SUBMISSION

Inquiry into the Australian Government's role in the development of cities

May 2017

Smart**Cities**Council

Australia New Zealand

Sustainability is our goal. Smart cities is the accelerator.

Introduction

Smart Cities Council Australia New Zealand (SCCANZ) is pleased to provide this submission to the "Inquiry into the Australian Government's role in the development of cities."

SCCANZ is part of the Smart Cities Council, the world's largest network of smart cities practitioners and policy makers. We act as a market accelerator and advisor to cities – advocating for the transformation of urban areas into more liveable, workable and sustainable communities.

The Council is a coalition of leading technology and sustainability companies with deep expertise in areas such as energy, water, communications and transportation. We have come together to provide a collaborative, vendor-neutral framework to guide cities through their smart cities planning and implementation. We envision a world where technology, data and intelligent design are harnessed to create smart and sustainable cities where compassion and inclusivity reduce social impact and bring prosperity to all.

We believe at the Council that we can only get maximum benefit from smart infrastructure investments if we innovate to include more knowledgeable customers (local and state government) with an efficient procurement process, unlocking new business models using multi-dimensional benchmarks across a full sustainability spectrum.

SCCANZ has provided a response in this submission to both sub-inquiries, as per the terms of reference.

We are the
world's largest network
of smart cities practitioners.
Together we are:

- 120+ member & advisor organisations employing…
- 1.5 million+ people generating…
- $2.7 trillion in annual revenue that have worked on…
- 10,000+ smart cities projects

What we do

We help government accelerate their smart cities journey, by providing trusted, vendor-neutral guidance and best practices from the world's leading experts.

We do this through four key activities:
1. **Inform** – we have created the worlds most comprehensive library of smart cities materials at smartcitiescouncil.com
2. **Educate** – we build the capacity of government through workshops, masterclasses, and other education forums
3. **Convene** – we bring industry and government together by hosting events, forums, roundtables, think tanks, and studios
4. **Advocate** – we work with government to shape smart cities policy, strategy, and projects

With our help governments gain:
- Confidence and tools to procure the right solutions
- Capacity to improve liveability, workability and sustainability
- An ecosystem of expert and collaborative smart city practitioners
- A network of peers for knowledge exchange
- Access to extensive resources on the web and at our events and workshops

In developing our tools and resources, we work with a global Advisory Board that includes more than 70 of the world's leading researchers, academics and NGOs.

In 2013 we published the worlds most comprehensive smart cities planning manual for government, providing over 200 case studies, and a framework for smart cities action. It is now used in over 30 countries around the world.

Terms of reference

SCCANZ understands your interest of the enquiry (via two sub-inquiries), includes the following:

Sustainability transitions in existing cities:
- Identifying how the trajectories of existing cities can be directed towards a more sustainable urban form that enhances urban liveability and quality of life and reduces energy, water, and resource consumption
- Considering what regulation and barriers exist that the Commonwealth could influence, and opportunities to cut red tape
- Examining the national benefits of being a global 'best practice' leader in sustainable urban development

Growing new and transitioning existing sustainable cities and towns:
- Promoting the development of regional centres, including promoting master planning of regional communities
- Promoting private investment in regional centres and regional infrastructure
- Promoting the competitive advantages of regional location for businesses
- Examining ways urbanisation can be re-directed to achieve more balanced regional development
- Identifying the infrastructure requirements for reliable and affordable transport, clean energy, water and waste in a new settlement of reasonable size, located away from existing infrastructure

This submission includes responses to both sub-inquiries.

The smart cities opportunity

The Australian Government is in a unique position – it can provide strategic investment in catalysing national market place opportunities, and embrace the use of standards that can guide direction and action.

As we have recently seen with the Government's Smart Cities and Suburbs program, interest was peaked and stakeholders mobilised. Action is imminent, but for how long is the question.

The Government has a critical role in helping 'activate' policy that can advance smart and sustainable cities and towns. This has always been the case, and always will be. This is predominantly done through policy development, and infrastructure funding.

In this submission SCCANZ highlights the need for a concerted national smart cities effort. This includes creating policy, and directing funding to smart cities projects. But as a first task, it is important to clearly identify what we mean when we refer to smart cities investments.

In line with international standards (ISO), the Australian Government should embrace the following smart cities definition:

A smart city should be described as one that…
… dramatically increases the pace at which it improves its sustainability and resilience,

… by fundamentally improving how it engages society, how it applies collaborative leadership methods, how it works across disciplines and city systems, and how it uses data and integrated technologies,

… in order to transform services and quality of life to those in and involved with the city (residents, businesses, visitors).

As urbanist and writer Jane Jacobs argued in *Cities and the Wealth of Nations* (1984) – the engine of economic development is a city and its surroundings. Cities, not countries, she insisted, are the constituent elements of a developing economy and have been so from the dawn of civilization. Civilisations fail when their cities do.

Today we have the chance to create more advantages for our country, our citizens, our cities and regions and towns, our business and industry – and along the way, our planet.

We can do all of that by investing in smart infrastructure.

By that we mean deploying proven information and communications technologies (ICT) – smart devices, sensors and software – that give our existing infrastructure the equivalent of digital eyes and ears. These intelligent devices enable more efficient and effective monitoring and control of our energy and water systems, transportation networks, human services, public safety operations – basically all core government functions.

The time to start focusing on smart investments in our cities and towns is now. We must invest in smart infrastructure now because we cannot compete globally without it.

And nowhere is the need more obvious than in our urban centers where swelling populations are putting increasing pressure on aging infrastructure. Yet we cannot ignore smaller cities and surrounding towns and rural communities either. So many of them face infrastructure challenges, so many face food and water insecurities, so many are hampered by inefficient processes and policies, so many need secure jobs in the fourth industrial revolution. Yet so many of them are budget constrained.

What they all need is for this generation's visionary leaders and thinkers at all levels of government to see the promise of smart infrastructure investments – and take action.

It starts with a plan

With a national Smart Cities Plan in place, it is important that our cities and towns develop their own roadmap to a smart cities vision. This provides the Australian government, and the private sector, with an investable pipeline of smart infrastructure projects to bank on.

A Smart Cities Plan for local and state government organisations should contain the goals to which our they should aspire to achieve, and the features and functions its smart infrastructure should deliver.
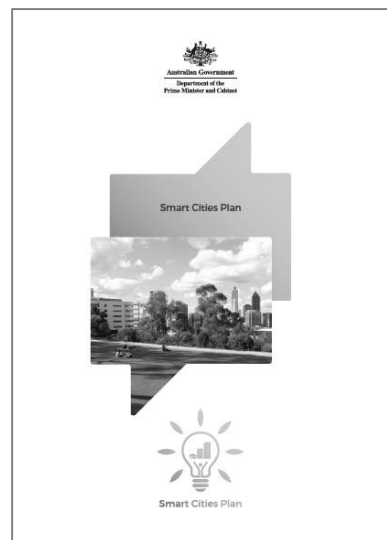
The Smart Cities Framework is a tool used by SCCANZ to help capture the relationship between an organisations responsibilities (what it needs to accomplish for the community) and the key smart cities enablers (the smart technologies and investment that can make those tasks easier).

It also highlights the key catalysts and accelerators for action. This framework is depicted on the following page, and can be used to help engage relevant stakeholders that support the governments core responsibilities in delivering sustainable cities and towns, and how technology and data may support this vision.

The Accelerators

Sustained Leadership
Collaborative Governance
City Systems Model
Urban Data Platform
Performance Dashboard
Cross-City Intelligence
Demand Aggregation
Community Engagement

Buildings
Engagement
Connectivity
Mobility
Utilities (Energy/Water/Waste)
Health & Wellness
Public Spaces & Places
Payments & Finance
Education

Technology Enablers

Connectivity
Sensors and Controls
Interoperability
Security and Privacy
Data Management
Computing Resources
Analytics

*The Smart Cities Council Smart Cities Framework*

Delivering action

To drive smart cities action throughout our cities and towns, we recommend embracing the core functions of the smart city. In simple terms, there are three parts to this: collecting, communicating and crunching data.

First, a smart city collects information about itself through sensors, other devices and existing systems. Next, it communicates that data using wired or wireless networks. Third, it "crunches" (analyses) that data to understand what's happening now, and what's likely to happen next.

Projects can derive benefit by collecting, communicating and analysing information from a single source. But the greatest benefits come when data is connected with multiple sources (government departments) and third parties.

Many projects combine historic traffic data with information about residential growth and business expansion to know when and where to add or subtract transit operations, as an example. Other projects correlate multiple data sources to predict pedestrian movement, and the way we predict weather.

Establishing the conditions and infrastructure to enable government to merge multiple data streams and 'mine' them for amazing insights, should be a goal for all levels of government. It is those insights – presenting, perfecting and predicting – that enhance the overall sustainability of our cities and towns.

| Collect | Communicate | Crunch |
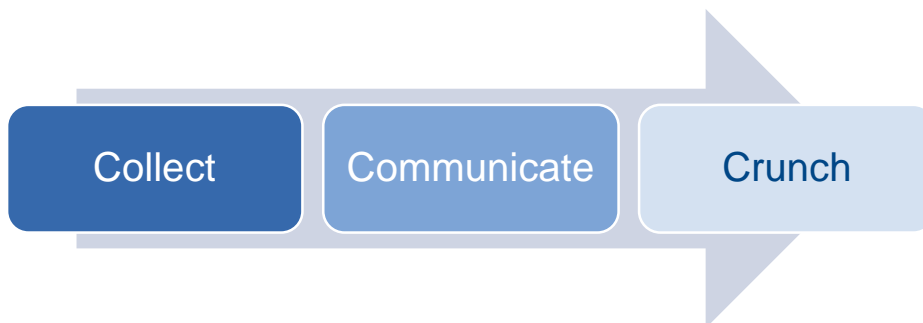
Collect information (data) about conditions across all core services (energy, water, traffic, weather, building performance, pedestrian activity, air quality), and store it…

Communicate that information to other devices, to a control centre and/or to another platform (devices both "talk" and "listen")…

Crunch the data to provide actionable intelligence, which includes - 1) situational awareness, 2) real-time optimisation and, 3) predictive analytics.

Recommendations

How can the Australian government accelerate the smart infrastructure investments that will trigger targeted job growth, national advantage and shared prosperity? By accepting that government-as-usual will not get the job done; that we must freshen dated policies and practices that impede progress.

It is therefore recommended that a key role for the government is to help enable our cities and towns to:

Develop the capacity to innovate – unlock innovation. Many city leaders are eager to use smart technologies, but they don't know how. They need access to knowledge, including best practices and case studies. Many cities are organised to deliver 19th century infrastructure – pour concrete, lay bricks, erect poles, dig holes. But 21st century requirements – citizen services, resource efficiency and greater equity – need a different approach.

Aggregate demand – unlock legal boundaries. For ICT to deliver true benefits, a project needs scale - distributing costs and benefits over many users. Political boundaries, which were logical when developed, prevent governments from optimising the lifecycle benefits of ICT.

Streamline procurement – unlock antiquated approaches that hamper efficiency. There are smarter, tech-enabled approaches available today that can streamline government procurement without side-stepping transparency and diligent stewardship of public funds.

Embrace new financing models – unlock local government financing barriers. Local governments cannot count on traditional funding sources, so they need to adopt a mindset that is open to some of the newer and more creative financing strategies available today. The City Deals process provides a unique opportunity for this to happen, with more closely aligned funding across all tiers of government providing an incentive for greater private sector investment.

Benchmark results – unlock the limitations of one-dimensional metrics. By benchmarking results in an integrated way, cities can effectively remove the limitations of one-dimensional metrics. They can then justify larger investments in the right kinds of smart cities projects – and communicate benefits to their citizens more effectively.

The goal, of course, is to make our cities and towns more liveable, workable and sustainable. If we start by addressing how to make our physical infrastructure smarter, we can unlock the social and human potential within.

A city isn't smart because it uses technology. A city is smart because it uses technology to make citizen's lives better.

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