SMART PLACES

WHAT. WHY. HOW.

@adambeckurban

@smartcitiesanz

SmartCitiesCouncil® Liveability
Australia New Zealand Workability
Sustainability

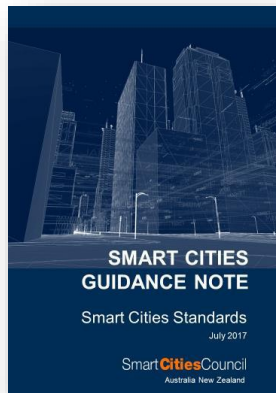**Smart Cities Council**

We envision a world where digital technology, data, and intelligent design have been harnessed to create smart, sustainable cities with **high-quality living** and **high-quality jobs.**

We promote cities that embody our three core values – liveability, workability, & sustainability

Knowledge is power
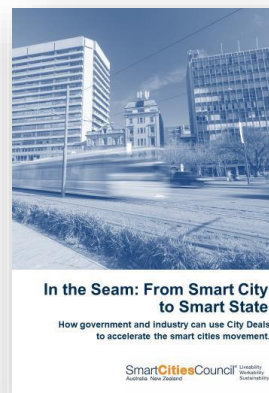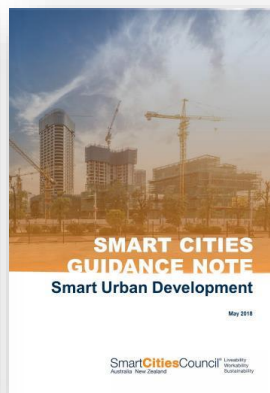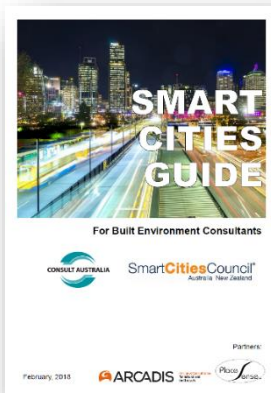
The Smart Cities Council works with aligned organisations to create resources that support the transformation of government and non-government organisations, and the practitioners and policy makers shaping change around the world.

" smart. cities.

Three Generations of Smart Cities

-Boyd Cohen

01 Technology Driven – lack of the fundamental dynamic of how cities interact with people

02 Technology Enabled, City Driven – understanding the role of smart technologies and other innovations in realising the city's future vision

03 Citizen Co-Created – grounded in equity and social inclusion, are sharing cities, embracing citizen co-creation models

A smart city is one that…

uses data and integrated technologies,

to transform services and quality of life

International Standards Organisation

A smart city is 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).
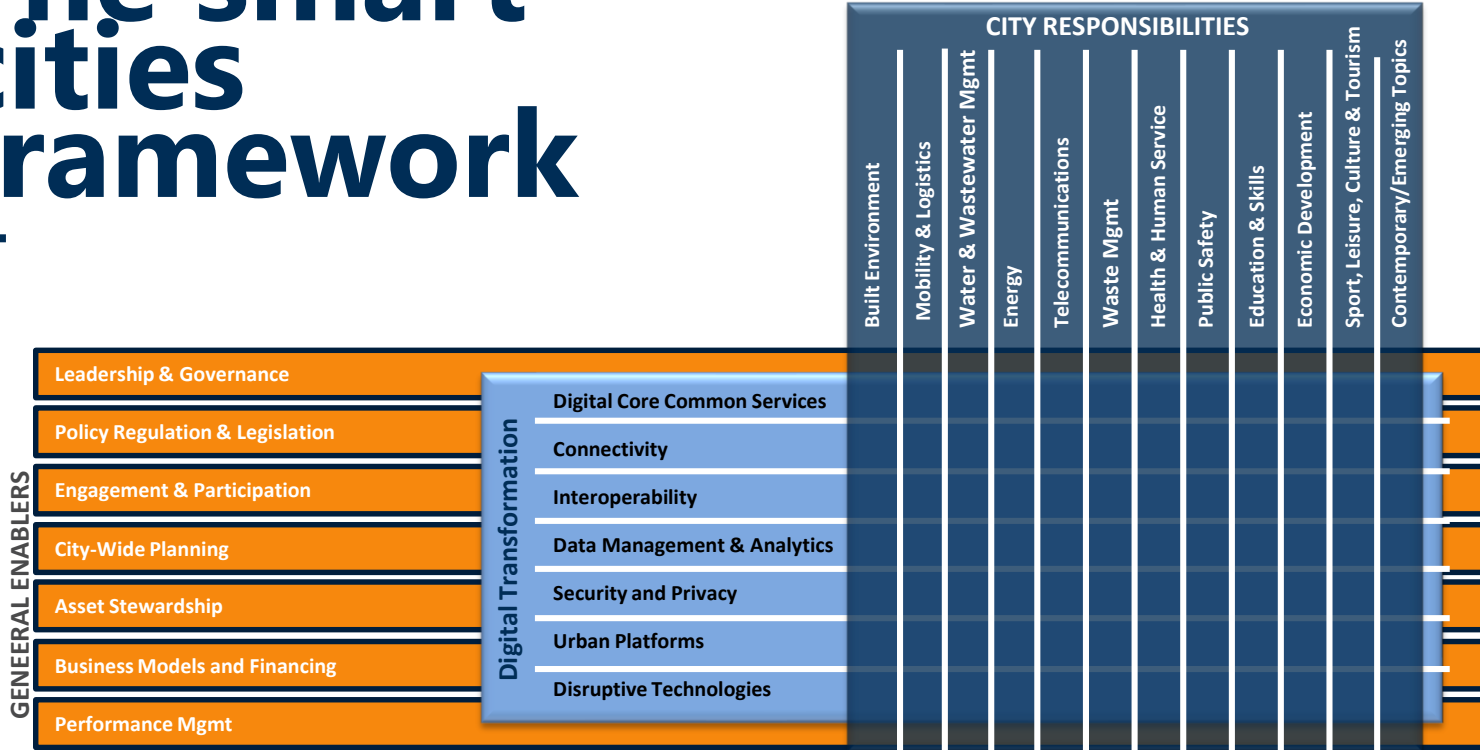
International Standards Organisation

Core Functions of the Smart City

COLLECT

COMMUNICATE

CRUNCH

The smart cities framework

CITY RESPONSIBILITIES

	Built Environment	Mobility & Logistics	Water & Wastewater Mgmt	Energy	Telecommunications	Waste Mgmt	Health & Human Service	Public Safety	Education & Skills	Economic Development	Sport, Leisure, Culture & Tourism	Contemporary/Emerging Topics

GENEERAL ENABLERS

- Leadership & Governance
- Policy Regulation & Legislation
- Engagement & Participation
- City-Wide Planning
- Asset Stewardship
- Business Models and Financing
- Performance Mgmt

Digital Transformation

- Digital Core Common Services
- Connectivity
- Interoperability
- Data Management & Analytics
- Security and Privacy
- Urban Platforms
- Disruptive Technologies

Is this storm perfect?

1.0

Imperatives, like never before

2.0

Conditions of success, like never before

3.0

Standards, like never before

46%   30%

of Australia's carbon budget to be spent by 2050 by buildings   *of our efforts in the construction process wasted from inefficiency*

Globally the construction sector lags behind all other sectors in using technology and data to enhance performance, and the outcomes it delivers to citizens.

Within the built environment, buildings alone are projected to emit almost half (46%) of Australia's 'carbon budget' by 2050. And from 2005 to 2015 the overall energy intensity from commercial buildings in Australia improved by only 2%.

To compound the issue, the construction industry in Australia has not substantially improved its productivity in decades, and can waste up to 30% of its efforts.

So...

EVERYTHING

...about our cities is changing.

Experience

Opportunity

Mobility

Health

Built Environment

Utilities

Finance

AN INFRASTRUCTURE SPEND THAT MAKES YOUR EYES WATER

Further opportunities exist to improve the sustainability, quality and efficiency of buildings and precincts through standards and investments. The national Green Star System, developed by the Green Building Council of Australia, for example, is a rating system helping to improve the sustainability of buildings and communities.

Smart Cities Plan

NATIONAL CITIES PERFORMANCE FRAMEWORK
Interim Report

Australian Government
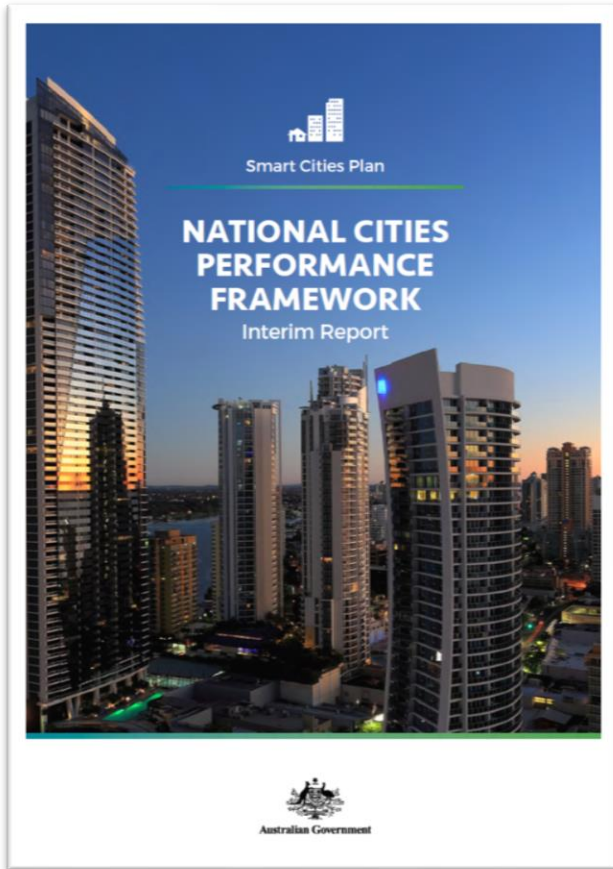
The Australian Government is committed to the continual improvement of our cities. Governments need to track and compare cities' performance in order to make the best policy and investment decisions for Australia's future.

DELIVERING
City Deals

City Deals are a new approach in Australia to bring together the three levels of government, the community and the private sector. The partnership focuses on aligning planning, investment and governance to accelerate growth and job creation, stimulate urban renewal and drive economic reforms to secure the future prosperity and liveability of our cities.

Our Focus Areas

The uniqueness and diversity of Australia's cities means that it is necessary to tailor the approach to designing and delivering Australian City Deals. The approach draws from our experience developing the first three City Deals in Townsville, Launceston and Western Sydney, as well as lessons from overseas.

Depending on the city's priorities, a City Deal might include investment, planning, policy and regulatory changes in relation to:

- Jobs and skills
- infrastructure and investment
- liveability and sustainability
- innovation and digital opportunities
- governance, planning and regulation and
- housing

City Deal Principles

These principles will guide the development, consideration and selection of City Deals.

A shared vision for growth, reform and improvement

The commitment to a City Deal reflects a serious and shared ambition from federal, state or territory and local leaders to improve their city. The process of agreeing and implementing the City Deal provides an impetus for major reforms and co-investments that can jump-start economic growth and improve liveability.

A negotiated and customised approach, across the whole of government

City Deals focus on leveraging cities' unique strengths and responding to their specific needs. Instead of national and state policies and programs delivered locally by different departments, working with local governments and stakeholders produces a unified deal that addresses a city's priorities.

Transformative investment

Investment delivered as part of a City Deal is focused on a long-term vision for the city, not immediate business-as-usual needs. This longer term and broader approach makes City Deal investment transformative, rather than reactive.

Institutional and governance reforms for sustained improvement

For sustained improvement, institutional reforms and investments may also be necessary to improve local capacity for whole-of-city governance and reform. This could include creating new bodies for planning, collaboration, governance and investment to ensure progressive improvement.

Innovative financing and value capture

City Deals should, where possible, use innovative financing and funding methods to deliver greater investment than could otherwise be provided. Since the deals aim to integrate transport, housing and land use policies, they create the opportunity for coordinated action to maximise and capture the value of investment.

Australian Government
Department of the Prime Minister and Cabinet

An Executive Board (established for each City Deal to oversee implementation) will **monitor and evaluate** progress on the delivery of commitments. We will report annually on the progress.

The Parliament of the Commonwealth of Australia

Smart ICT

Report on the inquiry into the role of smart ICT in the design and planning of infrastructure

House of Representatives
Standing Committee on Infrastructure, Transport and Cities

March 2016
Canberra ACT

In its recommendations, the report urges the Government to take a more coordinated and integrated approach to the development of smart ICT and its application to infrastructure planning. The central recommendation of the report is the formation of a Smart Infrastructure Task Force—based on the UK model—to provide national coordination between governments, industry and researchers for the development and implementation of smart ICT in the design, planning and development of infrastructure, and in the maintenance and optimisation of existing infrastructure. The development of capacity within and between governments is central to a successful Task Force, and several recommendations address this issue.

Policy opportunities

SMART INFRASTRUCTURE

Create a Digital Built Australia Policy.

Through the use of intelligent building information models, internet of things technology and open, shared and secure data, we can transform our built environment by, among other things, achieving:

• Reductions in whole-of-life costs.
• Reductions in carbon emissions.
• Enhancements in productivity and capacity.

There is currently no BIM/IoT/Smart Cities Strategy for government infrastructure investment in Australia.

FUNDING

Commit to a Smart Cities and Suburbs V.2.0 initiative.

Funding beyond the current cycle of the Smart Cities and Suburbs Program is critical to ensure the broader adoption and scaling of technology and data solutions is achieved to enhance city performance.

In accordance with SCCANZ's recommendations made to the government, it is imperative that the program design be amended to ensure more diverse opportunities are created, with greater potential for replication and longer term institutionalisation.

ACTION CLUSTERS

Facilitate a network of smart cities action clusters.

Off the back of the Smart Cities and Suburbs program, facilitate the active engagement of both successful and unsuccessful applicants by supporting the creation of a network of place-based or topic-based action clusters.

This program would enable cross-sector organisations to form 'action clusters' to work on scoping and delivering smart cities projects.

The outcomes would be to establish and demonstrate replicable, scalable and sustainable models for smart cities investment.

CITY DEALS

Position City Deals as a catalyst for smart cities investment.

The Smart Cities Council has identified six core opportunities for scaling the impact of smart cities investment through the City Deals process, including:

• Developing the capacity of local government to innovate.
• Aggregating demand for smart cities investment.
• Streamlining procurement processes by creating pan-government frameworks.
• Building a data culture across government.
• Activating smart precincts, communities and campuses.

Capacity

Ensure local government organisations are smart cities 'ready, and develop the capacity to innovate

Demand

Helping projects be successful through scale, and distributing the costs and benefits

Procurement

Helping dismantle antiquated approaches that hamper economic efficiency and stifle entrepreneurship

Local Government Capacity

Aggregate Demand

Streamline Procurement

Financing Models

Unlocking government financing barriers, and accelerating private sector capital by embracing creative funding and finance tools as a core challenge that needs to be overcome.

Data Culture

Unlocking the limitations of analogue data gathering and reporting by embracing real-time and granular data collection and analytics is potentially one of the biggest opportunities for governments.

Smart Precincts

The building blocks of our cities – precincts, communities and campuses – are critical opportunities for delivering smart cities outcomes, with a view to scaling the solutions.

THE CODE FOR SMART COMMUNITIES

To provide definition, guidance, boundaries, and support to building better communities.
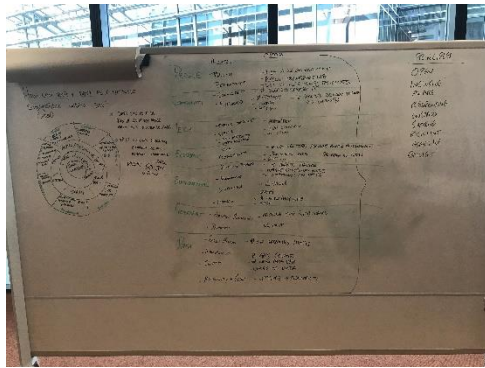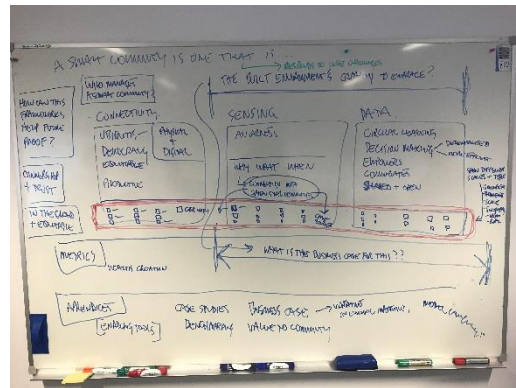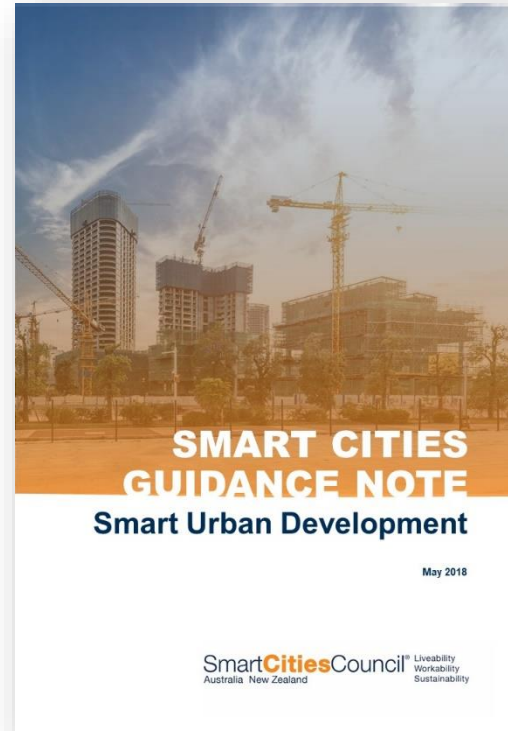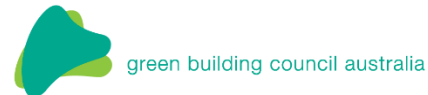
PHASE 1 OF THE CODE FOR SMART COMMUNITIES...

Smart Urban Development Guidance Note.

It provides:

- Definition

- Principles

- Common language

- Consistency

SMART CITIES GUIDANCE NOTE
Smart Urban Development

May 2018

SmartCitiesCouncil® Liveability Workability Sustainability
Australia New Zealand

In partnership with:

green building council australia

Smart urban development is development that uses technology, data and intelligent design to enhance the community's liveability, workability and sustainability.

THE FIVE PRINCIPLES OF SMART URBAN DEVELOPMENT.

These principles present the underpinning concepts of what we define as a smart community, and have been used to create metrics.

1. **STRATEGIC**

2. **CONNECTED**

3. **AWARE**

4. **RESPONSIVE**

5. **INNOVATIVE**

BUT WAIT...

COLLABORATION SUSTAINABILITY PLACE

Smart urban development can only succeed with the following foundations:

1. A commitment to collaboration, whereby engagement is built on trust, stakeholders learn to let go, share power and embrace diversity.

2. A commitment to achieving a minimum 4 Star Green Star rating against the Green Star Communities rating system.

3. A demonstrated alignment with the principles and attributes contained with the Australian Urban Design Protocol.

Smart urban development is guided by a strategy that clearly identifies how investments in technology and data solutions will be made in order to accelerate liveability, workability and sustainability outcomes.
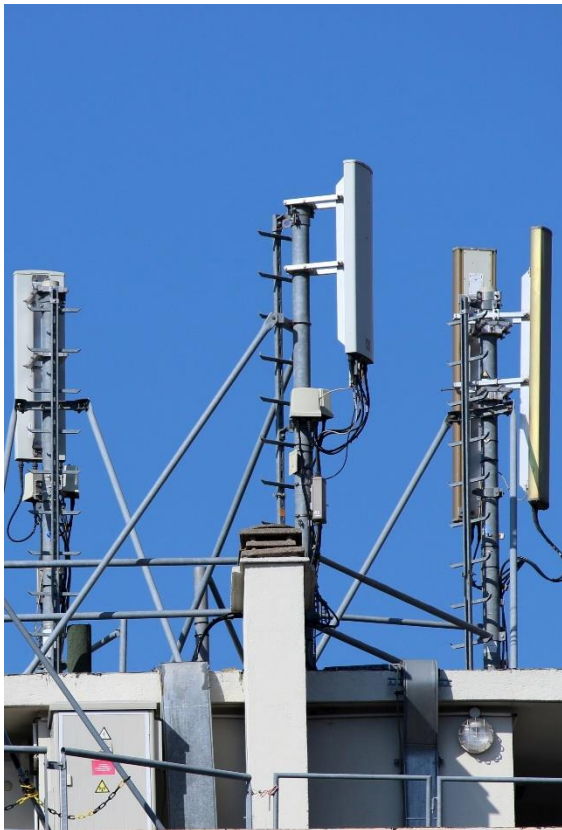
This means that the project:

- Is guided by a set of values and outcomes that drive decision making and investment focused on sustainability outcomes.

- Is deeply connected across systems, stakeholders and processes for delivery of services.

- Views technology and data solutions as a key enabler and accelerator for the projects vision.

- Embraces actions that can be articulated, delivered, managed, measured, reported and evaluated.

Alignment with this principle could be demonstrated through a number of actions, including applying the following British Standards Institution documents to the creation of your smart cities strategy:

- PAS 181 - Guide to establishing strategies for smart cities and communities

- PD 8101 - Smart cities – Guide to the role of the planning and development process

- ISO 37106 -
- **Sustainable cities and communities — Guidance on establishing smart city operating models for sustainable communities**

1. STRATEGIC

Smart urban development has access to high speed and ubiquitous connectivity while maintaining the interoperability of connected devices.

This means that the project:

- Has a precinct-wide (public domain) area infrastructure services network, including as a minimum telecommunications, lighting, clean energy, water and security system.

- Uses sensors to gather data on the conditions within and around the community.

- Embeds interoperability standards from the early design phase, to support multiple types of technologies.

- Maintains the highest level of data security for connected devices.

Alignment with this principle could be demonstrated through a number of actions, including applying the following guidance documents to the design and installation of the services network and connected devices:

- ISO/IEC - 14763-2 Information technology implementation and operation of customers premises cabling. Planning and installation.

- Internet of Things Alliance Australia Security Guideline V1.2

- British Standards Institution PAS 212:2016 Automatic resource discovery for the Internet of Things. Specification.

2. CONNECTED

Smart urban development invests in the collection, integration, analytics and communication of data as a basis for building awareness, insights and optimisation of its services and performance.

This means that the project:

- Builds a 'data culture' across the various stakeholder groups and sectors, including the community.

- Has an open data platform, with supporting data governance framework.

- Has provision for the design of and access to adequate data storage.

- Makes data privacy a core priority.

Alignment with this principle could be demonstrated through a number of actions, including applying the following:

- Smart Cities Council Open Data Guide.

- ISO/IEC 30182:2017 - Smart city concept model --Guidance for establishing a model for data interoperability.

- ISO 27001 – Information security management systems. Requirements.

3. AWARE

Smart urban development supports a culture of ongoing positive change afforded through the insights and intelligence gathered from data.

This means that the project:

- Embraces collaborative governance models which build shared ownership and responsibility across decision-making processes.

- Is able to use integrated and automated responses.

- Can be flexible, proactive and preventative in its approach to decision making.

- Embraces a continual improvement culture by using feedback loops.

- Is performance-driven, using ccommunity performance dashboards that display smart community insights.

Alignment with this principle could be demonstrated by advancement against suitable metrics, including:

- Percentage of population engaged through digital channels (eg. API's, kiosks, wi-fi, registered user hits).

- Number of or potential realised value of improvement initiatives driven by data.

- Number of documented changes in human behaviour attributed to published data (eg. Reduction in energy and water consumption, increase in tree plantings, increase in physical exercise).

4. RESPONSIVE

5. INNOVATIVE

Smart urban development builds a culture of creativity, equity and agility to help advance opportunities for innovation.

This means that the project:

- Embraces disruption and thrives on the excitement of solving challenges.

- Expresses the behaviour and practice of deep collaboration among diverse stakeholders.

- Is underpinned by open and sharing platforms and practices.

- Builds a knowledge workforce.

- Nurtures the start-up economy, by providing opportunities to bring people together through co-working spaces, incubators and accelerators.

- Has a clear goal to scale its impact.

Alignment with this principle could be demonstrated by advancement against suitable metrics, including:

- Number of start-ups established.

- Number of start-ups who have scaled internationally.

- Evidence of investment creation pathways.

- Evidence of an open innovation platform.
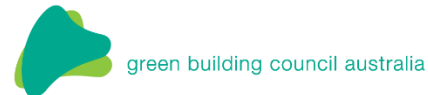
Metrics

- Level of multi-service communication
- Commitment to interoperability
- Use of open integration architecture
- Priority use of legacy investments
- Publishing of privacy rules
- Creation of security framework
- Level of cybersecurity
- Development of data management, transparency and sharing
- Presence of cloud computing framework
- Open innovation platform
- Central GIS system
- Network and device management strategy

"

standards help us...

to engage

to commit

to procure

to deploy

to replicate

to scale

to be awesome