

# SMART CITIES CHALLENGE

Sault Ste. Marie



City of  
**Sault Ste. Marie**

## APPLICANT INFORMATION

### Q1: Community Information

|                       |                  |
|-----------------------|------------------|
| Name of Community     | Sault Ste. Marie |
| Province or Territory | Ontario          |
| Population Based on   | 73,368           |
| Indigenous Community  | No               |

### Q2: Prize Category

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

## PROBLEM DEFINITION

### Q3: Please define your Challenge Statement in a single sentence that guides your preliminary proposal. It should describe the outcome (or outcomes) you hope to achieve.

We are going to reverse population decline and youth outmigration by building the Country's most advanced youth engagement and data analytics platform which will connect our youth to their community and its opportunities and will encourage them to develop the skill sets that are required by the new economy.

### Q4: Please describe the outcome (or outcomes) your proposal seeks to achieve by elaborating on your Challenge Statement.

Sault Ste. Marie, Ontario, is located at the heart of the Great Lakes and has a population of 73,368. We have a significant aboriginal population, 9.4% of our residents identified themselves as aboriginal and 3.8% identify as Metis (compared to the provincial averages of 2.4% and 0.7% respectively). Garden River First Nation borders Sault Ste. Marie to its east and Batchewana First Nation from its east to the northwest. Sault Ste. Marie is historically known by the First Nation communities and residents as Bawating. Further, the Missinabie Cree First Nation has an office in downtown Sault Ste. Marie.

Sault Ste. Marie has recently completed an extensive community research and analysis exercise (described further in Question 5), and has clearly identified a number of indicators that support this application and demonstrate the need for the project:

### YOUTH INDICATORS

- Youth unemployment rates are significantly higher than the Provincial average (22.6% vs. 17.6% for 15-24 year-olds)
- 19% of residents aged 25-64 possess a university degree at the bachelor's level or above, significantly below the Provincial average of 31.5%
- Teen pregnancy rates are almost triple the Provincial average
- Youth test below their comparators in three of five Early Domain Indicators:
  - Physical Health and Well-Being
  - Social Competence
  - Emotional Maturity





## SOCIO-ECONOMIC CHALLENGES

- Ontario Works caseloads have increased 37% since 2007
- As of September 2017, 3,417 people (2,298 adults and 1,119 children) were receiving Ontario Works
- Single parent households have a median yearly income of \$35,020 (12.8% lower than the provincial comparable of \$40,150)
- Single parents under the age of 24 earn significantly less and have a median income of \$15,750 (nearly 10% lower than the Ontario median)
- 29.8% of young parents/people in Sault Ste. Marie rely on government transfers for their income
- The percentage of people living with moderate or severe food insecurity in Sault Ste. Marie is significantly higher than the provincial average (12.7% versus 8.2%)

## SAULT STE. MARIE POPULATION DEMOGRAPHICS

- Demonstrative net out-migration of youth (between 2011 and 2016 census the 15-24 year old cohort decreased 6.5% and the 20-24 year old cohort decreased 11.9%)
- The population is significantly older than the Provincial average (median age of 45.7 versus the Provincial average of 40.4)
- The population is steadily declining (80,905 in 1986, 75,140 in 2011 and 73,368 in 2016)
- Workforce participation rate is declining and currently at 54%
- Demographic dependency ratio is 0.75 (people under 14/people over 65)
- Residents that are 65 or older make up 28% of the city's population

The foregoing indicators, independently and in their totality, clearly demonstrate that there is a urgent community need to reverse the trends in youth outmigration and the health and socio-economic status of our young people.

The target outcomes of this project are designed to reverse youth outmigration and to improve the negative trends we have outlined. The outcomes include short and long term goals, as follows:

## OUTCOMES

- Meaningfully engage our youth - measures include number of youth downloading app, number of youth visiting technology hubs, number of youth enrolled in training programs, number of youth taking on-demand transit and number of youth volunteering with community projects
- Increase education levels and digital skills - measures include increase in number of residents with university degree
- Demonstrate the City's commitment to its youth - measures include establishment of tech hubs (responding to youth request from Youth Forums)
- Break cycle of poverty - measures include decrease in Ontario Works case load, increase in median average salary
- Create career pathways for youth - measures include decrease in young parents/people relying on government transfers for their income
- Address skills shortages and assist private sector in job creation - measures include increase in technology sector job figures, increase in number of technology companies
- Open channel of communications with youth - measure includes number of youth downloading app
- Support marginalized youth - measure includes number of youth self-identifying as a member of a marginalized youth participating in Smart City programs
- Digital inclusion - measure includes number of youth participating in Smart City programs from identified areas of low socio-economic status

The strategy for measuring progress toward the outcomes will be based on leveraging the data analysis and collection capabilities of the Sault Ste. Marie Innovation Centre. The comprehensive information database and partnerships with collaborators will enable detailed indicators to be tracked to monitor progress throughout the project.

## THE SAULT STE. MARIE SMART CITY PROJECT IS AMBITIOUS

- Youth are migrating in large numbers to city centres. Reversing youth outmigration tackles an ongoing and persistent trend in the community but also a general trend across the the country
- The education and socio-economic statistics in Sault Ste. Marie indicate that there are significant challenges in the community
- The community is largely dependent on a single industry, steel manufacturing, which experiences regular economic downturns. Algoma Steel is currently under the Companies' Creditor Arrangement Act (CCAA)

From a provincial and national perspective, this project is also ambitious in that it provides potential to address trends present across the country:

- Skills shortage – the technology sector is currently experiencing and forecasting a significant shortfall in skilled workers. The Information and Communications Technology Council released a report in 2015 saying Canada needed 182,000 workers to fill positions by 2019
- Small-medium cities challenge – a large number of small-medium sized cities across Canada are experiencing outmigration and an aging demographic. It is vital for the future of Canada that these communities are re-invigorated and can return to prosperity
- Automation in the workplace – a number of studies have examined the impact of artificial intelligence and automation on the future of work. It is clear that a number of current career positions will be eliminated by technology. At the same time, a number of new career opportunities will emerge but these will require more advanced training
- First Nations and Metis Communities – one of the fastest growing population segments in Canada is within the First Nations communities. Nearly 1.7 million people identified as Aboriginal in the 2016 census with a growth rate more than four times that of their non-Indigenous counterparts (Statistics Canada)

Despite the challenge presented by local indicators and these national trends, community leaders in Sault Ste. Marie believe there is reason for optimism and an opportunity to invest in the community to engage youth and build prosperity for the future. The City is confident its Smart City project is achievable for the following reasons:

- Ability to leverage best practices and existing technologies
- Community collaboration
- Quality of life appeal
- The rise of remote work options

Ability to leverage best practices and existing technologies - Our Smart City project can benefit from best practices gathered as part of this application and further research/refinement as we move forward in the second round of application development. We do not have to "re-invent the wheel" and can take advantage of tested technology platforms, utilize existing youth training programs and leverage the experience of local and external subject matter experts to undertake the technical portions of the project. The provision of municipal broadband and WiFi services has also been undertaken in other communities and demonstrated to generate a positive outcome.





## COMMUNITY COLLABORATION

The City has been in discussion with partner community organizations in the development of this Smart City application and there is an enthusiasm and willingness to work together to invest in our youth. Being a smaller city provides a distinct advantage as it is possible to be nimble and gather the leaders of the major community organizations together to implement this type of project. Letters of support have been provided by our university, college, school boards, social service organizations, library, economic development organizations, utility and private sector companies in the community. We envision that further community support and participation will be generated as we move through the next phase of the Smart City challenge. Additionally, we will be engaging youth groups across the community including the Mayor's Youth Advisory Council to participate in the development of the project.

## QUALITY OF LIFE APPEAL

Sault Ste. Marie is based at the heart of the greatest fresh water resource in the world, surrounded by natural power generation and a stone's throw to Canada's largest trading partner. The community has access to some of the best mountain biking, skiing, hiking, sailing, camping and cottage country in North America. The community offers youth the opportunity to own their own home at an affordable cost, avoid congestion and take advantage of a lifestyle that provides modern city amenities with easy access to amazing outdoor recreational opportunities. Demographics also indicate that as baby boomers retire there will be a significant number of job opportunities for young professionals. In order to get ahead of this curve, Sault Ste. Marie must engage with their youth and build a community that they envision staying in and establishing as their home.

## THE RISE OF REMOTE WORK OPTIONS

The rise of professionals working remotely from locations around the globe presents unique opportunities for rural and remote communities. The skill set shortage has set the stage for employers seeking talent from across the globe to meet their needs. This presents an opportunity for communities with broadband capacity and demonstrated capabilities in digital skills. Further, the cost of housing and living in major metropolitan areas puts pressure on both compensation levels for employers and on the employees themselves as they try to establish their careers and support a quality lifestyle. Living in a smaller, more affordable community can appeal to both employers and employees in this context.

The City has done initial analysis of the costs involved in establishing its Smart Cities project. These estimates are preliminary and indicative but demonstrate that the community will be able achieve its objectives utilizing the \$10M budget of our prize category. In the next phase of project development (utilizing the \$250,000 budget), the City will obtain quotes from corporate service firms and technology suppliers to refine this budget. A high level overview of the budget is provided below:

|                                             |                             |
|---------------------------------------------|-----------------------------|
| Tech Superhubs                              | \$2,700,000 <sup>.00</sup>  |
| Youth Tech Training & Engagement Programs   | \$3,654,000 <sup>.00</sup>  |
| App Development                             | \$220,000 <sup>.00</sup>    |
| On-Demand Transit                           | \$1,860,000 <sup>.00</sup>  |
| Broadband and WiFi Upgrades                 | \$500,000 <sup>.00</sup>    |
| Data Platform Development (GIS & Open Data) | \$1,066,000 <sup>.00</sup>  |
| Total                                       | \$10,000,000 <sup>.00</sup> |





The \$10M Smart City Challenge budget provides the community with the means to properly establish all the components of the youth engagement platform. Further, the Sault Ste. Marie Smart Cities project ties directly to the future prosperity of community. The data and indicators are clear – in order to revitalize the community and achieve prosperity the community must take bold steps to invest in their youth. It is critical that the community retain its youth in the future and that the educational levels, health and well-being of its youth improve.

Research has shown that a student not reading at grade level by the end of Grade 3 is four times less likely to graduate from high school and six times less likely to graduate if the student is from a low-income family. Further, studies have also made a clear connection between literacy rates, high school drop-out rates and crime.

The economy of the future will see the automation of many jobs and the requirements for skilled training will only increase. We must ensure that our youth have the necessary tools and support mechanisms required to advance through the education system and maximize their potential.

Investing in the community's youth using a smart city approach provides a significant opportunity for Sault Ste. Marie to address a number of strategic goals. The most pressing problems in the community are youth outmigration and the declining health, well-being and education levels of our youth. The Sault Ste. Marie Smart City Challenge project provides advanced technology infrastructure and services within the community that will address these significant challenges.

It is not an understatement to say that the future prosperity of the community largely depends on the development and retention of its youth. For too long Sault Ste. Marie has exported a significant percentage of its best and brightest youth. To break this cycle requires a significant, coordinated effort to break with the past.

**Q5: Please describe how your community residents have shaped your Challenge Statement. Describe your plans for continuing to engage and involve them in your final proposal going forward.**

The timing of the launch of the Smart Cities Challenge fit incredibly within the City's current efforts. The City of Sault Ste. Marie began a transformation process through the creation of a new Corporate Strategic Plan with a vision, "To be the leading innovative, dynamic and efficient municipal corporation in the Province of Ontario." Further, the City restructured to establish a new Community Development and Enterprise Services department.

Further to that, in response to a significant economic downturn the City led a comprehensive community engagement and planning process in collaboration with the Ministry of Advanced Education and Skills Development beginning in March 2016 and concluding in November 2017.

An Adjustment Committee (AC) was formed to study and make recommendations on how to build a more resilient community. The purpose of the AC was to develop a multi-functional plan for the broader community as a whole. The AC had membership from a wide variety of sectors including business, economic development organizations, education, employment service providers, health services, the municipality, social services and unions. The AC was tasked to think beyond specific sector needs to address urgent issues for the whole local economy including community infrastructure, social development, labour force development, education and training development, and business retention and expansion.

To support the work of the AC, five subcommittees were struck including Cultural Vitality, Environmental Sustainability, Social Equity, Economic Diversity & Growth and Labour Force. The subcommittees engaged local subject area experts in identifying additional research for the AC to review, determining the community's current status and assessing assets and gaps within each sector. In total, seventy-nine individuals from across the community shared their knowledge and insight with the AC through the subcommittee process.



A priority of the AC was to engage with the broader community by providing easy access to its research, and encouraging dialogue on how Sault Ste. Marie could improve its resilience. Approximately three months were dedicated to gathering data from different sectors, consulting with experts and fact checking. The result of this process was thirteen “Reality Check” fact sheets that summarized the current situation within Sault Ste. Marie and covered the following topics:

- Arts and Culture
- Downtown
- Economic Growth and Labour Force
- Environmental Sustainability
- Health and Wellness
- Learning (JK – 12 Education)
- Post-Secondary
- Social Equity
- Transportation
- Youth
- Poverty Reduction
- Tourism

All of this material was made available to the community and is still available at [www.futuressm.com](http://www.futuressm.com). The research provided a key discussion point for the community engagement that followed. The City developed a social media presence, created [www.futuressm.com](http://www.futuressm.com) and a series of videos to accompany the fact sheets, and invited the residents to provide comments and feedback to the AC engagement with the community began. The website, videos and other social media were launched in late January, 2017 resulting in over 4000 ‘hits’ and dozens of comments, ‘likes’ and emails.

Following the website/video launch, a series of open houses and consultations were held to dialogue with the public about the future of Sault Ste. Marie. The total engagement was as follows:

|                                                          |      |
|----------------------------------------------------------|------|
| Committee Members,<br>Subcommittees<br>& Resource People | 100  |
| Open Houses<br>(AC and partner-sponsored)                | 149  |
| Presentations                                            | 108  |
| Email submissions                                        | 35   |
| Social Media and Website                                 | 4498 |
| Total                                                    | 4890 |

The AC engagement process helped develop a broader understanding of the trends that are negatively impacting the City, the need to change and adjust to those trends, and the need for a new and more holistic approach to community development.

In the end, the AC utilized the extensive work undertaken to develop a set of recommendations which has become known as “Future SSM – a Common Cause and New Direction for Sault Ste. Marie”.

On June 26<sup>th</sup> 2017, the recommendations were presented to City Council with the request that Council endorse the plan and direct carriage of the plan on the City’s behalf to staff. On August 21<sup>st</sup>, 2017 City Council received a report from City staff on the implementation plan for AC recommendations and approved an allocation of funds towards the implementation. The final, full report of the AC was released on November 20<sup>th</sup> 2017.

The foundation of the FutureSSM project is based on the fact that it is a community plan. It was developed by community members and the success of the plan will hinge on the ongoing involvement and commitment of time and resources by community organizations and citizens.





When the Smart Cities Challenge was launched, the community had just recently completed the comprehensive community engagement exercise and this community development strategy greatly helped to inform this application.

The Sault Ste. Marie Innovation Centre also held two Youth Forums in 2014 and 2015 which provided great information on youth needs in the community and informed this application. As well a Youth Survey was completed in 2014 directed to 14 to 19 year olds that had 738 participants.

Specific to the Smart Cities Challenge, the City of Sault Ste. Marie undertook the following activities:

- Mayor's Taskforce for Smart City Challenge - On October 10, 2017 Sault Ste. Marie City Council passed the following resolution:

Whereas Infrastructure Canada is developing and will be running a Smart Cities Challenge;

Whereas the Smart Cities Challenge will be soliciting submissions from Cities and First Nation communities of all sizes across the country;

Whereas there is are substantial funding opportunities for a City or First Nation if its submission wins the Smart Cities Challenge;

Whereas Mayor and staff have met with a representative of the Smart Cities Challenge and expect the competition to begin by the end of the year;

Whereas the City of Sault Ste. Marie has begun to prepare to participate in the Smart Cities Challenge and wants to ensure it submits the best bid possible;

Now Therefore Be It Resolved that City Council endorse the City of Sault Ste. Marie making a submission to the Smart Cities Challenge and directs the Mayor to strike a Smart Cities Challenge Task Force including City staff, the Sault Ste. Marie Innovation Centre and the Sault Ste. Marie Economic Development Corporation along with any other partners or parties necessary to develop a compelling Smart Cities submission.

- The Mayor's Taskforce met six times for discussions as a group and to receive education presentation sessions with private sector companies. Membership of the Taskforce included representatives from the City of Sault Ste. Marie, SSM Innovation Centre, SSM Economic Development Corporation, Social Services and SSM PUC. In addition, meetings were held with members of the Algoma District School Board, Algoma University and Sault College.
- Two public information and feedback sessions (Feb. 7<sup>th</sup> 2018 and April 19<sup>th</sup> 2018 with 50 attendees total). Both events included City press releases and social media support which also generated local media coverage. An email address ([smartcities@cityssm.on.ca](mailto:smartcities@cityssm.on.ca)) was also created and provided to the attendees and the public to submit any additional comments, feedback or suggestions.
- IT Sector information and feedback session was held on February 14<sup>th</sup> 2018 with 25 IT professionals in attendance. Meetings and conference calls with private sector companies
- The Mayor and Deputy CAO, Community Development and Enterprise Services attended the Microsoft EMPOWERING Smart Cities event in Toronto February 28<sup>th</sup> 2018



# PRELIMINARY PROPOSAL DETAILS

## Q6: Please describe your preliminary proposal and its activities or projects.

The preliminary proposal for the Sault Ste. Marie Smart City Challenge is to invest in its youth in order to revitalize the community and accomplish a number of strategic goals. As outlined, the Smart City Challenge came at an opportune time for Sault Ste. Marie as it recently completed a strategic planning exercise that involved a great deal of community research, engagement and discussion. Our challenge statement and proposal is informed by this work along with specific input sessions for the Smart City Challenge.

It must be emphasized from the outset that a key component of this project will be involving youth in the actual design and development of each component of this project. This provides youth with the opportunity to inject their ideas, take ownership and feel connected and excited about their community.

The project as currently envisioned includes the following key components:

- 1) Data Layer
- 2) Infrastructure Layer
- 3) Engagement Layer

Each layer will be described in more detail below to outline the specific project and activities.

## 1. DATA LAYER

### 1.1. GEOGRAPHIC INFORMATION SYSTEMS (GIS) PLATFORM

As described elsewhere in this application, Sault Ste. Marie is blessed with a unique and award-winning GIS solution that provides an existing, shared data platform. Recognized as one of the most advanced GIS platforms in North America, this solution ties City, utility, health, social services, education and emergency services information together into a shared platform used to solve community problems. This unique data platform and the skilled data analysis experts at the Sault Ste. Marie Innovation Centre will provide services to track indicators within the project. Further, it is envisioned as part of the project that the GIS platform can be further enhanced and expanded to track and analyze youth indicator metrics and also get youth involved in data analysis projects.

### 1.2. OPEN DATA PLATFORM

While Sault Ste. Marie has had tremendous success with its GIS platform, it has not previously embarked on an open data initiative. To date, the team at the Sault Ste. Marie Innovation Centre has performed data analysis projects for clients, published a number of reports and made useful information available to the public.

On April 9<sup>th</sup> 2018, City Council approved the following resolution:

Whereas many government agencies including municipalities are developing open data plans and open data catalogues to make more data available to the general public;

Whereas sharing data and datasets with the general public can make the city more transparent, accountable and accessible;

Whereas sharing data and datasets with the general public encourages engagement and participation and can lead to private sector economy and/or opportunity;



Whereas an open data plan can assist in the development of the community as a 'Smart City' and form a part of the necessary foundation;

Whereas the City does not have an open data plan or strategy;

Now Therefore Be It Resolved that the appropriate City staff be requested to research, develop and draft an open data plan and strategy for the municipal corporation and present the same to Council for review and approval.

It is the desire of the City to utilize the Smart City Challenge funding to help the City of Sault Ste. Marie leverage the rich data platform that it currently operates, utilize best practices from across North America and launch a comprehensive open data platform for the community.

As it relates to this project, it is envisioned that the open data platform will serve as a valuable teaching tool for the youth of the community. Through information and training sessions, youth will be able to learn fundamentals of data analysis and the mapping of data. Further, having access to this data will enable new projects to emerge where youth of the community can be involved in analyzing data, identifying issues and developing solutions and ideas to solve community problems. This provides a powerful engagement process for youth to work within their community and be part of making real, positive change in the community.

## 2. INFRASTRUCTURE LAYER

### 2.1. BROADBAND INFRASTRUCTURE

A key component of the project is ensuring that the Tech Superhubs (discussed further below) have advanced broadband capabilities to meet the needs of the youth. Part of the next phase of the project will involve analysis of the best method to provide these broadband services. A number of ideas have been discussed including the use of existing private sector broadband providers, developing a municipal broadband network (possibly in conjunction with SSM PUC) or exploring a partnership with Orion to provide these services.

### 2.2. DOWNTOWN WIFI

Installing a downtown WiFi network provides accessible internet service to some of the lowest socio-economic status neighbourhoods in the community. These neighbourhoods have a high percentage of the new births in the community and it is critical that youth in these areas have the access to the basic infrastructure required to develop skills in the digital economy. Digital inclusion is defined in the Building Digital Communities report as the "ability of individuals and groups to access and use information and communication technologies (ICTs). Digital inclusion encompasses not only access to the Internet but also the availability of hardware and software; relevant content and services; and training for the digital literacy skills required for effective use of information and communication technologies".

Further, beyond access equity issues, downtown WiFi signals that the community is forward thinking and interested in building a future for our youth. This is important to attract and retain youth, demonstrate a spirit of innovation and provide youth with the services they have come to expect in modern cities.





### 3. ENGAGEMENT LAYER

A truly Smart City is one that utilizes technology and data to engage with their citizens in new and inspiring ways. At the heart of our project is the engagement layer which will ensure that all youth have the opportunity to learn, upgrade their skillsets and engage technology in ways that will benefit their future career potential, health and well-being.

It is also important to re-emphasize that each project component, especially in the engagement layer, provides a valuable opportunity to engage with youth to obtain their thoughts, ideas and feedback into the eventual product/solution that is delivered for the youth of the community.

#### 3.1. YOUTH TECH

A central part of the Sault Ste. Marie Smart City project is the educational programming that will be made available to youth. To be a truly Smart City, the community feels strongly that it is not enough to simply provide internet access and technology devices to youth. Through a suite of programs and digital experiences that engage and inspire, Sault Ste. Marie youth will become involved in their community, learn new skills and become aware of new opportunities that allow them to remain in their hometown and participate in the digital economy.

The real magic will come from a strategic and thoughtful approach to delivering training and content that is:

- Age appropriate to the different age groups and capabilities of youth
- Engaging, fun and inspiring (utilizing gamification to build excitement and participation in programs)
- Tailored to reach different youth groups (e.g. Indigenous and Metis communities)
- Appealing to youth with different interests (arts, technology, social impact, etc.)

It is envisioned that educators and private sector companies will work with staff to develop and provide engaging content. Certainly, we will not re-invent the wheel as there are a number of compelling programs available to teach different aspects of technology.

With that said, tailoring that content to the population in SSM, adjusting teaching methods to be appropriate to the skillsets of a particular group and inspiring students to achieve greater capabilities is where a great deal of effort will be placed. The community already has had a positive experience with a game development program called Protolaunch which was geared to high school age children involved in a video game development program over the summer months.

The objective of the Youth Tech program is also to engage and empower youth within their community. Youth will be encouraged to employ new skills to create beneficial community technology tools that support organizations in the community. It is also envisioned that youth will be part of training programs in delivering courses to younger students, seniors and others in the community.

Finally, private sector companies will participate in the training programs (initial letters of support provided) and provide expertise and in-kind support including:

- Advisory participation providing insight into the skills needed in the future
- Guidance on the types of training programs that would be useful
- Mentorship opportunities with youth
- Leading training programs or making staff available for guest teaching session



The goal will be to create programming that benefits the four pillars of community development:

- Economic Diversity & Growth
  - Science, technology, engineering and math (STEM) skill development
  - E-commerce knowledge and proficiency
- Arts and Culture
  - Film and digital media technology training
  - Artistic tools and software training
- Social Equity
  - Indigenous and Metis cultural projects
  - Early years development programs
  - Skills development training
- Energy and Environment
  - Smart grid tools and technology training

The objectives of the Youth Tech program are to:

- Retain and attract youth
- Engage youth in community development
- Demonstrate the community cares about youth
- Break cycles of poverty
- Build the labour force of the future
- Build lasting partnership with private sector partners
- Increase education levels within community
- Focus on “where the puck is going” with digital skills and literacy
- Foster digital inclusion

We have placed significant emphasis on this portion of the project because we believe that having the dedicated resources and a thoughtful, strategic approach to engaging with youth in the early design stage of the program will be important to its success. Further, ensuring that programming is designed properly to appeal to different age groups, engages youth and creates ongoing participation is a critical part of this project. Once completed, the programs and design can be shared with other communities across Canada that are in a similar position to Sault Ste. Marie.

### 3.2. TECH SUPERHUBS

To truly engage with youth in the community Technology Superhubs will be established in four locations in each of the major areas of the community: downtown, east end, west end and north-central. These hubs will provide dynamic learning centres with access to advanced technology, opportunities to sign out technology, courses geared to specific age groups and volunteer opportunities for youth to mentor others.

Beyond advanced broadband capabilities, the hubs will provide a host of technology options for youth including laptop computers and tablets with access to advanced software solutions that youth are not typically able to afford. It is also envisioned that 3D printers and maker technology will also be included within the hubs.

The Tech Superhubs will provide services and programming for all youth age groups:

- Early years
- Primary
- Secondary
- Post-secondary
- Young professionals

In addition, there will be a purposeful element to the design and operation of the hubs to provide a safe space for youth to drop in, socialize and simply be part of the atmosphere and activities taking place at each facility.





### 3.3. YOUTH APPLICATIONS

A key component of the project is developing engaging apps that will appeal to youth to download and utilize. This creates an important communication channel that is currently lacking in the community. Careful design will need to be undertaken to create professional, appealing apps that provide useful information.

Based on discussions to date, it is envisioned these apps will include such things as:

- Youth Events Calendar
- Transit Information
- Health Information and referrals
- Multi-cultural services
- Youth directed or developed apps

The importance of this app is the engagement with youth. Clearly, this won't apply to the earliest years, however, the use of smart phones by youth is increasing and at younger ages. The need for these apps has been identified through numerous community discussions where many youth felt disconnected and were unaware of the events, services and opportunities available to them in their community.

### 3.4. ON-DEMAND TRANSIT

Ensuring that all youth can and do attend the Technology Superhubs is the goal of the On-Demand Transit system. New technologies provide an opportunity to re-imagine public transit and move from a system of rigid routes and schedules to a dynamic, on-demand network. Youth will be able to request rides through a mobile app or a telephone call and the technology back end will inform the driver and find the best route to aggregate rides and allow for efficient shared trips. A working name for this service is the "Ingenibus".

A primary goal of this pilot is to ensure youth in neighbourhoods with low-socio economic status can get to the Tech Superhubs easily. Given two of the hubs are being planned to be located within existing community centres, this also provides an opportunity to ensure children can participate in both skills development and physical recreational activities. It is envisioned that the City will pilot an electric community bus for this service which may also add some extra appeal to youth in utilizing on-demand transit. The City will work with project partners including Social Services to ensure we effectively engage youth throughout the community.

The engagement layer of the project is transformative and supports deep, systemic, and sustainable change within the community. The project components combined have the potential for large-scale impact for community residents and, in particular, youth. The proposal is open, interoperable, scalable, and replicable and the community will not be locked-in with specific vendors to prevent other communities from leveraging the training programs and data structures for other uses.





**Q7: Please describe the ways in which your preliminary proposal supports your community's medium and long-term goals, strategies, and plans.**

The Sault Ste. Marie Smart Cities project clearly aligns with medium and long-term goals, strategies, and plans established in the community.

In 1999 the City of Sault Ste. Marie established the Sault Ste. Marie Innovation Centre (SSMIC). This non-profit organization has a vision to build and actively develop an innovative science and technology hub: a perpetual generator of knowledge and prosperity in Sault Ste. Marie and the Algoma region. It has focused on driving business growth, facilitating research and commercializing innovation in globally significant areas of science and technology through partnerships, expert advice, community development, business incubation and sector development activities. In addition, it has operated youth outreach programs in the past to try and engage youth in the community.

In 2014 and 2015 Youth Forums were organized by SSMIC in conjunction with the Province of Ontario, the Algoma Workforce Investment Corporation, Sault Ste. Marie Economic Development Corporation (SSMEDC) and Employment Solutions. These forums were well attended with a high degree of energy and input from community youth. The following were the five top recommendations from the 2015 forum:

1. Create a Youth Hub
2. Finalize Youth Portal
3. Increase Mental Health Services and Programs
4. Create Alternative Post-Secondary Options
5. Build Relations with City Council and Mayor's Youth Advisory Council

The FutureSSM community plan just completed and authorized by Council in August 2017, includes many recommendations that align with the activities proposed in our Smart City application. These include:

- EGD-03 — Encourage and support collaboration of post-secondary institutions with industry to build a labour force for the future
- EGD-04 — Encourage our post-secondary entities to establish programs in the emergin areas such as block chain, Artificial Intelligence & 3D printing
- EGD-06 — Develop world class Internet expertise with the best high-speed Internet connectivity in Ontario and best of breed utilization of the internet to market and sell globally
- SE-02 — Strengthen the relationship with Indigenous peoples and communities
- SE-04 — Exceed the Provincial average on recognized domains of growth and development for children and youth

In addition, a volunteer group emerged from SSMIC's "Women in Tech" event this past year that is focused on undertaking mentoring for youth in the technology sector. Sault Technology Engagement and Mentoring (STEAM) is a newly formed group whose mission is to "Engage and inspire community awareness in science and technology opportunities and in so doing, enable growth in the local tech industry and positively impact our local economy". They have recruited individuals excited about working with technology and willing to share their passion with our local youth in elementary, high school and post secondary to foster an interest in tech careers.

This project is clearly ambitious and the Smart City funding provides an opportunity to develop and implement a comprehensive program with youth that will deploy advanced technology and data analysis with the goal of reinventing the skillset of the community and revitalizing the City with a workforce aligned with the direction of the 21<sup>st</sup> century economy.



## Q8: Please describe your community's readiness and ability to implement your proposal successfully.

SSM is ready to develop and implement the Smart Cities Challenge project.

### COMMUNITY READINESS

The community has recently completed an extensive community strategic planning exercise. The FutureSSM project has identified the development of the Information and Communications Technology sector, youth engagement and youth retention as community priorities. Over 25 letters of support have been received from organizations across the community for the FutureSSM initiative, a Community Development Roundtable has been formed and community leaders are eager to participate in moving the strategy forward. There is a true sense that the community must act with a sense of urgency and align its efforts in order to achieve the goals outlined in the FutureSSM report.

### COMMUNITY ABILITY

Perhaps the best example to demonstrate the community's ability to implement a smart city project comes from another complex project which began in 1999 and continues to date. In 1999, the City took the lead in establishing the SSM Innovation Centre (SSMIC). Early in its mandate, SSMIC undertook a project with the City of SSM and SSM Public Utility Commission (PUC) to implement an Integrated Geomatics System (IGS) platform. SSMIC hired local staff to form a GIS department that worked with consultants to train GIS professionals and operate the GIS solution. The resulting GIS solution developed into one of the most comprehensive municipal GIS systems in the country. Practically everything you can see in the community is captured and maintained in the database along with demographic information. Data layers include:

- Parcels
- Addressing
- Zoning
- Official Plan
- Water
- Wastewater
- Electric
- Telecom
- Transportation
- Orthophotography
- Tourism
- Parks
- Terrain
- Cultural / Heritage Features
- Buildings
- Parking Lots / Meters
- Businesses
- Census data

This comprehensive data set has improved municipal operations and created local employment for GIS professionals. The project is a true success story and a model for municipal GIS platforms and it has evolved beyond its original model.







What began as a community-based municipal solution with two clients evolved into a regional solution that serves over fifty organizations from across Ontario. The SSMIC GIS department used the municipal GIS platform to engage external organizations. These organizations were able to better understand their data and rely on it to improve service delivery. Perhaps more importantly, the GIS platform enabled organizations that struggled to collaborate previously to share appropriate data and collaborate, leading to improved service delivery and efficiency system-wide.

The SSMIC GIS department recently rebranded as Acorn Information Solutions. Acorn currently has a staff of twenty professionals and is developing into a true “information utility” that serves partners in the health, social services, economic development, education and non-profit sectors among others. Acorn has received international recognition and been the subject of numerous articles and keynote addresses including:

#### Recognition

- URISA 2015 Best Public Sector GIS in Ontario
- URISA 2012 Best Public Sector GIS in Ontario
- URISA 2012 Innovation in GIS: Vulnerable Persons Registry
- ESRI Canada 2012 Award of Excellence
- URISA 2009 Best Public Sector GIS in Ontario
- 2008 International ESRI Health GIS Communication Award
- ESRI 2007 Special Achievement in GIS Award (Health and Human Services)
- ESRI 2006 Award of Excellence
- URISA 2006 Best Municipal GIS Award
- URISA 2006 Leadership in the Field of GIS
- URISA 2005, Silver Award: GIS Leadership in Ontario
- 2005 Award for Commitment to the Community – SSM Police
- URISA 2003 Best Municipal GIS Award
- 2003 Designated Most Comprehensive GIS Dataset in Canada by ESRI Canada
- ESRI 2002 Business Partner Award
- nGenera lists the CGC as one of the 7 best examples of leveraging public data for public good (2008)
- Canadian Urban Institute touts the CGC as the first real information utility (2006)

#### Publications

- Municipal World
- ArcNews
- MISA
- URISA
- HealthyGIS

#### Keynote Addresses

- Big Data Congress, Halifax, Nova Scotia
- Health GIS, Washington, DC
- ESRI Users Conference, San Diego, CA
- Over 50 presentations across Ontario

Acorn has developed strength in health data analysis and health innovation. Examples include data analysis projects such as:

#### Child health and development

- Sault Area Hospital Emergency Room Study examining children’s injuries
- Prevalence of low birth weight babies across community neighbourhoods
- Mapping location of children’s services to optimize service delivery
- Early Development Indicator test scores analysis by neighbourhood

#### Public Health

- West Nile Virus analysis leading to improved detection and mitigation
- Hospital infection control (C. Difficile) case analysis within Sault Area Hospital
- Lead in drinking water analysis and notification project

#### General

- Vulnerable persons registry development to create a registry and notification system for vulnerable persons in the event of an emergency or power outage
- Placement of audible crosswalk equipment based on neighbourhood demographics and need
- Library utilization rates across neighbourhoods in the community
- Child participation rates in sporting activities per neighbourhood



The City of SSM has also created the internal capacity to implement this project. The City restructured in 2016 to create a new service area called Community Development and Enterprise Services (CDES). This service area contains new functions related to community development as well as Planning, Building, and Community Services (including Recreation and Culture, Transit, Arenas and Community Centres). The CDES service area is responsible for implementing the FutureSSM project and is currently hiring six new staff to focus on this project. The roles include a Project Manager, Communications Coordinator, Arts and Culture Coordinator, Labour Force Development Coordinator, Social Equity Coordinator and Film and Digital Media Coordinator. Should the community be successful in its Smart City application, a new team will be in place that can assist with the implementation and coordination of the Smart City project.

Beyond internal resources, the SSM Smart Cities project plan will engage local organizations and third party companies with subject matter expertise in order to ensure the objectives and outcomes are met. In preparing this proposal the City has discovered a great deal of information and material, that is already developed and implemented in cities across North America. Leveraging some of this tried and tested material while tailoring it to meet local needs, will help to minimize the risk of the project. Utilizing this combination of internal staff, external experts and available tools & research will help to address any organizational or project weaknesses.

**Q9: Describe your plan for using the \$250,000 grant, should you be selected as a finalist. Provide a high-level breakdown of spending categories and an accompanying rationale.**

The \$250,000 grant will be utilized solely to advance the Sault Ste. Marie Smart Cities project.

**INTERNAL CAPACITY BUILDING — PROJECT MANAGER**  
The Project Manager will be involved in the following job functions:

- Partner Collaboration and Coordination – work to engage youth and project collaborators to obtain further insight and ideas; create a project charter and framework and finalize the details of the Smart Cities project
- RFP Development – coordinate the development of RFP's for third party service providers
- Communications Updates – provide regular updates with relevant stakeholders and the general public
- Application Development – lead the preparation of the final package to submit to the Smart Cities Challenge
- Private Sector Liaison – liaise with local and external private sector proponents
- Sustainability Plan – develop the project sustainability plan





## SUBJECT MATTER EXPERTISE

The City will also engage third party subject matter experts to assist in finalizing our submission:

- 1) Business Plan Development – assist in analyzing and finalizing the business plan for the operation of the Youth Tech and Tech Super Hub project components.
- 2) Program Mapping and Development – Finalize the approach for the development of programs and course outline for the Youth Tech project component (avoid “re-inventing the wheel” and take advantage available programs, provide research and data to recommend options for different age levels and identify any gaps that may exist).

Further, this work will allow the City to engage directly with Indigenous, multi-cultural and youth groups to obtain their insight into desired programming and plan an approach to tailoring the programs offered in SSM.

3) Infrastructure Roadmap – Engaging a third party technical expert to review current infrastructure in the community and recommend a path forward for broadband services to the Tech Superhubs and options for municipal WiFi. Initial research has been undertaken to investigate what has been accomplished in other communities and the rough costs for these projects. Further, the City has had a member of the Sault Ste. Marie PUC (local utility) as part of the Smart Cities Taskforce and has learned an option may exist to utilize a recently completed LED streetlight project to enable municipal WiFi. In addition, a third party can provide recommendations on potential avenues to partner with existing private sector infrastructure and service providers, as well as non-profit organizations such as Orion, to achieve the desired outcomes.

4) App Development Conceptual Design – A key component of the project will be the development and launch of engaging smart phone applications that will be utilized by youth in the community. There are a number of features of and services that have been identified that may attract youth to download and use the app(s). These features have to be vetted with youth and we would like to obtain their ideas for useful components of such applications. A conceptual design of the application(s) and the specifications for the app(s) will be completed.

|                                   |           |
|-----------------------------------|-----------|
| Smart City Project Manager        | \$110,000 |
| Business Plan Development         | \$50,000  |
| Program Mapping and Development   | \$50,000  |
| Infrastructure Roadmap            | \$20,000  |
| App Development Conceptual Design | \$20,000  |
| Total                             | \$250,000 |





**Q10: Describe the partners that are or will be involved in your proposal. Where partners are not yet determined, describe the process for selecting them.**

Sault Ste. Marie experiences the benefit of being a relatively small city with organizations that are used to and supportive of collaboration.

In the case of the Smart Cities Challenge, a number of organizations have been approached and expressed interest in supporting the application. The theme of investing in our youth is one that is a shared passion of organizations across the community and the following organizations have agreed to participate:

Algoma University — offers over 30 different academic programs, spanning the liberal arts, sciences, and professional disciplines. As a partner with Shingwauk Kinoomaage Gamig (SKG), Algoma University has a special mission to cultivate cross-cultural learning between Anishinaabe (First Nations, Métis, and Inuit) populations and other communities in Northern Ontario.

Sault College — offers 34 programs across a wide array of disciplines and responds to the postsecondary educational needs of more than 4,500 part-time and full-time students each year. Sault College has one of the few certified Indigenous language immersion certificates offered in North America.

Algoma District School Board — serves a geographic area of 70,534 square kilometers and encompasses communities along the north shore of Lake Huron

Huron Superior District Catholic School Board — serves the region's Catholic schools and encompasses a large geographic territory similar to ADSB.

Sault Ste. Marie Innovation Centre — a non-profit organization which functions as a catalyst for economic development and diversification in the science and technology sectors in the region.

Economic Development Corporation — an independent not-for-profit agency to be the lead organization in the community with respect to economic development.

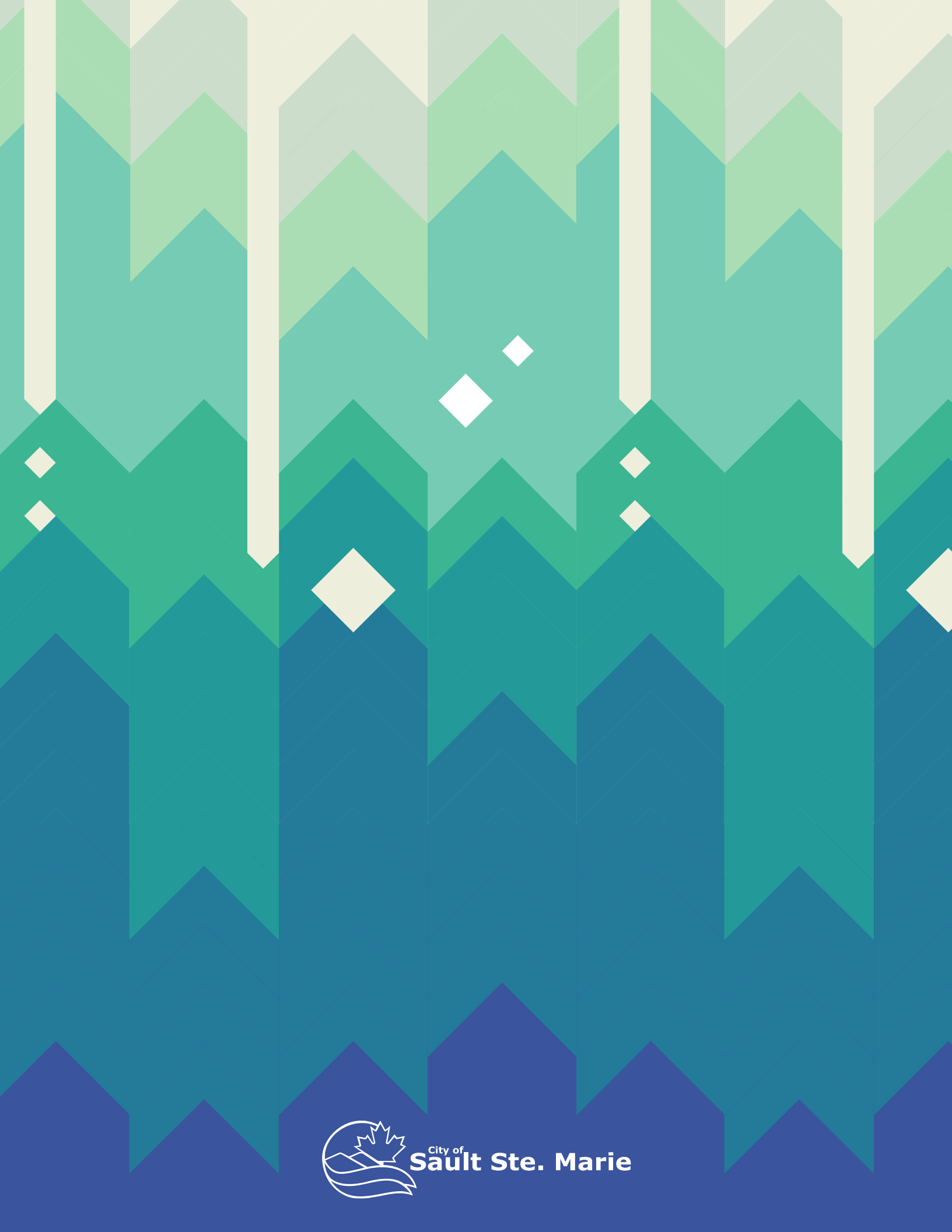
SSM PUC — a private company and is wholly owned by the Corporation of the City of Sault Ste. Marie. PUC operates the electricity and water distribution systems in Sault Ste. Marie.

Social Services — provides social services including Ontario Works, Social Housing, Childcare and other programs in Sault Ste. Marie and region.

Numerous local private sector collaborators participated in the input session to the Smart Cities Challenge and expressed an interest and willingness to assist including Createch Group, Workiva, One HSN, Canadian Bank Note Corporation, MicroAge, Insightworks, Digital Insights and more.

In addition, technology providers will be selected via RFP to provide solutions for project components such as WiFi infrastructure, learning platforms, on demand transit, mobile application development and technology hub equipment.





City of  
**Sault Ste. Marie**