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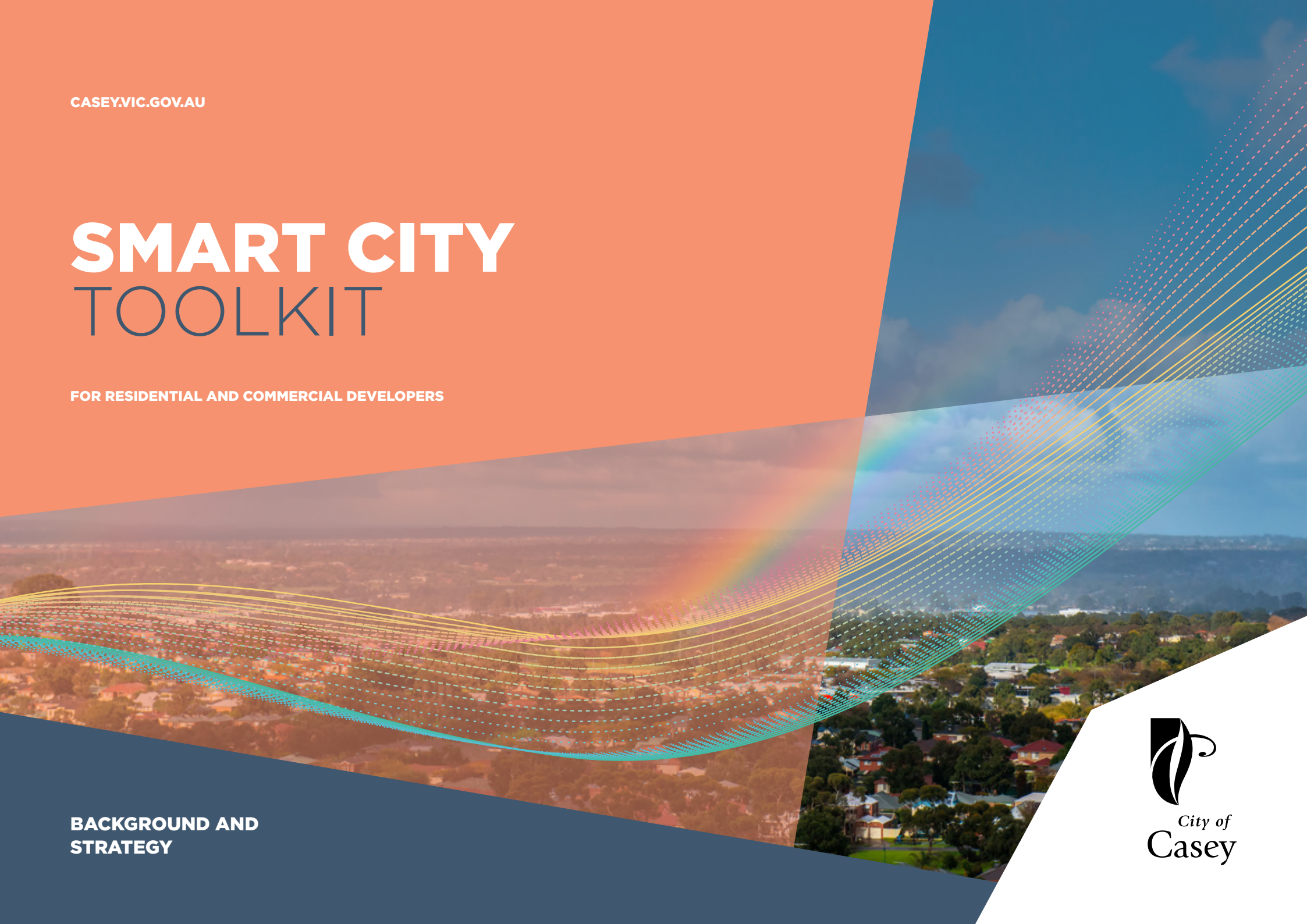
SMART CITY TOOLKIT

FOR RESIDENTIAL AND COMMERCIAL DEVELOPERS



BACKGROUND AND STRATEGY

City of Casey

STATEMENT OF ACKNOWLEDGEMENT

The City of Casey proudly acknowledges the traditional owners, Casey's Aboriginal communities and their rich culture and pays respect to their Elders past, present and future. We acknowledge Aboriginal people as Australia's first peoples and as the traditional owners and custodians of the land on which we work and live.

DIVERSITY STATEMENT

The City of Casey is home to a remarkable diversity of cultures, languages, faiths, identities, landscapes, and stories. From our first Australians to our most recent arrivals and every wave between, the City of Casey welcomes and represents all community members and their respective ambitions to live healthy, rewarding, and happy lives. These intersecting and overlapping community stories form Casey's collective identity and contribute to its evolving, rich history. We recognise this diversity as our strength and we aim to share, nurture, and celebrate it.

Interpreter

TIS: 131450 (Translating and Interpreting Service)

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WHAT IS A SMART CITY?

"Smart City" is a globally used term to described a city that uses Information and Communications Technology (ICT) to enhance its livability, workability and sustainability.

It does this by collecting information using sensors and other technology, communicating the data via networks and analysing it to understand current and future trends in order to facilitate better decision making[1].

For the City of Casey, a Smart City is a city that puts its community first, adjusting to serve them and their growing needs. It applies digital technology, data, and innovative practices to improve liveability, sustainability, collaboration, and economic opportunities.

The key focus areas of a smart city include:

- Viewing the community as customers, users and collaborators
- Improving assets and services to deliver greater outcomes
- Data-driven decision making

Smart cities do not implement technology for the sake of technology, nor do they regard technology as the solution in itself. Rather, they use integrated and embedded technologies to solve problems in innovative ways and enhance community and organisational outcomes.

1. Smart Cities Council, Smart City Readiness Guide

WHY ARE SMART CITIES IMPORTANT?

More effective, tailored services and infrastructure

Better data and information to inform planning and decision-making

Greater agility and responsiveness of Council and services

Focus on service rather than administration

Streamlined, coordinated planning and operations in Council

Enhanced transparency

Cost savings and efficiencies

Improved public safety

Greater environmental sustainability

Better quality of life

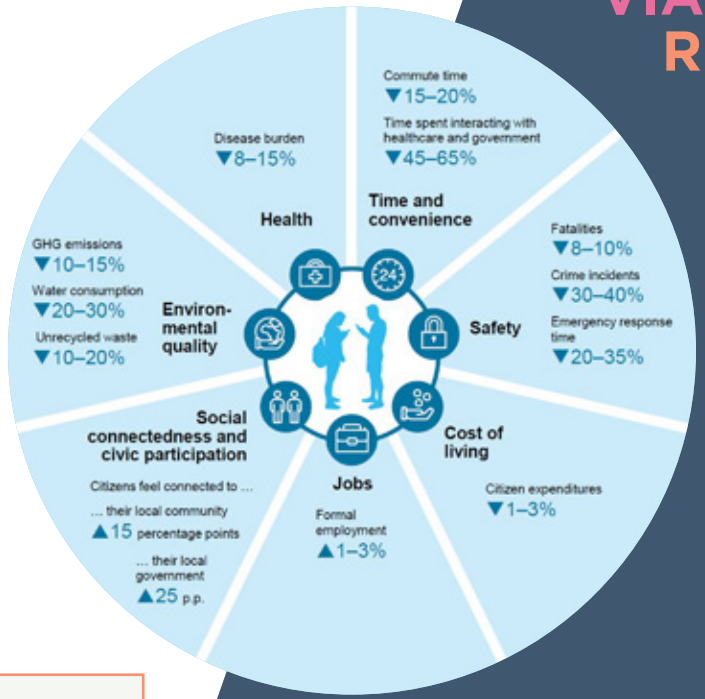
More democratic collaboration with community in determining the future of our cities

Improved amenity and convenience

Enhanced economic opportunity

Enhanced accessibility, equity and inclusion

SMART CITIES MAKES SPACES MORE **ATTRACTIVE**, **ECONOMICALLY VIABLE** AND **RESILIENT**



Research by McKinsey Global Institute has found that Smart Cities can contribute to improving some key quality-of-life indicators by 10-30 percent[2].

2. McKinsey Global Institute, Smart Cities: Digital Solutions for a More Liveable Future

CASEY'S SMART CITY VISION

Smart Casey will be optimistic, thriving and curious. We will embrace smart thinking and innovation to improve our lives, economy and environment. As a growing community we will be leaders in digital connectivity, sustainability and inclusion.

Casey will be a connected city, built on seamless, cutting-edge and inclusive technology.

- Connectivity will transform local mobility, safety, digital access and economic growth.

Casey will be an efficient, prosperous and sustainable region open to innovation and emerging sustainability opportunities

- Data and technology will empower us to protect and regenerate the local environment.
- Smart planning will reduce waste and resource use as well as increase renewable energy to support the emergence of a leading circular economy.

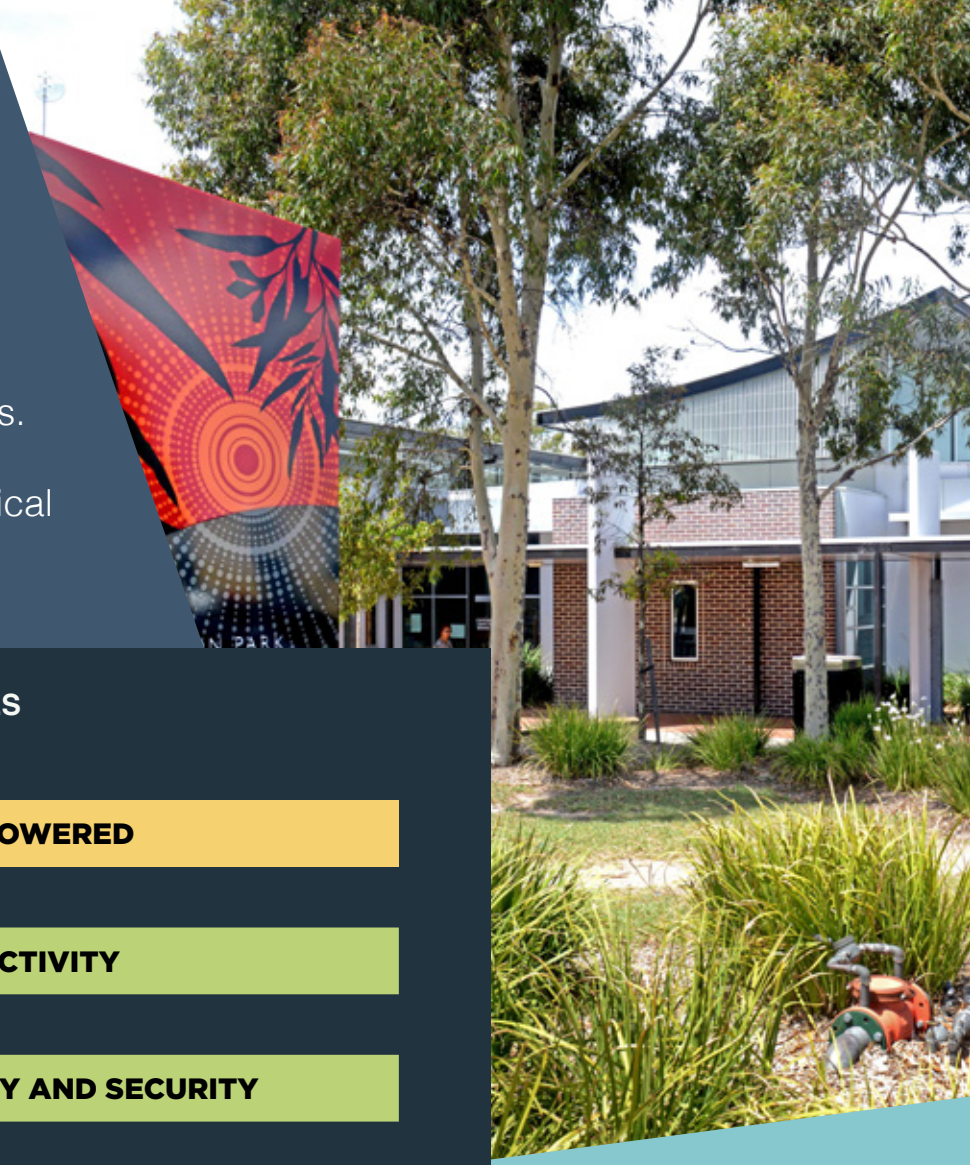
Casey will have a healthy and thriving future driven by our community's diversity and talent.

- Proactive design and planning will build inclusion for all residents.
- Our approach to partnerships, innovation and community connection will set a new standard for growing communities.

Casey will be Australia's most liveable city supported by our integration of technology and innovation across the city.

CASEY'S SMART CITY PRINCIPLES

Principles guide the way we prioritise and invest in smart city activities. Our guiding principles help ensure our smart city actions remain focussed on the overall objectives of our communities, and our technical principles guide the delivery of smart technologies and services.



GUIDING PRINCIPLES

- SHARED ACTION & LEADERSHIP
- FUTURE READY
- COMMUNITY CENTRED
- OUTCOME FOCUSED
- SUSTAINABILITY

TECHNICAL PRINCIPLES

- DATA POWERED
- CONNECTIVITY
- PRIVACY AND SECURITY
- INTEROPERABILITY
- ETHICS

SMART CASEY LAUNCHPAD

The Smart Casey Launchpad is the City of Casey's approach to coordinating and inspiring smart city action that will build resilience, inclusion, and sustainability in the region.

The Smart Casey Launchpad will guide community, Council, and key stakeholders to create a connected, sustainable, inclusive, and innovative future for our growing city.

The vision for Smart Casey is that our community will be optimistic, thriving, and curious.

Casey Council and community will embrace smart thinking and innovation to improve our lives, economy, and environment. The goal is to be smart city leaders in digital connectivity, sustainability, and inclusion.

We are unlocking the City of Casey's smart city potential through the following key focus areas, which are the result of insights gathered from local community, business and education engagement:

CONNECTING COMMUNITIES

Seamless digital connectivity will enhance local community connections ensuring that no one is left behind in the digital age

OBJECTIVES

- Digital Democracy
- Equity & Inclusion
- Community Connection

SMART PLACES & SPACES

Walking and cycling around our green spaces will be safer, cleaner and greener

OBJECTIVES

- Developments & Infrastructure
- Safety
- Mobility

ENVIRONMENTAL SUSTAINABILITY

Our City will be cleaner, more efficient and powered by data and renewable energy

OBJECTIVES

- Circular Innovation
- Climate Resilience & Mitigation
- Growing Sustainably

INNOVATIVE & DYNAMIC CASEY

Testing, trialling and experimenting with new technology will support economic, social and environmental growth

OBJECTIVES

- Smart City Ecosystem
- Education
- New Jobs & Growth

SMART COUNCIL

Council will lead by example, driving innovation internally and within the wider community

OBJECTIVES

- Data-Led Value
- Internal Capability
- Partnerships

THE GLOBAL SMART CITY MOVEMENT

BARCELONA, SPAIN

Barcelona is known to be one of Europe's smartest cities. It was on the verge of economic collapse 30 years ago and experienced widespread unemployment. Back then it was a city dependent on traditional manufacturing and commerce, and now it has reinvented itself as a city driven by technological innovation.

Early on, Barcelona took a smart approach to its city's street lighting. The installation of LED street lamps reduced energy costs and consumption significantly, and sensors that could detect noise and the presence of people, allowed for easy alerting, monitoring and management.

In order to improve access to and efficiency and transparency of public services an open data platform was developed and made available to the public, containing over 300 data-sets. Interactive kiosks were also deployed around the city where citizens could easily engage with certain municipal administrative services, rather than having to visit face-to-face customer service centres.

Barcelona has implemented several other smart city projects over the years, including:

- a smart parking initiative saving commuters time to find a free spot
- smart bins that suck waste into underground catchments and sensors that help optimise waste collection
- a city bike system reducing the amount of vehicles on the road
- hybrid buses and smart bus shelters, decreasing carbon emissions and using solar energy for display panels
- smart irrigation systems allowing watering schedules to be adapted based on various environmental factors and saving water usage overall
- widespread free public Wi-Fi

For further information

- Building a Smart City: Lessons from Barcelona
- Zigurat Global Insitute of Technology Smart City Series: The Barcelona Experience

WOVEN CITY, JAPAN

Toyota plan to build a self-sufficient smart city from the ground up at the base of Mt. Fuji in Japan, to initially house 2000 residents. The city, known as Woven City, will be powered by hydrogen fuel cells and will be fully sustainable with minimal carbon-footprint. In essence, the city will act as a "living laboratory" where residents and researchers will test and develop technologies for autonomy, robotics, personal mobility, smart homes and artificial intelligence (AI) in the real world.

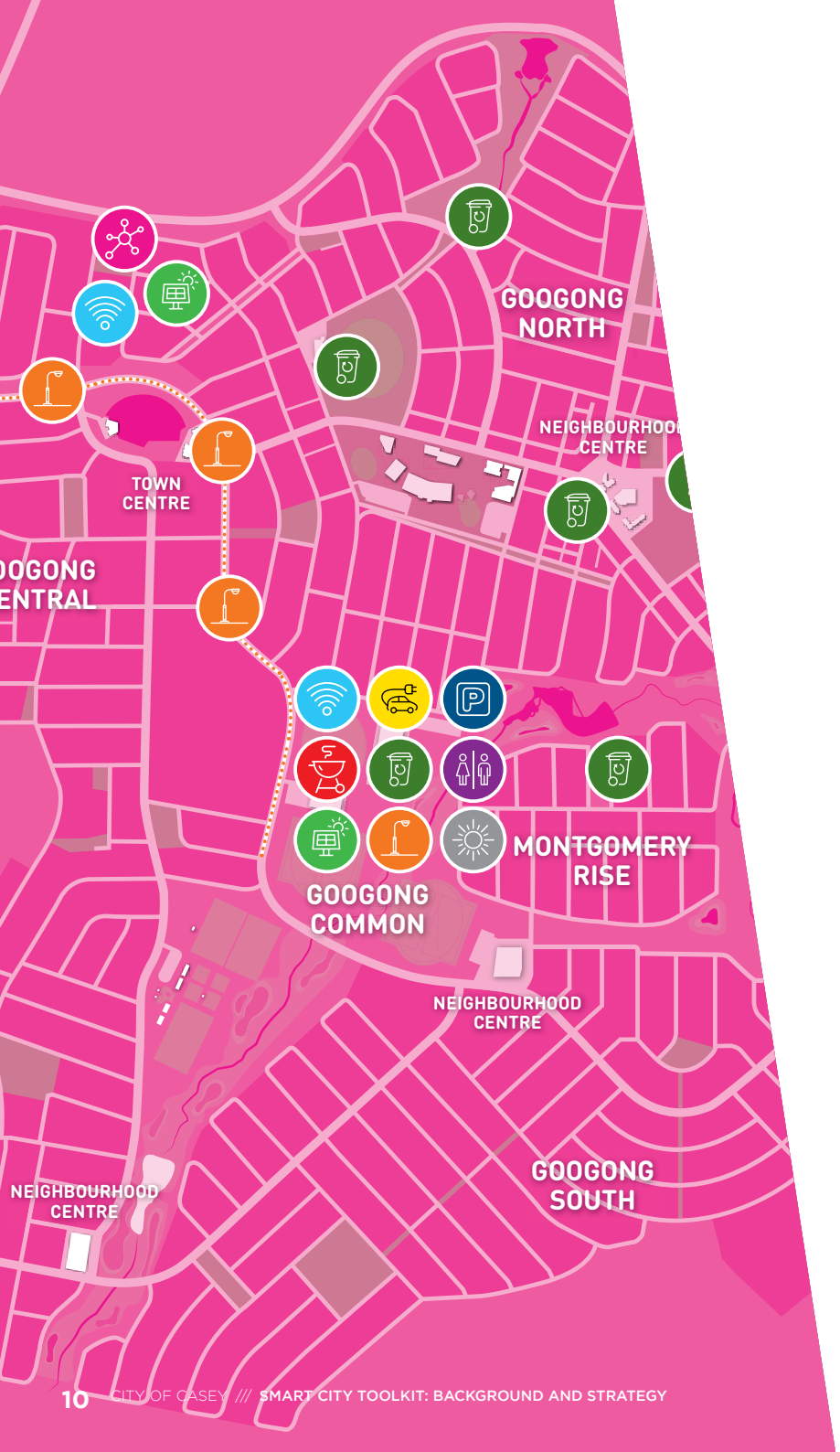
There will be three types of street usages, with one being for fast vehicles, one for mixed lower speed personal mobility and pedestrians, and a pedestrian-only promenade.

Residents will be equipped with the latest human support technologies such as robotics and sensor-based AI within their homes, to help with basic tasks such as monitoring health, taking the rubbish out or restocking the fridge. Outdoor spaces will be filled with native vegetation and hydroponics and mobility within the city will be restricted to fully-autonomous, zero-emission vehicles, and on-demand transportation, deliveries and mobile retail through the use of Toyota e-Palettes.

For further information

> Toyota to Build Prototype City of the Future

A **MORE CONNECTED, BOLD** AND **RESILIENT COMMUNITY.**



THE LOCAL SMART CITY MOVEMENT

GOOGONG, ACT

Set 16km from Parliament House in Canberra, Googong is one of the first towns in Australia to be built on smart technology from the ground up. The town is expected to be self-contained, comprising five neighbourhoods of around 18,000 people, and will include its own parks, schools, shops, businesses and plenty of public open spaces.

Community connection, liveability, sustainability and scalability are some core values driving the town's design and construction. Googong is supported by state-of-the-art smart technology infrastructure, but technology has not just been implemented for technology's sake. From the very beginning there has been extensive community engagement and insights, local demographic and economic analysis, and smart community expert consultation to help drive the design and development of the town.

The Googong Smart Community aligns with the key objectives lined out in the Queanbeyan-Palerang Regional Council Digital Economy and Smart Community Strategy: building a smart economy; better local services; smart data, smart planning; increasing digital capacity and connectivity; and creating vibrant communities.

Some of the key smart technologies planned to be embedded in the town include: smart poles and lighting; smart parking; electric vehicle charging stations; free public Wi-Fi; environmental monitoring sensors; and smart waste. There are plenty of other smart technologies and infrastructure planned to be incorporated to make the town one that delivers enhanced liveability, connectivity, safety and environmental outcomes for its community, built on a foundation of digital technology, data and innovation[3].

For further information

> Googong Smart Community Blueprint

3. Googong Smart Community Vision statement

NEWCASTLE, NSW

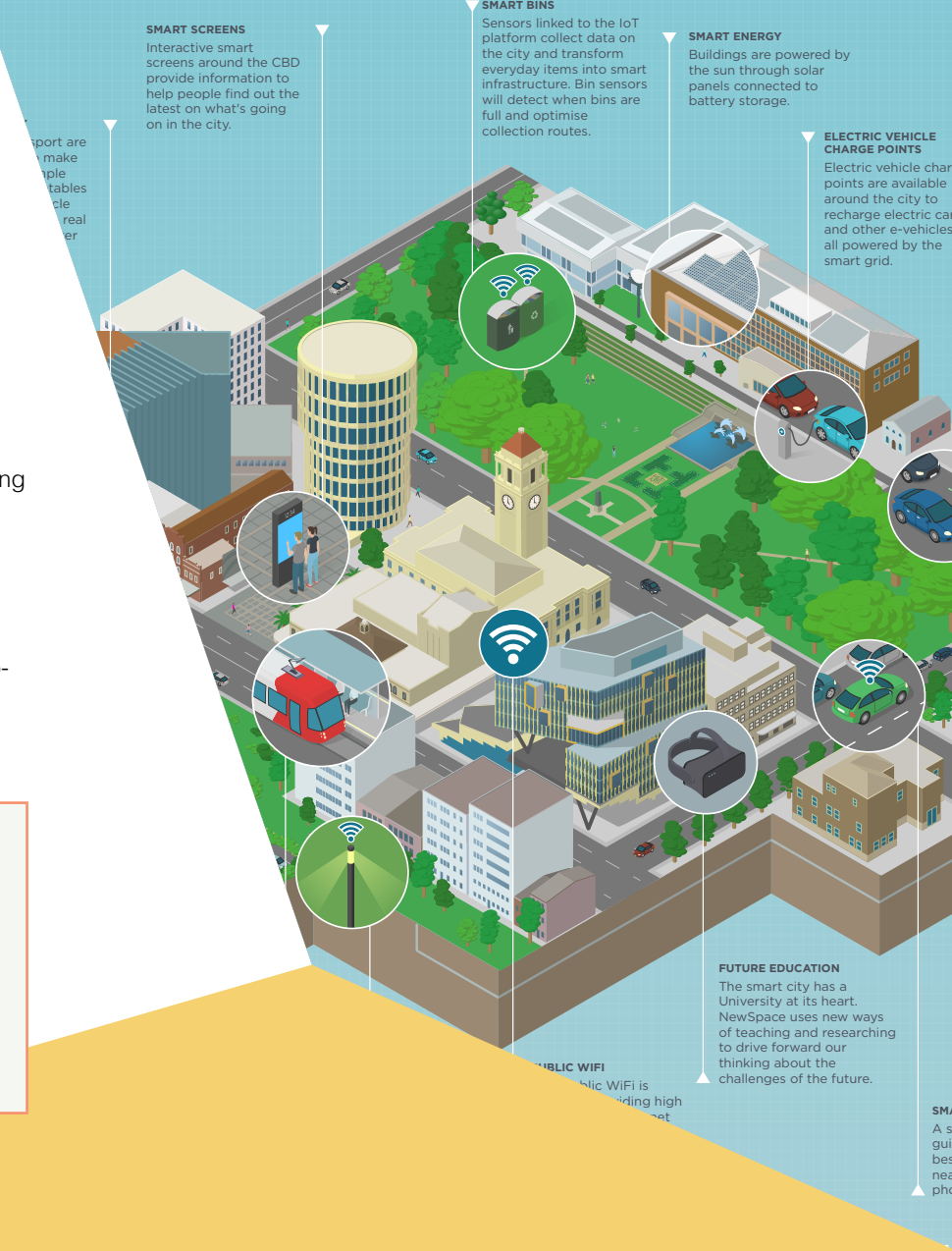
The City of Newcastle was recognised in 2019 as Smart City of the Year by the Smart Cities Council Australia New Zealand. Home to over 164,000 residents, Newcastle has a large regional economy and attracts over 4 million visitors per year. Newcastle's strategic plan and vision is to be a leading lifestyle city that is smart, liveable and sustainable, and its driving principles take into account the cumulative effects of actions on future generations and ecologically sustainable development.

One of the key Smart City projects delivered by Newcastle was an extensive network of 180 connected street poles, capable of providing wide-spread free public internet access to residents, businesses and visitors. The Wi-Fi components are fully integrated within the poles, and additionally, the poles also support efficient street lighting and environmental monitoring sensors connecting back to Council-owned networks.

Beyond the above mentioned technology supporting connectivity around the city, Newcastle has invested in other smart initiatives around mobility (e.g. smart parking, smart bus stops, e-bike sharing network), sustainability (e.g. solar farms, solar panelled buildings, electric vehicle charging points), innovation (e.g. virtual innovation hubs, co-working spaces) and collaboration (e.g. research partnerships, living labs).

For further information

- City of Newcastle Smarter Living
- City of Newcastle: Award-Winning Smart City and Australia's Largest Smart Pole Network
- Local Government NSW, Case study: Smart, liveable and sustainable Newcastle



OPPORTUNITIES TO PARTNER

Partnerships are an integral part of smart city success because they drive collaboration, co-design and the sharing of experience and knowledge.

The City of Casey welcomes partnerships and collaboration to imagine, design and build our smart city. The following identifies the role that the Developers sector can play in smart city development and how Council can work with them to support smart city activity.

ROLE OF DEVELOPER

- Embed digital technology from planning and throughout developments
- Implement smart city best practice
- Invest in smart city capacity building and training
- Provide funding for smart city technology and solutions
- Work with Council to ensure the data is integrated into Council owned systems
- Coordinate with telecommunications providers to ensure connectivity

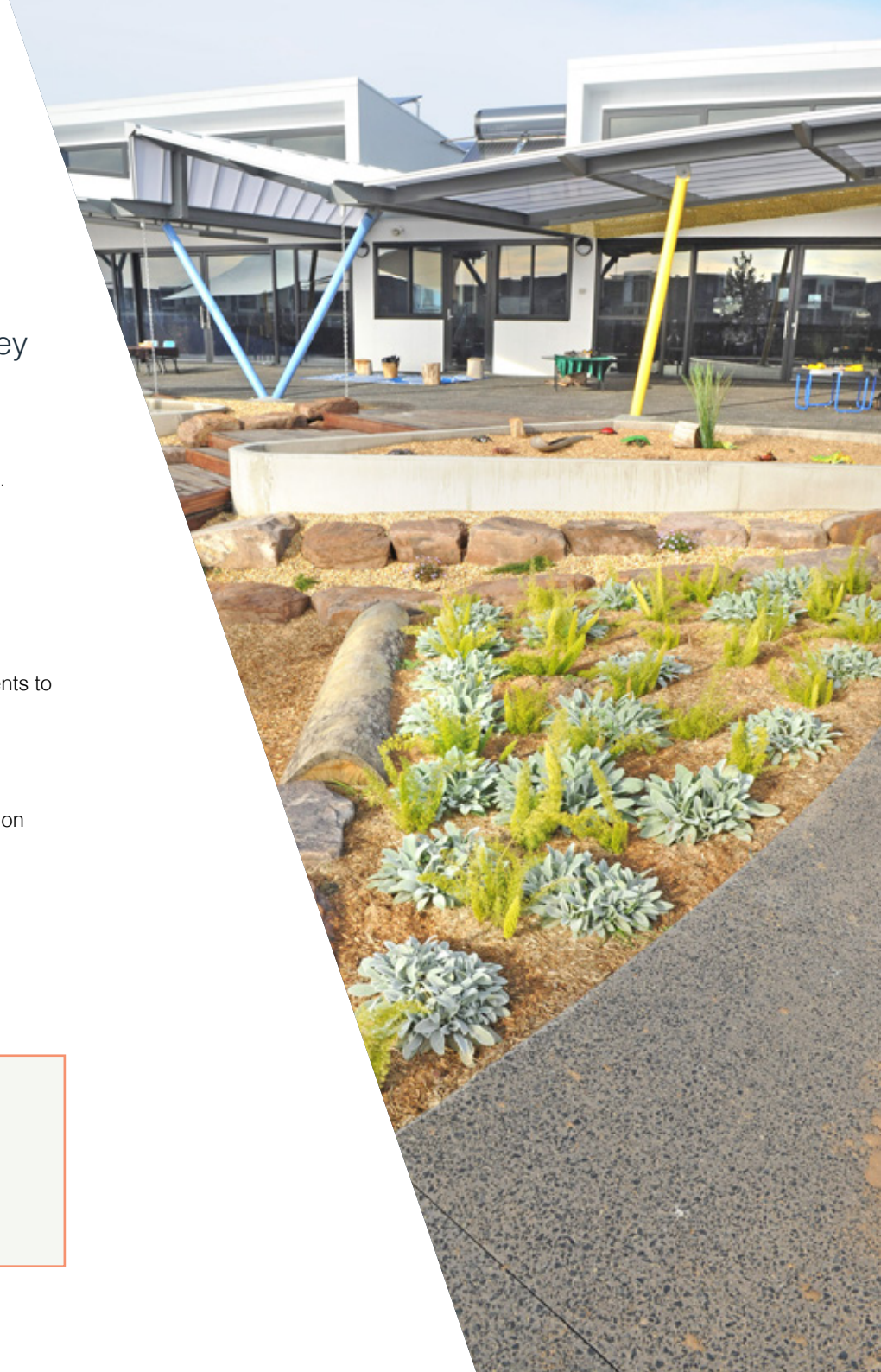
ROLE OF COUNCIL

- Update planning processes and requirements to improve smart technology integration
- Hold a smart development summit to build awareness, understanding and buy-in
- Work with Developers to provide guidance on technical and integration requirements
- Ensure that data outputs are accessible to Developers

WHERE TO NEXT?

If you'd like to know more about specific smart city solutions and the implementation of this type of technology, you please read the Smart City Developer Toolkit – Part B Implementation.

For any questions, please speak to a member of the City of Casey Planning team, or for any general Smart City enquiries you can contact our Smart City team at **smartcity@casey.vic.gov.au**



City of Casey

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