for all stakeholders and citizens - knowledge becomes stronger with more involvement. A good stakeholder engagement strategy will maximize the ability to receive applicable information to increase knowledge.

DATA

Data is “factual information (e.g., measurements or statistics) used as a basis for reasoning, discussion, or calculation” according to the Merriam-Webster dictionary. It has been referred to as the new currency or new fuel and is integral to HealthSmart Airdrie project and its users’ decision-making ability. Data allows users to stay on top of trends, answer problems, and analyze new insights. Relevant data needs to come together for the user to meet a common focus / goal / objective and provide actionable insights.

There are many different types of data including personal data (anything specific to an individual), transactional data (anything that requires an action to collect), Web data (anything that is available on the internet), and sensor data (anything produced by the Internet of Things). Data can provide strategic insight and answer the what, where, why, when and how for any process and the security and management of it is essential for a smart city.

DATA COLLECTION, USE AND DISCLOSURE

MyAirdrie provides a single sign-on that allows users to authenticate to the Community Operating System (COS) and display COS dashboards and information through embedded and encrypted technologies. It is an existing system managed by the CoA independently of the SCC. MyAirdrie Portal collects credential information to allow for signup (email address and password). MyAirdrie uses account verification to

KNOWLEDGE SHARING

More knowledge gives rise to better decisions. To keep innovating and keep partnerships alive, it is necessary to share knowledge with everyone involved, including citizens. Our project will be a central clearinghouse for connecting people, creating social cohesion and enabling sustained economic growth through knowledge.

A knowledge-based city requires that each citizen takes responsibility for objectives, contributions to the city and for behaviour. This implies that all citizens are stakeholders of the city and have been provided opportunity for consent and transfer of knowledge. Knowledge management plays an important role in nurturing and building relationships and optimizing the flow of information.

OUR APPROACH TO KNOWLEDGE SHARING

Our approach to knowledge sharing will be to

ensure email addresses are valid. Passwords are stored as a hashed value and cannot be reverse-engineered externally or internally. During sign-up, input of a first and last name is optional and used only for personalizing the login page.

Stored data by the COS is for the verification, security, mapping, and utilization of data only. The SCC project will not be a collector of data; therefore, the life cycle of data will not need to be managed. As outlined in Chapter 4: Technology, the COS will be an enabler of secure and private data sharing. There is no intent to create a data repository to store data. The premise for the project is to bring together disparate data sources.

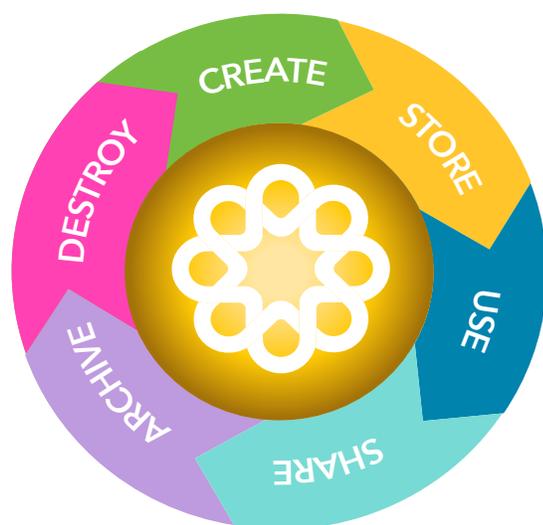


Figure 7.1 shows the COS Data Life Cycle – create, store, use, share, archive and destroy as a repeating process.

- Create – COS will connect to existing data sources to enable data flow. Data will not originate or be created by the COS.
- Store – COS will temporarily store data as data requests are made by users. Temporarily stored data is de-identified.
- Use – COS enables data from disparate data sources to come together to inform users with meaningful content.
- Share – COS enables sharing of data between users.
- Archive – COS does not archive or store any identifiable or individual data. Configuration and mapping data is archived and saved over time. Aggregated data, used for benchmarking, may also be archived. This is also de-identified.

- Destroy – Temporary data is destroyed as soon as the user request and/or session is ended.

Partnerships will be entered into to acquire knowledge for data sharing. These external data sources will be required contractually to comply with their governing privacy legislation and ensure they have the legal authority to collect, use and disclose their data. PIAs will need to be completed and accepted by the OIPC prior to any API being activated. It is the responsibility of the data source to ensure proper consent is obtained or de-identification of the data occurs. The collection use and disclosure of data will remain their responsibility.

A series of information mapping and supporting databases will be stored on a server in Canada. These databases will contain information, such as, the transactional ledger, algorithms, data maps and configuration details. All ledger information will be encrypted. Some aggregated, non-identifiable data may be stored to allow for baseline analytics and comparative benchmarking. Through the MyAirdrie Portal or the HealthSmart App, users will be able to access the COS, connecting to information shared by external parties.

DE-IDENTIFICATION

De-identification occurs when the direct and known indirect identifiers of data have been removed or manipulated to break the linkage to real world identities (Future of Privacy Forum). Wherever possible, data is to be protected de-identified prior to entering the API. This means the data would be de-identified and protected by safeguards and controls. An authentication key will come with the de-identified data and will allow the data to be displayed once matched with the user’s authentication key. If an external source does not de-identify data, the API will contain a processing tool ensuring all identifiable data is removed prior to flowing through to the COS. In this instance, an authentication key will come through with the data, which when matched to the user’s authentication key, will cause the data to be displayed temporarily on the user’s dashboard. Once a session is closed, all data will be removed from the system.

OPEN AND BIG DATA STRATEGIES (INCLUDES TRANSFERABILITY AND REPLICABILITY)

As discussed in Chapter 4: Technology, the project will be built as a private blockchain using open source technologies and be freely available to other communities to use and customize to meet their own needs. Blockchain is a secure method allowing data to go to only those parties that have been authorized to access it. Authentication, access and security are achieved through blockchain technology.

With the COS, other communities will receive:

- A profile administration tool for users providing them with the ability to manage their account information, select the connected services they want to connect to and integrate with, share specific information with others, and view and manage their information access through a comprehensive audit log.
- Health dashboards will connect users directly to the data through visualization tools. Dashboard views can be customized to the user. Dynamic tools will be integrated to allow users to view data in different formats, across time and for their specific needs. Although Airdrie is using the dashboards for health, communities can design the dashboards for other purposes.
- A Master Application Programming Interface (API) allowing for a comprehensive data interchange. It will provide central mapping and an access point for data sharing. It will also be capable of de-identifying information.
- COS modules will provide capacity for new and existing applications to connect with the COS. The modules will be any built-in or add-on functionality to the COS. An example is the Smart Service Inventory (SSI) being developed as part of this proposal. The SSI will be an available module for any other community to use. As the COS is replicated in other communities, innovations and connected modules created in one community can be shared and utilized in another.

A recipe book will be provided to communities to provide them with a roadmap on how to leverage

what Airdrie has done for their community. Examples include:

- How to build and leverage upon the SSI as a foundational directory of community information. An interface and smart functionality will be built allowing organizations to access, input and collaborate on an inventory for their community.
- Insights and gamification will be available, providing motivation for participation and engagement. Gamification encourages healthy competition across the community, fostering behaviour change.
- Providing the code required to connect and integrate data with the COS App. Airdrie is focusing on activity and fitness tracking (FitBit, Google Fit, etc.), health and wellness measurement (established by Alberta Blue Cross), community connections, community involvement and micro-credentialing, and eMental Health.

ACCESSIBILITY AND INTEROPERABILITY

As outlined in Chapter 4: Technology, accessibility and usability of the COS is core to the technology. There will be three main access points to the HealthSmart App: the MyAirdrie Portal, native mobile apps and kiosks, located in strategic locations throughout the city. Each access point facilitates user connectivity.

Interoperability is a key function of the COS. Increased interoperability, innovation and shared expertise will be achieved as the COS will be compatible with a wide array of development languages. The COS API further fosters interoperability through defining protocols and standards for system connectivity and information sharing. This will enable the COS to work with other apps, platforms and devices like what Google, Amazon, Apple and others have successfully done.

SECURITY AND PRIVACY

Security and privacy will be central to the development of the HealthSmart Technology, and include specific strategies as outlined in Chapter 4: Technology. Several risks have also been considered. A System Security Plan will be developed complying with best practices identified by leading security experts. Chapter 6: Engagement describes the significant stakeholder engagement in the development and implementation

of the technology. Concerns raised by users, residents and stakeholders will be considered and, where appropriate, built into the System Security Plan.

OUR APPROACH TO DATA

Identify sources or stakeholders that may have access to applicable data and data elements required to produce value. It is about targeting and then providing the ability to act on findings. The four kinds of data (personal, transactional, web and sensor) need to be combined into content.

- Identify partners (e.g., Stats Canada) and implement existing data standards (e.g., The International Open Data Charter). Establish a common data structure that can be reproduced and used across other communities and a balanced approach to acquisition and tie acquisition to our Challenge Statement.
- Establish a secure and private data use strategy. Data is the most important asset for all stakeholders including citizens. Security and privacy are essential. Ensure technology, policies, and protocols are all in place prior to any data use and users, residents and stakeholders have input into the strategy.
- Make data accessible. Create a data visualization strategy. Individuals, groups, organizations, and the community need to be able to view, analyze, and ultimately act on the collected data. Empower and engage users. Foster a data feedback loop to increase data use. Link content to the right questions. When producing content, provide the means to trace the results back to key data elements. Content must be timely when needed.
- The value of data is realized when it links to predefined goals. Value increases using visualization. Data value can be measured using tools such as the Data Value Index.

APPROACH TO RISK

Businesses and organizations must deal with risks, many of which have the same characteristics as those encountered elsewhere in life. To place risk in the proper business context, risk is defined as follows: Risk is the possibility that an event will occur and adversely affect the achievement of an objective.

RISK MANAGEMENT

The gold standard of risk management process models is considered the ISO/CSA 31000 Risk Management Standard. The ISO 31000 Risk Management-Principals and Guidelines Standard definition of risk is: The effect of uncertainty on objectives. As outlined in Chapter 3: Project Management, the risk management program components include:

- Plan Risk Management
- Identify Risks
- Perform Qualitative Risk Analysis
- Perform Quantitative Risk Analysis
- Plan Risk Responses
- Implement Risk responses
- Monitor and Control Risks

(Source: PMBOK Sixth Edition)

Expanding on the risk mitigation and response strategies outlined in Chapter 3: Project Management, there are seven key aspects to managing risk:

1. Risk Acceptance – informed decision to accept the likelihood and consequences of the risk
2. Risk Transfer – shift responsibility to another party e.g., insurance
3. Risk Elimination – find solution(s) to eliminate risk as consequence would be unacceptable
4. Risk Increase – informed decision to increase a particular risk e.g., cost of managing risk outweighs its impact
5. Risk Reduction – implementation of appropriate tools/techniques/processes to reduce the likelihood of risk and/or its impact
6. Risk Avoidance – informed decision to not become involved in risk situation or cease activities because risk is too high
7. Residual Risk – after risk treatment, determine if remaining risk is acceptable, if not other actions may be needed

A risk management framework and guidelines have been completed that establish a standardized approach towards risk as we move through implementation

of the project. A risk register has been created and is being populated.

Table 7.1 identifies the risks with respect to privacy and data.

Risk	Mitigation Strategy
<p>Unauthorized use of personal information by internal or authorized parties or unauthorized parties</p>	<ul style="list-style-type: none"> • Ensure information is only accessible to those who need to know. Leverage IT and security protocols to protect personal information. • Unauthorized use by internal parties will result in disciplinary action (up to and including termination). • Ensure any access by authorized external parties is protected under contract. • Unauthorized use by external authorized parties may result in contract termination and any remedies available under the contract. • All COS Users are assigned a unique User Id. • All COS users are subject to COS standards. These may include: <ul style="list-style-type: none"> o Code of Conduct o Information Access and Acceptable Use Policies o Confidentiality Statement o COS User Agreement • All COS users complete annual continuing education modules that include information privacy and security awareness. • Logging and auditing are implemented within the production environment of the COS and users are advised their activity is audited through the User Agreement. • Breaches are reported and investigated according to policies. • Apply information security classifications to each data element in all data assets connected through the COS. This will enable more efficient auditing as well as assist in classifying information products appropriately.
<p>Unauthorized collection, use, or disclosure of personal information by external parties</p>	<ul style="list-style-type: none"> • Conduct periodic system penetration tests. • Unauthorized use by external authorized parties will result in contact termination and any remedies available under the contract. • External parties/consultants are subject to COS standards and agreements. These may include: <ul style="list-style-type: none"> o COS User Agreement o COS Data Manager Agreement o IT Access Request Form • Access to authorized users within the COS is based on the need-to-know principle (authorized users will have limited access to data according to their role). • A quarterly review of individuals who have accessed the COS will be validated against the list of authorized COS users by the COS Administration. • ISAs have been established to limit use and disclosure of COS data connections by external users. • Users are provided with information that an approved external data source is under an agreement as well as specifics on any limitations for use and/or disclosure within the agreement.

Risk	Mitigation Strategy
Loss, destruction, or loss of use of personal information	<ul style="list-style-type: none"> • Only authorized users have access to personal information. • Education / training on the importance of managing personal information appropriately. • Adherence to information security classification protocols. • Use of data and services will all require detailed ISAs. • Only authorized system administrators control access rights to the COS. • As the COS application is managed by the joint governance structure of the CoA and the AAHC, the COS follows the standard CoA backup / archival policies and CoA Antivirus implementation. In the event of accidental loss of data, the administrative data (mapping/ algorithms/ configurations, etc.) can be re-created / recovered. • The core COS environment is read only for anyone except system administrators.
Contractor or business partner collects, uses, or discloses personal information in contravention of FOIP or CoA policies	<ul style="list-style-type: none"> • Ensure that any parties that information is shared with are authorized to do so. • Authentication protocols require both authorized user and authorization from external data source. • Requirements for PIAs and compliance with privacy legislation is enforced.
Use of Blockchain technology	Covered in Chapter 4:Technology
Hacking at source, corruption in API, accessing data while in transit or at rest	<ul style="list-style-type: none"> • Data must be protected during transit and while at rest. • For protecting data in transit 256-bit encryption will be applied to all sensitive data prior to moving and will use encrypted connections (HTTPS, SSL, TLS, FTPS, etc.) to protect the contents of data in transit.
Cybersecurity	<ul style="list-style-type: none"> • Work with existing, recognized cybersecurity organizations and experts to create a detailed, comprehensive cybersecurity framework and incident response plan.





CHAPTER 8: FINANCIAL

The goal of the finance administration function for our Smart Cities Challenge (SCC) proposal is to manage the financial and budgetary functions associated with the delivery of the said proposal issued. Our project will encompass, the delivery of a Community Operating System (COS) as described in Chapter 4: Technology. The Financial Management Function will fall under the collaborative structure with the partnership between City of Airdrie (CoA) and the Airdrie & Area Health Cooperative (AAHC).

The comprehensive project budget can be found in Appendix B. The budget aligns with the project plan and spans across the five-year implementation period; direct and indirect costs have been identified. Project outcomes will be delivered through two main avenues; one being an established development team and secondly, the vendor delivered COS and associated Application Programming Interfaces (APIs). Each of these components are described below including the basis for budget estimates. Other areas of expenditures have been detailed within the third section and relates to elements of governance, supporting specialists/experts and other supporting costs.

DEVELOPMENT TEAM

As identified within the technology plan, the development team will be responsible for delivering

- MyAirdrie interface
- COS preliminary assessment, detailed requirements and scope

- RFx process evaluation and selection
- The Service Inventory V1 – V4
- System implementation
- Mobile apps development V1 – V4

A team of six net new staff that include a program manager, project manager, two developers, data analyst and a business analyst will be needed to complete these outcomes. An agile method of development will be employed, and key technical roles will be brought on as work ramps up. The projected budget has taken a simplified approach and shows full year costing for these positions. It is expected that work will ramp up quickly.

- Salary cost estimates have been drawn from the CoA compensation models and are based on 2019 current rates for the identified positions. Benefit rates have also been from the CoA historical averages.
- A Consumer Price Index (CPI) factor of 2% has been applied to each year; this assumption has been made by considering the fall 2018 economic outlook prepared by The City of Calgary. ‘The Calgary & Region Economic Outlook 2018-2023’ predicts CPI rate increases year over year with a range of 1.8- 2 %.

In addition to the development team, financial, administrative and engagement supports have been included in personnel resources budget.

COMMUNITY OPERATING SYSTEM

Delivery of the COS represents the single most costly expenditure within the proposal. This indeed represents a technology solution, that will act as the foundation to enable achievement of our Challenge Statement.

Chapter 3: Project Management describes the procurement process that will be undertaken to secure a contract for service. The overall cost is projected to be \$5.5 million with \$2.7 million expected to be spent within the first year.

Our final submission speaks to the requirement of vendor resources to meet the software development, communication and engagement, and external audit functions. Software development costs have been estimated at \$4.5 million with a \$2.5 million commitment in year one and \$500,000 each year for the next four years and were estimated through consultation with three software development firms. Throughout the consultation phase, the developers have been provided with a clear objective for the intended purpose of the software, and the requirement of replicability in other communities. Communication and engagement costs have been estimated at \$500,000. These estimates were generated through consultation with a local professional services consultant with specialty services in both communications and engagement.

OTHER AREAS OF EXPENSE

A hand full of other direct and indirect costs will be needed to deliver on the outcomes. As shown within the project plan, the CoA and AAHC subject matter experts will be inputted throughout the five years as associated with the work plan.

The development team will need to be housed together physically. A complete lack of available space within the CoA and AAHC requires us to include costs for leased space. For the purpose of budget development lease rates and average operating costs were calculated at \$26 and \$6.50 / SQ FT respectively (Source: City of Airdrie Economic Development). Commercial Lease rates range from \$24-\$30/SQ FT and average operating costs for this space ranges from \$5-\$8/ SQ FT). The space requirement has been estimated at 900 SQ FT.

Training costs, supplies and office space overhead have been considered and estimated for the project. Overhead costs have been estimated at 8% of projected budget excluding technology contract.

An annual external audit is expected to be a reporting requirement. These costs have been estimated at \$160,189. These costs are clearly identified in the project budget under the following activity types; governance, legal, privacy and risk, procurement, implementation, and IT.

FINANCIAL TOOLS, ACCOUNTING METHODOLOGIES AND REPORTING AND INTERNAL CONTROLS

As the grant dollars will flow to the CoA, the CoA will excise the role of steward over public funds. The management, recording, distribution and reporting to the Federal Government will be the responsibility of the CoA. As a mid-sized Alberta municipality, the CoA has in place systems, governance and processes to meet this responsibility.

The CoA adheres to generally accepted accounting principles for local government established by the Public Sector Accounting Board and is published by the Chartered Professional Accountants of Canada. The accrual basis of accounting is used.

As detailed within Chapter 3: Project Management, the project will be delivered in line with best practice project management methodology. The CoA adheres to standard project methodology in accordance with the Project Management Body of Knowledge (PM-BOK®) with adaptations to align with public organizational practices for use of public funds, approvals and procurement legislation. Section 7 of the project plan demonstrates the elements of internal control with the requirement to:

- Have scheduled standardized project team meetings
- Document agendas and meeting minutes
- Scheduled project status updates
- Ensure project status reports conform to standard templates including budget updates, timeline updates, risk identification and mitigation strategy identification
- Schedule sponsor meetings

Monthly reporting will be required to the Steering Committee. This reporting will include project status updates, as delivered by the Program Manager and quarterly budget updates as delivered by finance staff.

IN-KIND CONTRIBUTIONS

Both the CoA and the AAHC are committed to the successful delivery of the project plan and it is anticipated that in-kind contributions will continue throughout the five-year span. The project plan has identified where specific expertise will be drawn from each of the organization, however, the success in this project. Table 8.1 and Table 8.2 indicate anticipated in-kind contribution throughout the implementation phase. The CoA will keep track of and include these costs in the reporting requirements set out by Infrastructure Canada.

Table 8.1 shows the in-kind resources that will be provided by the CoA during the implementation phase.

City of Airdrie In-kind Resources Implementation Phase	CAO – Advisory Committee member, champion, leadership and strategic direction.
	Director Office of the CAO – leadership and direction to legislative and legal services. Ensure compliance to legislation, partnership agreement and contract oversight.
	Director of Corporate Services – leadership and direction technology, finance, and accounting.
	Intergovernmental Liaison – liaison between the municipality, AAHC, other community organization and various levels of government.
	Manager Information Technology – leadership and direction to technical staff.
	Various other CoA departments such as planning, engineering, parks, public works, community development, social planning, recreation facilities. Expertise, data and input as aspects of SDOH are explored.
	City Council – support and champion



Table 8.2 shows the in-kind resources that will be provided by the AAHC during the implementation phase.

AAHC In-Kind Resources Implementation Phase	CEO – Advisory Committee member, champion, leadership and strategic direction.
	CFO – Financial expertise.
	Board Members – Advisory and health Expertise, Champions and support.
	Specialists – Health, risk and privacy, subject matter experts.
	Research and administrative supports

PERFORMANCE MEASUREMENT TOOL AND BLUE ZONES – \$3.5 MILLION IN-KIND

As indicated within our SCC application and demonstrated in Chapter 2: Performance Measurement, the Blue Zone initiative will play a significant supporting role to achieving project outcomes.

A performance measurement tool specifically adapted to measure overall health and health outcomes will be developed. The specific and targeted approach to developing this tool will be accessed through a partnership between the AAHC and Alberta Blue Cross. Performance measurements used in the Blue Zones initiative will support our SCC initiative and our Challenge Statement. The total estimated value of this measurement tool is \$3.5 million and has equal importance to both AAHC initiative and the SCC. For the purpose of in-kind valuation, it will be assumed to be one half of the valuation to the AAHC and the program and as such, the valuation will be recorded at \$1.75 million for our SCC initiative.

Stakeholder engagement and a process for engaging / involving the community put forward by the Blue

Zones Project will be leveraged. This will ultimately provide synergies to effectively engage the population to focus on “Their Own Health.” The engagement costs associated with the Blue Zones Initiative are in excess of \$4 million. The in-kind valuation of this engagement strategy and implementation plan will be \$2 million.

REVENUE GENERATION – OPERATIONAL PHASE

Revenue generation for the purpose of long-term sustainability has and is actively being researched and explored. Potential revenue streams include:

- The Customization of the open source software to meet the needs of particular clients
- Paid apps and licenses for premium services above and beyond the base model operating system access
- Advertising revenues, and sponsorship advertising

While advertising revenues represent a good sustainable revenue source, there will be a need for strategic alignment among potential advertisers with the overall objectives of the project and Challenge Statement outcomes. Sponsorship subtype advertising fits with the model of encouraging participation by unlocking rewards for users, based on actions within the system. These not only support the revenue generation for sustainability, but also encourage end user behaviours, supporting increases in overall health and health outcomes.

In order to maintain the sustainability of the COS, the revenue streams will need to meet or exceed a target of \$10,000 per month. This is expected to meet the estimated long-term annual operating budget of \$120,000, for system maintenance and software upgrades. These anticipated maintenance costs are based on estimates through consultation with software development vendors.

RISKS AND MITIGATION STRATEGIES

The CoA and the AAHC see the management of risk as an essential element to the successful delivery of the project plan outcomes. The CoA adheres to best practice project management methodology and standards status reporting at multiple level requires

ongoing analysis of risk and identification of mitigation strategies. AAHC is establishing risk management systems within their organization. Regular, expected review and reporting as described above, will manage potential risk though the project life.

Table 8.3 identifies typical risks of the project plan spanning over multiple years, and as the case with multi-year complex projects.

Risk	Mitigation Strategy
Project Management: Unforeseen circumstances and their potential to jeopardize completion of project on time and on budget.	Utilize best practice in project management to measure and monitor the project schedule and budget. Changes to scope, timing and finances will be authorized the Program Manager and the Advisory Committee
Foreign Currency Risk: Unexpected fluctuations in Foreign Currency Rates.	Negotiate all contracts for products and services in Canadian dollars. This is a risk avoidance strategy, that transfers risk to a vendor.
Economic Climate: Adverse changes in the economic climate.	The environment will be monitored regularly and changes in forecasts for CPI calculations and any market-based pricing used in the budget will be reported on through quarterly budget variance reporting.
Government: Changes in Government that have an unintended adverse effect on the planning, implementation and sustainability of the organization's initiatives.	Any changes in Government requirements for financial reporting and management of the project will be addressed through a structured change management process.
Vendor Management: Unanticipated departure, insolvency, or inability to complete contractual obligations.	Vendors will be evaluated on their ability to proceed as a "going concern." Payments to vendors will be made on a percentage of completion basis, after meeting benchmark performance deliverables. Strong, comprehensive contracts will be established prior to the commencement of work. Procurement Specialists available through CoA will be consulted and will help guide this process.
Project: An unanticipated change in scope or other key criteria of a project that may cause the project to deviate from its original plan.	Any change in scope of work must be evaluated and documented under the Change Management System, with approvals occurring by Program Manager and Advisory Committee as appropriate.
Resource Sustainability (Human): The inability to attract, retain and increase capacity / knowledge of staff.	Effective recruitment efforts to ensure all resources are qualified and under contract for the life of the project as possible. Standard human resource performance measurement methodologies will be implemented.

USE OF FINALIST GRANT

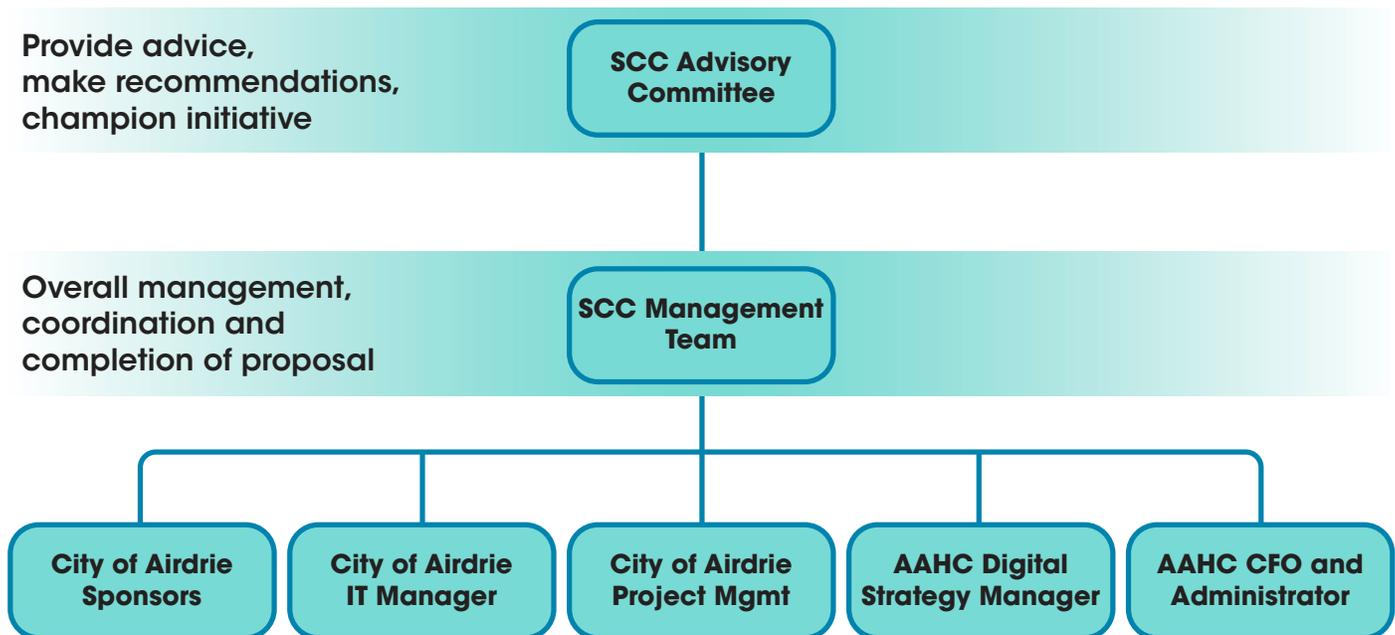
The financial support provided through the finalist grant has been instrumental in facilitating the development of our proposal. A combined partnership approach was taken as use of grant dollars was established. This stage of the competition for the \$10 million was addressed through adherence to good project management practice. In order to work effectively in partnership, our SCC Advisory Committee and our SCC Management Team was established. The Advisory Committee, having executive representation from the CoA and AAHC, had oversight and the Management Team was responsible to develop and deliver the proposal. Endorsement of the project scope as well as terms of reference occurred at the onset of the project and documented accountabilities and roles.

As is evident with the Statement of Use that follows, the grant dollars were used to acquire needed expertise

as related to communications, stakeholder engagement, legal and risk management. Both the CoA and AAHC leveraged existing staff to the best of our abilities and other services were secured where capacity or knowledge were not available through existing staff. A portion of the grant dollars was used to cover the cost of staff that were seconded to the project as well as funding for the required travel, printed material, stakeholder engagement events and meeting costs. The schedule below details the in-kind contribution for this proposal development phase. Project sponsorship as well as drawing on various subject matter experts was completed at the expense of the CoA and AAHC.

The CoA, as the party responsible for the grant, had oversight to budget. On November 18, 2018 a budget adjustment was endorsed by Council. The CoA financial systems, processes and governance were used and adhered to, including requirement of public procurement.

Figure 8.1 show the resource structure for our Smart Cities Challenge proposal development phase.



STATEMENT OF USE OF GRANT

Table 8.4 below shows how the grant funds were allocated during the proposal stage. Numbers have been rounded.

City of Airdrie Smart Cities Challenge Initiative -Proposal Finalist Grant Reporting June 2018 to April 2019				Budget by Object	Actual plus Projected	Governance	Technology	Strategic	Total
Budget per Application						100,000	115,000	35,000	250,000
Revenue									
Federal Grant			250,000	250,000					
Other Revenue									
Total Revenue			250,000	250,000					
Expenses									
Salary Wages and Benefits			19,667	30,065	18,039		12,026		30,065
Contracted Services									
Communications Advisor	59,123			56,669	45,335		11,334		56,669
Specialist	20,000			23,000	23,000				23,000
Video Production	6,000			10,850			10,850		10,850
Health Co-operative Expertise	73,500			100,000	15,000	75,000	10,000		100,000
Website	2,000			4,750	4,750				4,750
Printing				1,050	1,050				1,050
Development of Prototype	20,000			0		0			0
sub total contracted services			180,623	196,319	89,135	75,000	32,184		196,319
Legal Fees			10,000	3,950	3,950				3,950
Travel Expenses			13,210	14,738	14,738				14,738
Promotion/events/public engagement			25,000	4,436	4,436				4,436
Meeting Expenses and other Miscellaneous Costs			1,500	492	369		123		492
Total Expenses			250,000	250,000	130,667	75,000	44,333		250,000
Net			0	0	(-30,667)	40,000	(-9,333)		0

The application indicated the use of budget was to be spread across the three categories: Governance, Technology and Strategic. These three elements signify the main components addressed through the development of the proposal. The actual costs by object code have been allocated to the three categories in order to demonstrate how expenses lined up with original budget expectations.

The original application budget made the best assumptions possible at the time. Governance and Technology continued to be the two most significant elements. As the project team progressed through proposal development, the sources used to pull together data needed varied slightly from the original application.

IN-KIND CONTRIBUTION

Table 8.5 shows the many different skills, resources and expertise were needed to complete the development of the proposal.

		In-Kind Cost
City of Airdrie	CAO – Executive Sponsor	23,600
In-Kind Resources	Director Office of the CAO – Sponsor	55,680
	Director of Corporate Services – Sponsor	26,800
	Intergovernmental Liaison – Lead	60,500
	Manager Information Technology – Technology expert	36,800
	Team Leader Communication – Expert and communication specialist oversight	30,200
	Developers – MyAirdrie and data expertise	1,000
	Social Planning – community data and partners	700
	Legislative Services – legal, risk, privacy, FOIP and Governance	375
	Council Representation – Advisory Board	1,200
	Total In-Kind Costs City of Airdrie	\$234,904

AAHC	CEO – Executive Sponsor	\$15,000
In-Kind Resources	CTO (Chief Technology Officer) – Lead	40,000
	CFO – Financial Expert	5,500
	Operations Director	15,750
	Board Members – Advisory and health expertise	37,500
	Specialists – Health, risk and privacy	22,300
	Research	8,750
	Strategic Advisory	5,000
	Total In-Kind Costs AAHC	\$172,800



CHAPTER 9:

IMPLEMENTATION PHASE REQUIREMENTS

This program will remain evergreen, meaning we will periodically update and amend, based on lessons learned through evaluation of ongoing assessment activities. Throughout the implementation of this program, the City of Airdrie (CoA) will regularly review the program using the Gender-Based Analysis Plus (GBA+) model. In the detailed work plan for this project, we have accounted for the tracking and reporting of the actions outlined in this chapter to evaluate progress on an annual basis.

1. DUTY TO CONSULT WITH INDIGENOUS GROUPS

The CoA together with the Airdrie & Area Health Cooperative (AAHC) are committed to strengthening relationships with our Indigenous, First Nations, and Metis peoples through continued relationship building and consultation. Consultation is a process intended to open lines of communication to understand and consider the potential positive and adverse impacts of anticipated CoA decision on First Nations' Treaty rights, with a commitment to address concerns and make accommodations where possible.

As outlined in Chapter 6: Engagement, the CoA will use the International Association of Public Participation (IAP2) methodologies to guide stakeholder engagement with our citizens.

2. MODERN TREATY OBLIGATIONS

The CoA is committed to using the Alberta Union of Municipal Association's Welcoming and Inclusive Communities toolkits, the Status of Women's Gender Based Analysis Plus methodology, and the IAP2 methodologies. To ensure all our community is represented in our stakeholder engagement, communications, and outreach, has access to our program, and has full support of the municipality, we are using a mixed model approach.

3. COMMUNITY EMPLOYMENT BENEFIT (CEB)

We have a unique opportunity for our municipality to create employment and procurement prospects for a broader group of citizens. The CoA continues to create employment and procurement opportunities, both directly and via positive spill-over opportunities for members in our community who face labour market barriers. There are three main strategies we will employ to ensure this objective is met: 1. targeted employment strategy; 2. proactive procurement for Community Operating System (COS); and (3) curriculum development and training to meet current and future labour market demands.

The CoA and AAHC are committed to recruiting the best and brightest to join our teams. The HealthSmart Technology system and monitoring will require a sizable team to be employed. There

are many people in our community who have the skills and qualities that will enrich our organizations, many who face labour market barriers including discrimination. Working with our social agencies, community networks, and social enterprises, we will initiate a targeted employment strategy that will reach out to Indigenous peoples, women, persons with disabilities, veterans, youth, and recent immigrants. We understand that persons from these groups face various barriers to apply for jobs within Airdrie, and we will use multiple strategies to remove or address those barriers.

The HealthSmart COS, is a smart information exchange software that will be developed by the CoA and AAHC. This COS will function as a hub connecting users and our citizens, efficiently and effectively to the services in the community, allowing them to meet their health-related goals. The CoA is committed to supporting procurement opportunities that will be focused on small and medium enterprises (SMEs), and specifically SMEs with a depth of knowledge about our local community.

To enrich the COS, the CoA will support the production of HealthSmart Apps through several programs and opportunities aimed at short- and long-term skill development to meet the ever-changing labour market demands. Some of the programs that the CoA will back include curriculum development, programming training, and hackathons.

Working with our local school divisions, we will build a curriculum focused on Information Technology programming with a module on HealthSmart Apps. This curriculum will build transferable skills in our youth and prepare them for a future labour market. Additionally, once this curriculum is developed, it can be replicated in local government training courses,

available to other Airdrie citizens looking to re-train and re-skill, and to other jurisdictions.

The CoA is committed to sharing this technology with all our citizens and will promote its use and applicability by sponsoring regular hackathons. These hackathons will be open to all citizens and aim to inspire an entrepreneurial spirit. We will work directly with the school divisions to promote these events and challenge our youth to use the skills learned in the co-developed curriculum. HealthSmart Hackathons will challenge our community to develop a new set of high-demand transferable skills that will meet future employment requirements.



4. CLIMATE LENS ASSESSMENT (CLA)

The CLA does not pertain to the Airdrie Smart Cities Challenge (SCC) proposal. The total cost of projects with a primary focus on climate change adaptation, resilience, disaster mitigation, or a reduction in GHG emissions is less than the \$10 million threshold.

5. OTHER APPLICABLE LAWS AND REGULATIONS AND POLICIES

The City of Airdrie Values, a formal recognition of the values held by the CoA to all its citizens and employees, outlines the vision, mission, and core values. The CoA's vision statement states "Airdrie is a vibrant, caring community rich in urban amenities and opportunities for everyone. We value a healthy, sustainable environment connecting people and places." The CoA's Core Values are the heart of everything we stand for. Values that the CoA has committed to include: Open Dialogue; Collaborative Relationships; Learning; Ownership; Innovation and Entrepreneurial Spirit; and Encourage the Heart. The CoA's mission, Create-Serve-Care, was established

by the municipal employees and we are committed to achieving a corporate culture that supports these values.

While the CoA does not currently have a specific inclusion policy when hiring for leadership positions, we demonstrate our commitment to supporting the career advancement of women and is evident in the CoA's Senior Leadership Team that is comprised of three males and four females, and our SCC Management Team that consists of four males and seven females.

The CoA will implement Gender-Based Analysis Plus training for all staff, including front line workers, boards, and committees who are working on the SCC initiative. This training is a key component of the CoA's commitment to the principles of inclusion and recognition of the value of diversity.

In addition, the CoA acts under all applicable legislation, including:

- *Alberta Municipal Government Act (MGA)*
- *Agreement on Internal Trade (AIT)* (referred to as the Canadian Free Trade Agreement as of July 1, 2017)
- *Comprehensive European Trade Agreement* as of July 1, 2017
- *New West Partnership Agreement (NWPTA)*
- Applicable competitive bidding laws, and
- *Freedom of Information and Protection of Privacy Act (FOIP)*

The rules and regulations the CoA is held to under these various pieces of legislation are outlined in other chapters in this document.





HealthSmart
AIRDRIE

SMART CITIES CHALLENGE



BECOMING CANADA'S HEALTHIEST COMMUNITY