

SMART COMMUNITY PLAYBOOK

SaskTel 

| Business Solutions |



OVERVIEW

A Smart Community is an ecosystem of people, organizations, and businesses that work together to develop an integrated set of policies, laws, and processes to create desired outcomes for its citizens. Typically, these involve improving quality of life for residents, building a dynamic and vibrant economy, and creating long-term sustainability. A Smart Community is adaptive, responsive, and impactful to all who reside, work, and visit the community.

To become a Smart Community, this ecosystem needs access to timely, relevant, and accurate data. This data is then used to improve service delivery for citizens, drive down operating costs, improve quality of life, and stimulate the local economy through access to new capabilities and investment attraction. Data can be gathered through investment in technology infrastructure that collects, moves, processes, and presents it to end users.

There is however inherent complexity in identifying and implementing the necessary technology infrastructure and using it to achieve the desired objectives and outcomes of the Smart Community. Common challenges include:

- **Technical skills gap**

Much of the technology used to enable a Smart Community is unfamiliar to the community's administration staff, including the IT department.

- **Capacity and staff turnover**

As staff turns over, local expertise is lost. Competition for people with these skill sets is fierce, and especially challenging for smaller communities.

- **Underutilized data and analytics**

Much of the data currently collected by communities is siloed and used in narrowly defined ways. Existing data can be combined and correlated with new data to deliver better insights and outcomes for the community.

- **Data ownership and privacy**

Communities often rely on third parties for collection and management of data. This raises concerns about the privacy and security of the data (if it is stored outside of Canada), and who actually owns it.

- **Complexity and anxiety of transformation**

The complexity of transformation creates uncertainty (dealing with "unknown unknowns"), leading to anxiety and reluctance to take action.

Communities have different levels of maturity with respect to both their understanding of digital transformation, and the technologies needed to achieve it.

SaskTel has been actively working with communities of all sizes and types (urban, rural, Indigenous) across Saskatchewan and has gained a deep understanding of their priorities, challenges, and levels of maturity.

Additionally, we have been working with the local tech and startup community to identify and help scale solutions that can help communities achieve their desired outcomes and objectives.

Finally, SaskTel actively looks to coordinate solution development and securing funding with Government Ministries, Crowns, and community advocacy organizations.

The result is a framework and playbook to help reduce the complexity and uncertainty associated with becoming a Smart Community.

MADE-IN-SASKATCHEWAN SMART COMMUNITY PLAYBOOK

SaskTel uses a 4-step approach to help communities become Smart Communities.

STEP 1: DISCOVER

Before deciding what to do, a community needs to figure out where they want to go. To help communities work through their transformation journey, SaskTel's Innovation and Collaboration team will set up a series of meetings and workshops, tailored to their level of digital maturity, to collaborate with the community to figure out their objectives, desired outcomes, constraints, and challenges. From there, it helps them to prioritize which initiatives to tackle first. To facilitate this, the Innovation and Collaboration team uses a variety of collaboration tools and techniques, draws on past engagements with other communities, and leverages the expertise of SaskTel's ecosystem of partners.



STEP 2: DESIGN

Once objectives, outcomes, constraints, and challenges are identified, SaskTel works with the community to develop solutions and an action plan. SaskTel uses a 'DNA' framework to simplify the conversation:

DEVICES

Sensors or other devices that are used to collect critical data

NETWORKS

The connections needed to move the data collected by the devices

APPLICATIONS/ANALYTICS

Where the data is stored, sorted, calculated, correlated, analyzed, and presented to end users.

Within this framework, SaskTel has a (mostly local) ecosystem of partners that can deploy technology to achieve a wide array of objectives:

- **Devices:** Asset tracking, smart water meters, smart parking, soil monitoring, smart irrigation, liquid and aggregate monitoring, smart waste management, people counting etc.
- **Networks:** SaskTel can provide traditional and Internet of Things (IoT) optimized cellular connectivity, LoRaWAN (low-cost wireless sensor network), and fibre/wifi to meet the bandwidth requirements for any data collection volume.
- **Applications/Analytics:** In addition to our local Tier 3 data centre, SaskTel works with local data integration, ingestion, presentation, and analytics experts to ensure the data collected delivers the intended insight and value to the community.

To address uncertainty and reduce risk, SaskTel will run small scale experiments and trials with the community to ensure proposed solutions not only perform as intended, but also demonstrate clear value. This minimal commitment of time and money significantly reduces uncertainty and allows the community to make better and more informed technology investment decisions.

To further reduce risk, SaskTel will work with the community to identify any available funding for Smart Community projects, and if successful use this funding to both run experiments and to scale the solution if value is proven.



STEP 3: DEPLOY

Prior to deployment, SaskTel and its partners will work with the community to help identify the budget needed not only to deploy the solution, but to operate it on a long-term basis. Whether the solution is funded by the community, other levels of government, or a combination of both, SaskTel and its partners will ensure the community has accurate financial inputs to safeguard smart and sustainable investment decisions. From there, SaskTel and its partners work in a coordinated fashion toward successful solution implementation. This is often a partner led exercise, allowing mostly local Saskatchewan tech companies to take a lead role in enabling Smarter Communities across the province.

STEP 4: MANAGE

With the initial use case(s) in place and stable, SaskTel and its partners work with the community to deliver ongoing support. This support not only includes support for the deployed technology, but ongoing dialog with the community about future objectives and priorities. Effectively, the discover-design-deploy-manage approach is circular in nature, with each new set of priorities identified by the community following the same playbook to maximize the likelihood of successfully achieving objectives and desired outcomes.



SMART COMMUNITY BENEFITS

While communities have different priorities and objectives, this playbook delivers common benefits to all communities, notably:

- Allowing communities to make better decisions that drive operational efficiency, citizen engagement, satisfaction, and improved quality of life.
- Improving short and long-term planning and budgeting.
- Population and business attraction – Making the community a better place to live, work, and invest. Makes the community more competitive.
- Reducing the cost of becoming a Smart Community. Several smart community solutions rely on proprietary technology (e.g. smart water meters) that restrict access to networks and data. The infrastructure deployed by SaskTel and its partner ecosystem is open, meaning it can be built upon and used for multiple use cases. As a result, the first use case deployed is effectively a ‘starter kit’, and by using the infrastructure deployed in this initial use case, the total technology cost to achieve all of a community’s objectives and desired outcomes is significantly lower.
 - There are opportunities to take a more regional approach to drive costs down further. This playbook works well for an individual community however if a regional model is used (e.g. entire rural municipality, tribal council, area of the province, etc.) infrastructure can be deployed and shared more efficiently, and achieve additional cost savings for all communities involved.

