



# SMART CITY PLAN 2018 - 2025

CHARLES STURT — A LEADING, LIVEABLE CITY





# CITY OF CHARLES STURT - SMART CITY STRATEGY OVERVIEW

## WHY WE NEED A SMART CITY

Smart Cities attract knowledge, creativity and investment helping to grow the economy.  
In an increasingly digital and technology driven age, cities need to look towards new approaches, innovative technologies and smart infrastructure to create an environment that supports both community and economic growth.

## OUR SMART CITY VISION

Charles Sturt is a leading smart city that uses information and technology to better respond to its community and business needs

By 2025 we will be...

- A city that has a strong and connected community by using emerging smart technologies and enables everyone to participate
- A livable city that uses smart technology in its public places, connects people, and uses technology-enabled infrastructure
- A city that applies technology and innovation to overcome future environmental challenges
- An economically thriving city that has access to digital infrastructure and leverages it to support business growth, investment and sustainability across priority sectors
- Provide transformational leadership that fosters collaboration across government, industry and business

## OUR APPROACH - GUIDING PRINCIPLES

### Guiding Principles

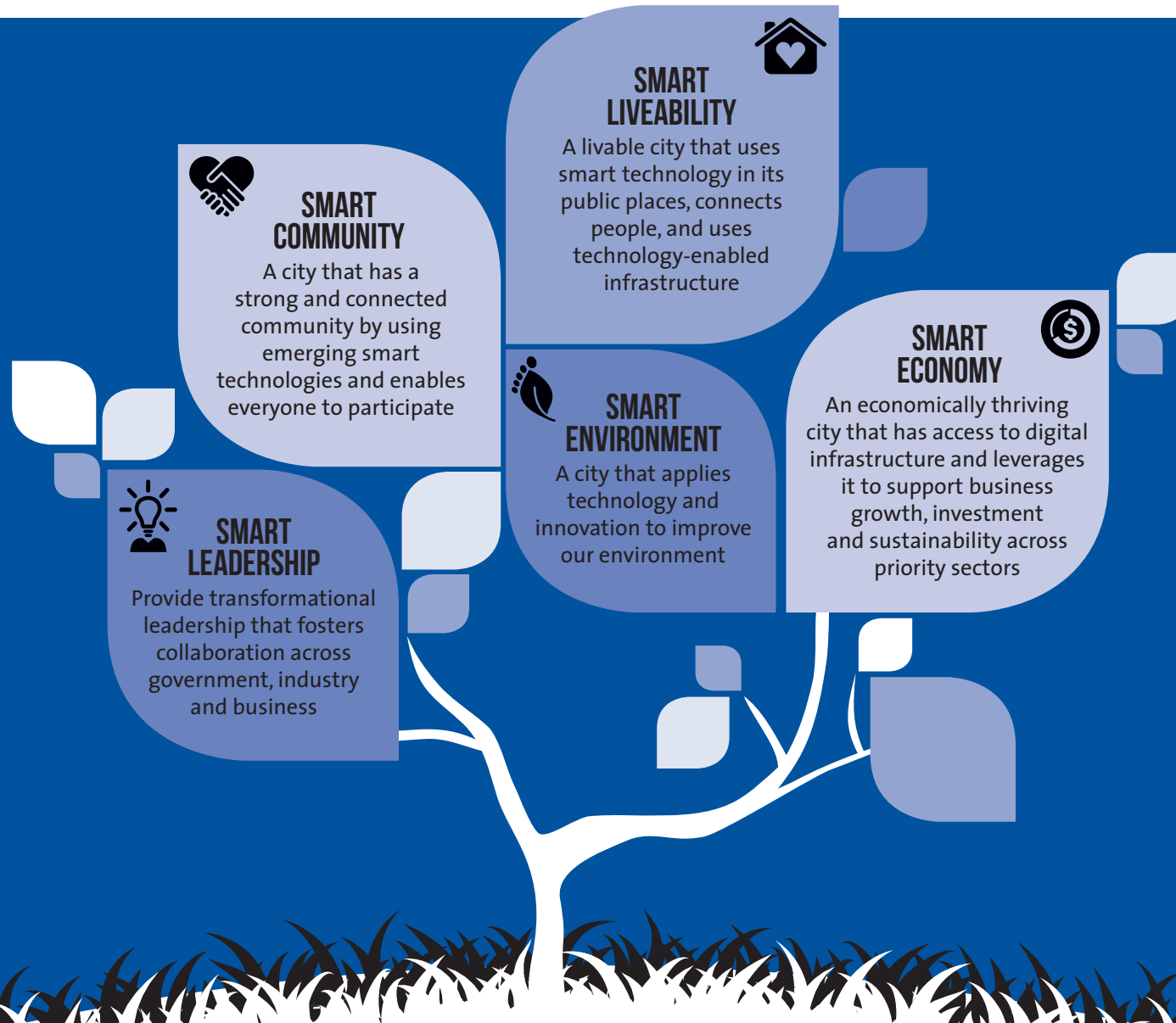
To be flexible and recognise that new opportunities will continually arise as digital technologies evolve. Potential new activities can be assessed and prioritised based on alignment with the strategic outcomes and initiatives that underpin this Strategy.

Citizen Centric	Residents, business, entrepreneurs, industry and government will be engaged early and often. We will use technology to be more community connected and encourage participation, access and inclusion through the design of citizen centric digital services.
Collaboration	We will make it easy to partner and focus on shared outcomes.
Innovation	We will influence regulation to reduce red tape, test and trial new technology.
Sustainable	We will develop digital city standards and leverage new business models. We will be commercially driven and ensure the Business Case 'stacks up'.
Measurable	We will measure the effectiveness of the smart city approach to projects

## BENEFITS

- customer experience
- education and advice that is easy to find, understand and act on
- Value from city assets
- Improved efficiency of services
- Business and innovation and investment
- Improved community engagement by involving people in the design of government services.
- Increased benefit to the economy through the release and use of open data
- Charles Sturt is recognised as a modern and progressive place to live and work
- Real-time alerts and monitoring to create city wide situational awareness
- Reduced carbon emissions and energy

## SMART CITY OVERVIEW - GOALS

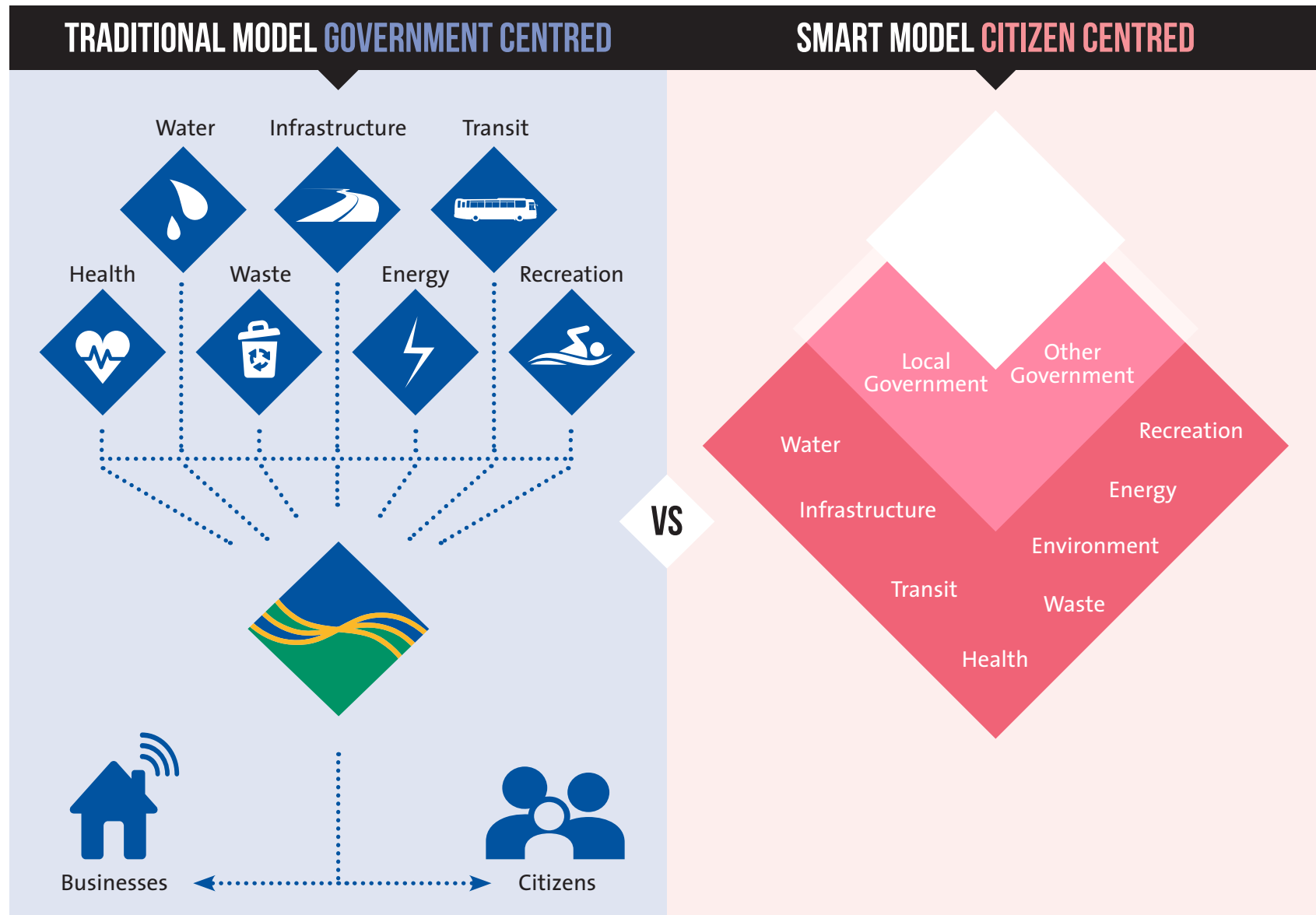


Our Smart City Plan is designed to be read in conjunction with the “Community Plan 2016-2027; Charles Sturt – A Leading, Liveable City”.

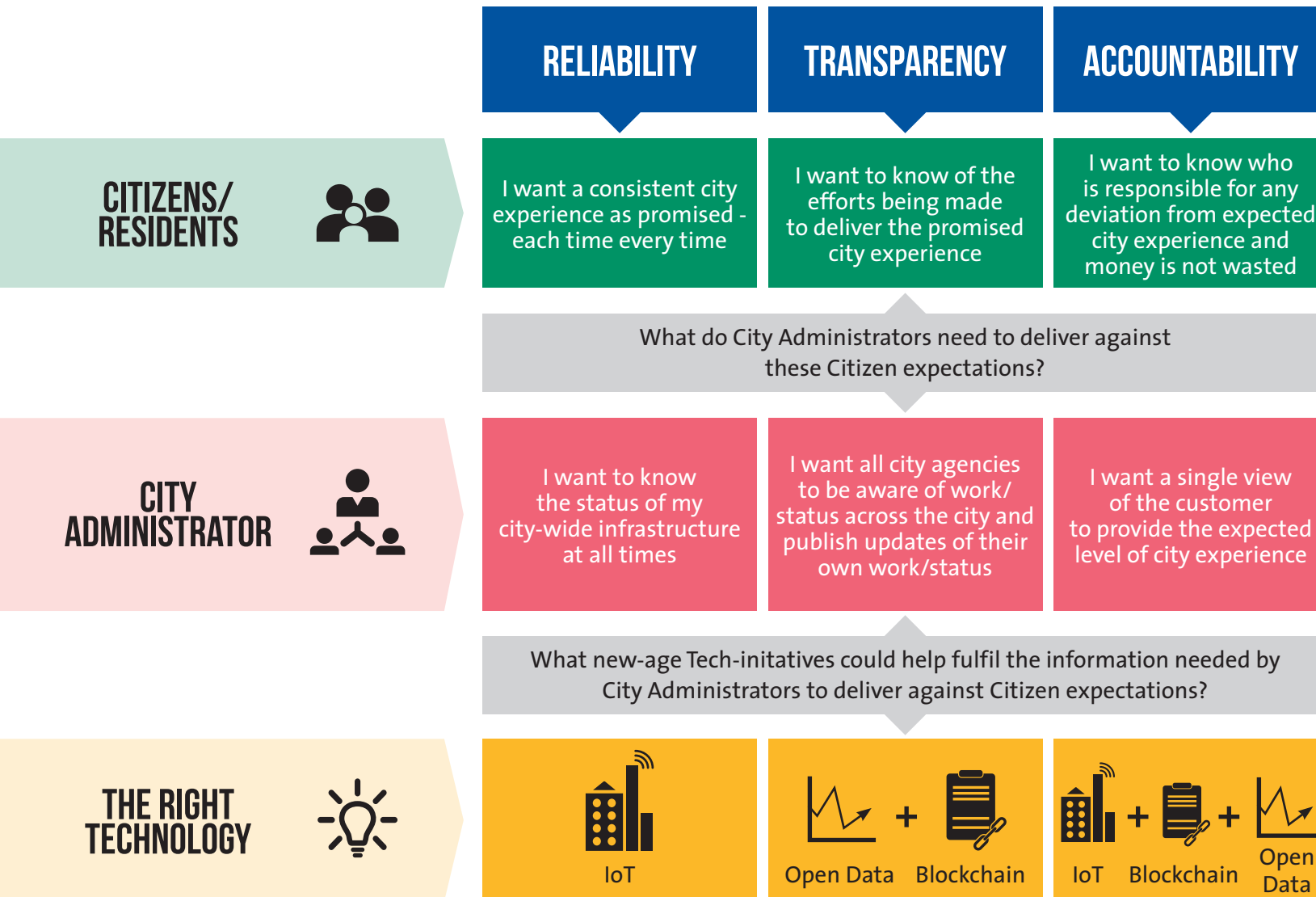
We want our Smart City initiatives to be led by community and business needs, as a result we have used the themes from the Community Plan as the basis of our Smart City Plan.

# WHAT IS A SMART CITY?

A Smart City combines the physical and digital worlds to deliver a sustainable, prosperous and inclusive future for its citizens. It is not about technology for technology sake, but about how technology is used to help the city function effectively. It builds on the existing foundation within the city and enables it to set a more engaging vision and follow a new and more effective path into the future.



# EXPECTATIONS FROM A SMART CITY SERVICE



Adapted from Anveshi Gutta, PwC

# WHY IS A SMART CITY IMPORTANT?

As the City of Charles Sturt moves forward, it must use its resources as efficiently as possible, manage environmental impacts, infrastructure maintenance, an increasing population and an expectation of citizens for 'Google-like' services. People expect better service, while minimising costs and to respond to them through multiple channels.

Innovation, digitisation and the Internet of Things (IoT) will help Council and the Community build a more connected and resilient City. In an increasingly digital and technology driven age, cities need to look towards new approaches, innovative technologies and smart infrastructure to create an environment that supports both community and economic growth.

The Smart City Strategy offers us a way to think differently about how services can be delivered. It guides the creation of a Smart Community by identifying the elements necessary to achieve a successful and integrated program of smart and connected systems.

## WHY NOW?

### INCREASINGLY NECESSARY

URBAN  
DENSITY

AGING  
POPULATION

ENERGY  
REQUIREMENTS

### TECHNICALLY POSSIBLE

AFFORDABLE  
SENSORS

BETTER  
BATTERIES

BETTER  
NETWORKS

BETTER  
MESSAGING

BIG  
DATA

REAL  
TIME

## BENEFITS

- Customer experience
- Information and advice that is easy to find, understand and act on
- Value from city assets
- Improved efficiency of services
- Business and innovation and investment
- Improved community engagement by involving people in the design of government services.
- Increased benefit to the economy through the release of open data
- Increased perception of Charles Sturt as a modern and progressive place to live and do business
- Real-time alerts and monitoring to create city wide situational awareness
- Reduced carbon emissions and energy

# OUR FUTURE CITY COULD LOOK LIKE THIS



## Smart Bins and Benches

Bin sensors will detect when bins are full and optimise collection routes. Benches provide WiFi and phone charging points.

## Smart Business

Infrastructure, capability development and data to support business collaboration and innovation. Providing opportunities to finding new ways of doing things.

## Smart Lighting

Smart poles provide energy efficient LED lighting, but that's not all. Each pole can house WiFi signal points, sensors, public address system and more.

## Smart Screens

Interactive smart screens provide information to help people find out the latest on what's going on in the city.

## Community and Business Hubs

Co-working places where the community and business can improve digital literacy, network, collaborate, innovate, hold meetings and events.

## Internet of Things (IoT)

An IoT platform connects almost any device in the city to the internet and to each other. Apps, sensors, and smart city applications generate data on the city.

## Smart Parking

Sensors in the street detect available parking and send data to drivers.

## Public WiFi

Free public WiFi is available providing high speed quality internet access.

## Smart Energy

Buildings are powered by the sun through solar panels connected to battery storage.

## Smart City App

A city app makes information on the city easily available.

*This is an indicative illustration only.*

# IMPLEMENTATION PLAN

The Smart City Strategy sits across Council's other plans and is intended to be implemented by Council business units with support from a multidisciplinary Smart City Project Team.

Council does not hold all the answers, this Strategy represents a call to action to business, government, thinkers, entrepreneurs and the community to work together to build the Smart City. It is designed to be flexible, in recognition that new opportunities continually arise as digital technologies evolve. Potential new activities can be assessed and prioritised based on alignment with the strategic outcomes and initiatives that underpin this Strategy.

We will be actively open, looking to partner with anyone that has the idea, capacity or resources to co-create impactful solutions to address our challenges. On the Council's part, we will put in place the infrastructure, policies, and enablers to encourage innovation. We will strive to create the space and mindset for experimentation and risk taking.

In order to fulfil our vision for a Smart City, a roadmap of specific projects and initiatives is needed, including both early "quick wins" and longer term strategic programmes. We will concentrate initial effort on those that are simplest to execute because they are within the remit of our single organisation or because they build on cross-organisational initiatives with surrounding Councils that are already underway. We believe this will form a powerful program for making City of Charles Sturt Smarter.

## GUIDING PRINCIPLES

To be flexible and recognise that new opportunities will continually arise as digital technologies evolve. Potential new activities can be assessed and prioritised based on alignment with the strategic outcomes and initiatives that underpin this Strategy.

Customer Centric	Residents, business, industry and government will be engaged early and often. We will use technology to be more community connected and encourage participation, access and inclusion through the design of citizen centric digital services.
Collaboration	We will make it easy to partner and focus on shared outcomes.
Innovation	We will influence regulation to reduce red tape, test and trial new technology.
Sustainable	We will develop digital city standards and leverage new business models. We will be commercially driven and ensure the Business Case 'stacks up'.
Measurable	We will measure the effectiveness of the smart city approach to projects

### Project Prioritisation: priority will be given to projects that meet any of the following criteria.

1. In Train	We already have a project underway that supports one or more of our Smart City Objectives
2. Foundation Project	Particular infrastructure that is required to support Smart City Objectives
3. Strong Business Case	A commercial business case that shows significant savings or community benefit
4. Funding Available	Grant Funding is available
5. Demonstration Project	Pilots and demonstrations projects that are visible to the community and displays the community benefit



# PLANNING CONTEXT

## CITY OF CHARLES STURT STRATEGIC PLANS & FRAMEWORKS - ALIGNMENT TO COMMUNITY PLAN THEMES

### OUR COMMUNITY

Community Services Framework  
Regional Public Health Plan 2014-2019  
Animal Management Plan 2016-2020  
Marketing and Communications Plan

### OUR LIVEABILITY

Charles Sturt Development Plan  
Strategic Directions Report 2014  
Community Land Management Plans  
Place Making Framework  
Asset Management Plans  
Transport Plan 2016-2031  
Open Space Strategy 2025

### OUR ENVIRONMENT

Living Green Environmental Plan  
AdaptWest

### OUR ECONOMY

Economic Development Plan 2016-2021  
Building Western Adelaide

### OUR LEADERSHIP

Long Term Financial Plan  
Annual Business Plan & Budget  
Council Policy Framework  
Cultural Change Program  
City Survey

## CITY OF CHARLES STURT SMART CITY STRATEGY - ALIGNMENT TO COMMUNITY PLAN THEMES

## FEDERAL GOVERNMENT - NATIONAL INNOVATION AND SCIENCE AGENDA - SMART CITIES PLAN

# SMART COMMUNITY



**Goal** - A city that has a strong and connected community by using emerging smart technologies and enables everyone to participate

## Alignment to Community Plan

Provide accessible social infrastructure and services that engage our diverse community.

Capitalise on partnerships, build community resilience and sense of belonging.

Create opportunities for community leadership and civic participation.

Educate and regulate to enable a safe and healthy environment.

Smart Objective	Actions	Years			Responsibility
		1-2	3-5	6-7	
Engage with customers by sourcing, implementing and developing technology.	<ul style="list-style-type: none"> <li>Implement a customer centric Civic Participation Platform that allows two-way communications with the Council.</li> <li>Research and explore virtual conversational interfaces for Customer Support eg AI based ChatBot</li> <li>Work with the LGA and LGITSA to update the My Local Services App for improved access to Council services and information on the city</li> <li>Implement Council meeting video and transcripts to effectively communicate Council decisions.</li> <li>Investigate a customer centric city dashboard for visualisation of key city data relevant for citizens and visitors</li> </ul>	*	*		Marketing/Information Services Customer Contact  Marketing/Information Services Governance  Information Services/Barbara James
Improve digital literacy and ensure equitable community access to technology and its benefits.	<ul style="list-style-type: none"> <li>Continue to support and engage the local Maker and Community groups/clubs to provide a range of technology programmes that build digital skills and confidence.</li> <li>Create a “lendable technology” range through the library that provides affordable access to maker electronics, virtual reality and other emerging technologies</li> <li>Adopt educational programs to increase community levels of digital literacy around cyber security, e-commerce and privacy.</li> <li>Maximise the benefits of the West Lakes Library and Community Centre redevelopment to ensure it is a lab for collaboration and innovation</li> </ul>	*  *  *	*  *		Community Connections
Support inclusion and accessibility through digital technology	<ul style="list-style-type: none"> <li>Investigate smart assistive technology to improve equity of access to the city</li> <li>Research technology that enables socially isolated citizens to participate in their community</li> <li>Pilot alternative customer service channels to assist with language, hearing and other communication challenges.</li> <li>Investigate the viability of providing 24x7 library access</li> </ul>	*	*  *  *		Community Connections

# SMART LIVEABILITY



**Goal** - A livable city that uses smart technology in its public places, connects people, and uses technology-enabled infrastructure

## Alignment to Community Plan

An urban environment that is adaptive to a changing and growing City.

City assets and infrastructure are developed and well maintained on a strategic and equitable basis.

Create valued urban places that bring people together and reflect local character and identity.

Drive an integrated, responsive transport system and network.

Enhance the quality and diversity of open and public spaces.

Smart Objective	Actions	Years			Responsibility
		1-2	3-5	6-7	
Enhance efficiencies and the liveability of our city by Implementing technology enabled infrastructure	<ul style="list-style-type: none"> <li>Implement strategic on-street parking sensors to track, monitor and manage parking decisions</li> <li>Research and identify technology to collect real-time data to assist with asset planning and management - including parks, buildings, local streets and neighbourhoods</li> <li>Work with developers to identify opportunities for smart infrastructure in new developments eg public wifi, charging stations, way-finding</li> <li>Continue to promote and support bike and car share networks</li> <li>Deploy free Public Wifi at strategic Council precincts and public spaces</li> </ul>	*	*		Engineering
		*			Engineering/Open Space
		*	*	*	Engineering and Planning
		*	*	*	Engineering
		*	*		Information Services
Promote projects, experiences, events and local history with interactive technologies	<ul style="list-style-type: none"> <li>Continue to use and expand on time lapse video, Virtual Reality and Drones for project engagement</li> <li>Develop a business case for creating a City Tour application with Augmented Reality to highlight and complement art, culture and heritage around the city.</li> <li>Use smart technologies to better understand and respond to specific conservation needs of key heritage (built, cultural, environmental) sites</li> <li>Take advantage of smart infrastructure to enhance precincts and cultural assets by incorporating lighting and sound experiences in key pedestrian zones</li> </ul>	*			Engineering/Marketing
			*		Place making
			*		Urban Projects
		*			Urban Projects
Support sustainable transport modes by collecting and leveraging data	<ul style="list-style-type: none"> <li>Implement real-time pedestrian and cycling counters on strategic corridors/zones.</li> <li>Research sensor technology to gain network-wide real-time performance indicators such as, travel times, average vehicle speeds and origin-destination</li> <li>Partner with Government and Industry to better understand and present available transport data eg DPTI, Fitbit, Strava</li> </ul>	*			Engineering
		*			Engineering
		*			Engineering

# SMART ENVIRONMENT



**Goal - A city that applies technology and innovation to improve our environment**

## Alignment to Community Plan

Continue to implement climate change mitigation and adaptation solutions.

Enhance the state of the City's environment and biodiversity.

Lead and educate to reduce the City's impact on the Environment and build resilience.

Smart Objective	Actions	Years			Responsibility
		1-2	3-5	6-7	
Support environmental decision making by collecting and leveraging data	<ul style="list-style-type: none"> <li>Use technology to actively monitor the impacts of climate change including urban heat and tree canopy</li> <li>Expand access to roof top solar on Council buildings taking advantage of Virtual Net Metering opportunities</li> <li>Create a citizen science program to raise education and appreciation of our environment</li> </ul>	 * *	 * *		Open Space and Property  Waste and Sustainability  Open Space and Property
Incorporate smart environmental technology and design into projects	<ul style="list-style-type: none"> <li>Use urban design techniques that respond to the changing climate and community needs.</li> <li>Work with utilities/partners to improve smart power and water technology with real-time data analytics to improve the efficiency in Council buildings and on public open space.</li> <li>Work with SAPN to deploy LED smart lighting across the city</li> <li>Deploy smart bin infrastructure in strategic locations</li> <li>Advocate for all new development to contain smart environmental technology</li> </ul>	 * * * * *	  *		Open Space and Property/Engineering Waste and Sustainability  Waste and Sustainability
Use emerging technologies to engage citizens in sustainable environmental behaviours	<ul style="list-style-type: none"> <li>Utilise RFID and sensors for domestic garbage pick-up to collect waste data and incentivise recycling</li> <li>Explore the benefits of an environmental reward points scheme</li> <li>Develop a program inclusive of sporting clubs to raise education and appreciation of the benefits of smart technology</li> </ul>		 * * *		Waste and Sustainability



# SMART ECONOMY



**Goal** - An economically thriving city that has access to digital infrastructure and leverages it to support business growth, investment and sustainability across priority sectors

## Alignment to Community Plan

Lead regional collaboration to promote the western Adelaide economy.

Support and enable local business prosperity and growth.

Facilitate an environment for a diversity of business and industry types.

Smart Objective	Actions	Years			Responsibility
		1-2	3-5	6-7	
Identify and understand what our businesses need from digital infrastructure (roadmap)	<ul style="list-style-type: none"> <li>Consult targeted sectors eg Health, Creative Industries, precincts eg Woodville Road &amp; Hendon and enterprises via survey, interview, workshops etc to identify priority needs and opportunities for infrastructure, innovation and capability development</li> <li>Summarise findings from consultation to determine priorities and develop a plan for infrastructure, innovation &amp; capability development.</li> <li>Seek funding for above from Council, government and other sources.</li> </ul>	*			Economic Development
Promote new ways of doing business	<ul style="list-style-type: none"> <li>Support business collaboration and innovation through such vehicles as co-working places, business hubs, hackathons, on-line tools, learning, access to data &amp; resources.</li> <li>Promote links with business, universities and government to drive innovation, economic growth and open learning</li> <li>Encourage businesses to utilise technologies to innovate find new ways of doing business, find and service markets and collaborate eg AI, automation, ERP, marketing, accounting, CRM, 3D printing, crowd sourcing.</li> <li>Promote &amp; facilitate access to high speed broadband to enable business and the community eg SABRENET and GigCity in targeted locations</li> </ul>	*  *  *	*		Economic Development   Economic Development / Information Services
Businesses to be able to undertake more efficient interactions with Council	<ul style="list-style-type: none"> <li>Provide a platform for business to easily access Council and other Economic information and data to encourage innovation and investment</li> <li>Identify and implement tools and strategies to aid engagement communication, promote Council's services, attract investment and engage businesses eg revised / new website, Customer Relationship Management system to improve engagement and communication with business groups.</li> </ul>	*  *			Economic Development

# SMART LEADERSHIP



**Goal** - Provide transformational leadership that fosters collaboration across government, industry and business

## Alignment to Community Plan

Be bold and innovative in our practices, leadership and decision making.

Adaptive and sustainable management of the City's finances.

A collaborative, agile and high performing work place.

Practise transparent and accountable governance.

Smart Objective	Actions Please use the ideas below as a starting point	Years			Responsibility
		1-2	3-5	6-7	
Implement Smart City ICT Infrastructure	<ul style="list-style-type: none"> <li>Advocate for and deploy multiple Low Power networks such as Sigfox and Lorawan</li> <li>Implement an Enterprise Internet of Things (IoT) platform</li> <li>Implement an Enterprise Data Platform that includes integrated data analytics</li> <li>Implement an Enterprise Beacon network platform</li> <li>Adopt open standards to ensure interoperability between systems</li> <li>Connect Council to the SA Government SABRENet WAN</li> </ul>	*	*		Information Services
Digitally transform Council operations and service delivery	<ul style="list-style-type: none"> <li>Design and build a dynamic Smart City website to promote and solicit ideas and challenges from the community</li> <li>Transform existing services to be citizen centric digital services</li> <li>Staff education with digital literacy and awareness</li> </ul>	*	*	*	Marketing/ Information Services Information Services Information Services
Develop a strategic approach to open data, enhancing transparency and enabling data driven decision making	<ul style="list-style-type: none"> <li>Create an open-by-default policy for all Council data.</li> <li>Implement an Enterprise Open Data Portal to allow public access to council data sets</li> </ul>	*			Information Services