Smart Cities Plan

NATIONAL CITIES PERFORMANCE FRAMEWORK

Interim Report

Australian Government

COPYRIGHT
Statement

National Cities Performance Framework

© Commonwealth of Australia 2017

Copyright Notice

With the exception of the Commonwealth Coat of Arms, this work is licensed under a Creative Commons Attribution 4.0 International licence (CC BY 4.0) (http://creativecommons.org/licenses/by/4.0/deed.en).

Third party copyright

Wherever a third party holds copyright in this material, the copyright remains with that party. Their permission may be required to use the material. Please contact them directly.

Attribution

This publication should be attributed as follows: Commonwealth of Australia, Department of the Prime Minister and Cabinet, National Cities Performance Framework Interim Report.

Use of the Coat of Arms

The terms under which the Coat of Arms can be used are detailed on the following website: http://www.dpmc.gov.au/government/its-honour.

Other uses

Enquiries regarding this licence and any other use of this document are welcome at Cities@pmc.gov.au

FOREWORD

Australia's success in the 21st Century economy depends on our cities, suburbs and regional centres.

Australia's most valuable natural resource is our human capital. Our people — their ideas, skills, experience and enterprise — are the driving force of productivity growth.

Great cities attract, retain and develop talent — our bright minds and businesses — encouraging them to create jobs and support growth.

Increasingly our cities compete on a global stage, and the liveability of a city can be the determining factor in a city's success.

Today, Australia's cities are amongst the world's most liveable.

While the opportunities have never been greater, congestion, poor access to jobs and services, reduced housing affordability and increasing pollution can challenge the quality of life they offer.

The Turnbull Government's Smart Cities Plan is committed to creating the foundations for success across all cities and regional centres.

Delivering on this commitment starts with common goals, agreed across governments, and an ability to measure their delivery over time.

The National Cities Performance Framework supports this approach, measuring the performance of Australia's largest cities.

The Performance Framework will be the first of its kind in Australia, bringing together critical data in an easily accessible online format.

In one location, you will be able to track the performance of cities across key measures: jobs and skills; infrastructure and investment; liveability and sustainability; innovation and digital opportunities; governance, planning and regulation; and housing.

The Performance Framework will support all governments to better target, monitor and evaluate cities policy. It will be key to the Government's commitment to continuous improvement through City Deals.

The Performance Framework will also be a living resource to be improved over time, drawing on resources made available through the Australian Government's open data initiatives, including data.gov.au and NationalMap.

I would like to thank all those who have contributed to the development of the Performance Framework thus far and I welcome all feedback on this Draft Report.

The Hon Angus Taylor MP
Assistant Minister for Cities and Digital Transformation
July 2017

CONTENTS

Box 1. Give your feedback

This is an Interim Report and your feedback is welcome on:

1. Whether the right indicators have been included for measuring performance against the Australian Government's six Smart Cities policy priorities.
2. What additional features, indicators or coverage should be added to the Performance Framework in the future.

Please provide feedback using the online feedback form available at https://cities.dpmc.gov.au/performance-framework by 18 August 2017.

An online dashboard displaying the Performance Indicators and a Final National Cities Performance Framework Report will be released later in 2017.

EXECUTIVE
Summary

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.

The National Cities Performance Framework will support greater awareness and understanding of Australia's cities among policy makers and interested Australians.

Purpose of the performance framework

The National Cities Performance Framework:

- helps to understand the context for the performance of cities
- provides data to help users measure the performance of cities
- supports the selection, focus and evaluation of City Deals

The role and purpose of the Performance Framework is discussed in section 2.

Policy priorities

The National Cities Performance Framework is designed to measure how well our cities are performing against the Australian Government's Smart Cities policy priorities:

- **Jobs and skills:** the Government aims to boost employment by supporting skills and industry development, and diverse economic growth.
- **Infrastructure and investment:** the Government aims to improve accessibility and productivity in cities with high quality, efficient and effective infrastructure and transport solutions.
- **Liveability and sustainability:** the Government aims to improve safety, social cohesion and health in our cities. The Government also aims to improve air quality, access to green space and active transport, while acting to reduce carbon emissions.
- **Innovation and digital opportunities:** the Government aims to harness the productive potential of information and communications technologies and the digital economy, and to make data publicly available where practical.
- **Governance, planning and regulation:** the Government aims to deliver coordinated and integrated policy, planning and investment across all levels of government.
- **Housing:** the Government aims to improve housing supply and affordability, and encourage appropriate densities and diversity of housing options.

Section 3 describes the six Smart Cities policy priorities and explains how the Performance Framework helps measure their success.

Indicators

The National Cities Performance Framework contains 12 contextual indicators and 41 performance indicators for Australia's 21 largest cities and Western Sydney (see Box 2). These include traditional economic and social indicators — such as the unemployment rate, homelessness rate and average life expectancy — as well as indicators that shed light on the specific challenges of living in major cities — such as traffic congestion and access to urban green space.

In developing the Performance Framework, the Australian Government drew on a range of Australian and international performance frameworks and research literature, and consulted with leading city policy and data experts. Many indicators were considered and only shortlisted following extensive consultation and review. The complete list of draft indicators, and a discussion of how they were selected, is provided in section 4.

Future directions

The Performance Framework is intended to be expanded and improved over time. In consulting on the Performance Framework, the Government received suggestions that it cover more cities and locations and that it contain more or different indicators. While not all suggestions were able to be incorporated in the Interim Performance Framework, many will be considered for future enhancements.

2. PURPOSE OF THE PERFORMANCE FRAMEWORK

The National Cities Performance Framework will help governments, businesses and communities better understand the context and measure the performance of our cities. It also supports governments to monitor and evaluate City Deals and implement policies to make our cities more productive and liveable.

The National Cities Performance Framework improves on previous Australian Government approaches to city reporting by bringing together critical cities information in an easily accessible online format, in the one location.

The Performance Framework:

- helps to understand the context for the performance of cities
- provides data to help users measure the performance of cities
- supports the selection, focus and evaluation of City Deals

For many of the Government's Smart Cities policy priorities, there were previously no clearly identified measures of city performance. The Smart Cities Plan committed the Australian Government to working with states and territories, councils, communities and the private sector to identify key city metrics and develop a toolkit for monitoring their performance.

The National Cities Performance Framework provides a consistent set of data across Australian cities, which supports better and more informed decision making.

Box 2. City coverage of the National Cities Performance Framework

The National Cities Performance Framework initially includes data and information for Australia's 21 largest cities (those with over 85,000 residents) and Western Sydney. Information on those cities is typically presented as follows:

- For Sydney, Melbourne, Brisbane, Adelaide, and Perth, the *Greater Capital City Statistical Area* has been used
- For the Australian Capital Territory, the *state boundary* has been used
- Western Sydney has been defined using a collection of *Statistical Areas 2* which align to the following defined Local Government Areas:
  - > Blue Mountains
  - > Camden
  - > Campbelltown
  - > Fairfield
  - > Hawkesbury
  - > Liverpool
  - > Penrith
  - > Wollondilly
- For other cities an aggregation of Statistical Areas 2 which align with the Significant Urban Area has been used

Figure 1. Cities in the National Cities Performance Framework

Cities

Albury – Wodonga
Australian Capital Territory
Ballarat
Bendigo
Cairns
Geelong
Gold Coast – Tweed Heads
Greater Adelaide
Greater Brisbane
Greater Darwin
Greater Hobart
Greater Melbourne
Greater Perth
Greater Sydney
Launceston
Mackay
Newcastle – Maitland
Sunshine Coast
Toowoomba
Townsville
Western Sydney
Wollongong

Purpose of the
Performance Framework

2.1 Understanding city context

Contextual indicators can help to understand why a city performs the way it does and what policies may be effective for improving economic performance and quality of life. They are not measures of performance and typically not amenable to local policy intervention.

The National Cities Performance Framework contains around 10 contextual indicators for Australia's cities. Contextual indicators help users understand a city's characteristics, including its population, demographic composition and industrial mix. The contextual indicators provide context for considering what policies may be most effective in each Australian city.

The contextual indicators are also important for interpreting the performance indicators and understanding their policy implications. For example, the Performance Framework includes the labour force participation rate as a performance indicator, to help understand residents' workforce engagement. However, some smaller cities have older populations, which may partly explain their lower labour force participation. A city's demographics may also affect the choice of policy intervention, since the reasons for non-participation may differ between age groups or people of different backgrounds. Therefore, knowing a city's demographics and other contextual information is important for interpreting and responding to the performance indicators.

2.2 Measuring city performance

The National Cities Performance Framework contains around 40 performance indicators for Australia's cities. Performance indicators are an important tool for evidence-based policy making. Tracking performance indicators can alert policy makers to potential issues in our cities and can provide a starting point for considering different policy options.

Performance frameworks are most effective when indicators are meaningful and provide deep insight into the policy questions under consideration. Successful performance frameworks:

- **Have clear policy objectives:** performance frameworks should set out policy objectives clearly and explain how each indicator helps measure the policies' success. Performance indicators measure how cities are performing against the Australian Government's six Smart Cities policy priorities, as outlined in section 3.
- **Have clear and credible indicators:** performance frameworks should be transparent, easily understood and accepted to galvanise public support and drive more informed decision-making. The rationale for each indicator, how it is calculated and its relationship to the Government's Smart Cities policy priorities is in the Data Dictionary at Appendix A.
- **Track performance over time and across cities:** to monitor progress and measure the effect of interventions, indicators must be tracked over time and compared across cities. The Performance Framework will be updated annually with more significant updates to coincide with the release of the Australian Census.

2.3 Monitoring and evaluating city deals

City Deals are agreements between the Commonwealth, state or territory, and relevant local governments to undertake investments, planning changes, reforms and other policies in a city, to deliver the objectives of the Smart Cities Plan.

Each City Deal is likely to have its own tailored City Deal indicators. These indicators will reflect the individual circumstances of each city and may cover issues not explicitly addressed by the Performance Framework. For example, in negotiating the Townsville City Deal, governments agreed to monitor indicators of overnight visitors and tourism expenditure.

The Performance Framework will assist in the design, monitoring and evaluation of City Deals by providing contextual and performance information to help:

- select and prioritise locations for City Deals, and allocate resources to the areas of greatest need or where city policies are likely to have the greatest effect
- shape the focus and content of City Deals, and provide a starting point for considering policy options
- monitor and evaluate City Deals — the national performance indicators will sit alongside city specific indicators and can be used to identify if policies are achieving the desired effect or where changes may be needed.

Purpose of the Performance Framework

3. POLICY PRIORITIES

The Australian Government has set out six Smart Cities policy priorities. Each policy priority has three objectives measured by the National Cities Performance Framework. The policy priorities articulate the Smart Cities Plan's ambitions for smart policy, investment and technology.

The policy priorities are complementary, for example, infrastructure and investment objectives can also deliver higher economic growth and better amenities.

1. Jobs and Skills

Jobs and Skills encompasses all key elements of employment and training in our cities, including the performance of the employment market and the skill level of the workforce. The Government aims to boost employment by supporting skills and industry development, and diverse economic growth. Jobs and Skills policy objectives measured under the Performance Framework include:

1. Higher economic growth
2. Higher employment
3. A more skilled workforce

2. Infrastructure and Investment

Infrastructure and Investment encompasses all key dimensions of the city's investment environment, with a particular focus on the quality, efficiency and effectiveness of infrastructure. The Government aims to improve accessibility and productivity in cities by supporting transport solutions that efficiently connect people with jobs and services, and goods with markets. Infrastructure and Investment policy objectives measured under the Performance Framework include:

1. Better infrastructure services
2. Better use of existing infrastructure
3. More effective investment

3. Liveability and Sustainability

Liveability and Sustainability encompasses three broad dimensions: the health and wellbeing of residents; the attractiveness and amenity of the city; and the state of the environment and the local response to climate change. The Government aims to improve our cities across all three dimensions. This includes improving safety, social cohesion and health, while reducing disadvantage in local communities. It also includes improving air quality, access to green space and active transport, while acting to reduce carbon emissions. Liveability and Sustainability policy objectives measured under the Performance Framework include:

1. Better environmental outcomes
2. Improved quality of life
3. Better amenity

4. Innovation and Digital Opportunities

Innovation and Digital Opportunities encompasses three broad dimensions: city productivity; innovation and entrepreneurship; and access to public data. The Government aims to harness the productive potential of information and communications technologies and the digital economy, and to make data publicly available wherever practical. Innovation and Digital Opportunities policy objectives measured under the Performance Framework include:

1. Higher productivity
2. Greater transparency and better data use
3. Greater innovation and entrepreneurship

5. Governance, Planning and Regulation

Governance, Planning and Regulation encompasses land use planning in cities and its administration, as well as how effectively local governance and regulation support economic, social and environmental outcomes. Long term planning is critical for delivering the coordinated infrastructure, housing and services that shape our cities and the lives of residents.
The Government aims to deliver coordinated and integrated policy, planning and investment across all levels of government. Governance, Planning and Regulation policy objectives measured under the Performance Framework include:

1. Better city planning
2. Improved investment environment
3. Effective government

6. Housing

Housing encompasses three broad dimensions: the affordability of housing in our cities; the supply and diversity of new housing stock; and where housing is located, including how accessible it is to jobs and services. The Government aims to improve housing supply and affordability, and encourage appropriate densities and diversity of housing options.
Housing policy objectives measured under the Performance Framework include:

1. Improved housing affordability
2. Increased supply and diversity of housing
3. Housing in the right locations

4. INDICATORS

The National Cities Performance Framework contains both contextual and performance indicators. Contextual indicators aim to help users better understand the changes and trends in our cities. Performance indicators link to the Australian Government's six Smart Cities policy priorities and aim to inform better city policy decisions.

4.1 Indicator development

In selecting and developing indicators for the National Cities Performance Framework, the Australian Government considered a wide range of existing indicator frameworks and datasets, previous Australian and international publications, and the advice of leading city policy experts. This section describes the selection and consultation process, and trade-offs made in developing the Performance Framework.

Research and development

The selection of indicators follows an extensive research and development process. In developing the indicator set, the Australian Government has drawn on a range of Australian and international performance frameworks and research literature. The aim was to build a sound conceptual Performance Framework, organised around the six Smart Cities policy priorities.

The Government engaged SGS Economics & Planning to support this work. SGS' research paper — *National Cities Performance Indicators Background Report* — is available on the Smart Cities Plan website.

Some key frameworks drawn on in the development of the Performance Framework are described in box 4. For the full list of references, see Appendix D.

Box 3. Key indicator frameworks

Measures of Australia's Progress
Is life in Australia getting better?

Produced on four occasions between 2002 and 2013 by the Australian Bureau of Statistics, Measures of Australia's Progress (MAP) was designed to help address the question, 'Is life in Australia getting better?' MAP contains statistical measures to demonstrate change, grouped under three broad headings: the society, the economy and the environment. Each dimension contains a range of statistical measures known as progress indicators.

CITYkeys

CITYkeys is a recent initiative funded by the European Union HORIZON 2020 program. CITYkeys is a performance measurement framework around key performance indicators and data collection procedures for the monitoring of smart cities. Cities contribute to the project in order to gather as much evidence and feedback as possible about the practical use, benefits and challenges of key performance indicators (KPI) and smart city project evaluation frameworks.

Tasmania Together .com.au

Tasmania Together was a long-term plan developed by the Tasmanian state government and overseen by an independent body, the Tasmania Together Progress Board. Tasmania Together was adopted in 2001, and set twelve goals to be achieved by its end date of 2020. 143 benchmarks relating to these goals were identified to measure the state's progress.

SUSTAINABLE DEVELOPMENT GOALS
17 GOALS TO TRANSFORM OUR WORLD

The Sustainable Development Goals (SDGs) were developed by the United Nations. The SDGs are goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda. Each goal has specific targets over 15 years.

The 17 goals recognise the need for strategies that build economic growth, address social needs, tackle climate change and protect the environment. The goals are supported by targets and a monitoring framework. Goal 11 relates to Sustainable Cities and Communities.

The Economist Intelligence Unit

The Economist Intelligence Unit's annual Liveability Ranking assesses 140 cities across the world, producing an overall liveability score on the basis of thirty indicators in five categories: stability, healthcare, culture & environment, education and infrastructure. The EIU's rankings are widely cited and provide a simple snapshot of cities' success in providing overall quality of life for their residents.

The Committee for Sydney

The Committee for Sydney has produced two annual benchmarking reports, which assess Sydney's attractiveness in fourteen domains against major global cities. The benchmarking studies draw on a meta-analysis of 51 global indices, published by a range of businesses and other organisations, which measure various aspects of innovation, liveability and economic performance. Sydney is ranked against 32 other cities from across the world.

ISO International Organization for Standardization

The International Organization for Standardization publishes standards relating to a wide range of goods, products and services. ISO 37120 provides a holistic and integrated approach to sustainable development and resilience for cities and regions. It covers a range of city services and aims to improve quality of life within cities. It does not provide targets, but can be used to track and monitor city performance.

Community Indicators Victoria is an ongoing project to assess community wellbeing, adopted after a 2006 report commissioned by VicHealth. It offers a comprehensive framework of indicators, divided between five domains: social, economic, environmental, democratic and cultural. Extensive consultation and analysis was undertaken to ensure that the selected indicators are comparable across all the state's Local Government Areas, draw on reliable data, and measure important aspects of the community's wellbeing.

CITY OF ADELAIDE

The City of Adelaide's 2016-2020 Strategic Plan is a locally developed strategy which sets a range of concrete, measurable goals for the city organised around four themes: economic performance, environmental sustainability, liveability and cultural flourishing. As part of the Strategic Plan, a City Scorecard has been developed which allows progress towards these goals to be measured and assessed.

Consultation

The Australian government is consulting extensively in developing the Performance Framework, including through expert workshops, roundtables, bilateral meetings and an online forum established for the Cities Reference Group.

To date, the Government has consulted state, territory and local government counterparts, and affiliated government bodies (such as the Council of Capital City Lord Mayors and the Greater Sydney Commission). The Government has also consulted internally and with Commonwealth bodies (such as the CSIRO, the Digital Transformation Agency and Infrastructure Australia). In addition, the Government has consulted a range of private sector and not-for-profit groups, experts and academics (such as the Green Building Council of Australia, the Australian Housing and Urban Research Institute and the Regional Australia Institute). The list of stakeholders consulted to date is at Appendix B.

Stakeholders have so far been supportive of the development of a National Cities Performance Framework and have provided many useful insights, data sources and suggestions. This has helped the Government select the best indicators for each Smart Cities policy priority and identify the best measures and data sources to support these.

Some stakeholders have suggested extending or expanding the scope, coverage and depth of the Performance Framework. In particular, some stakeholders suggested the Performance Framework cover more cities and sub-city locations and include more or different indicators. On the other hand, some stakeholders have strongly counselled against including too many indicators in the Performance Framework. Where not taken up, suggestions have been recorded with a view to the final Performance Framework Report and future updates. A list of indicators that were considered but not included in this interim version of the Performance Framework, due to a lack of appropriate data, is at Appendix C.

The Performance Framework is intended to evolve, and even after the final Report is published it may become apparent over time that other indicators should be included. Annual updates to the Performance Framework, and a formal review in 2019–20, will refine its content, improve its presentation and increase its functionality. Possible future directions include international benchmarking, the addition of new cities and sub-city information, and annual reports on key trends.

Selection criteria

Through research and consultation, the Government first identified then shortlisted indicators that embody the six Smart Cities policy priorities. The list was then refined with the aim of identifying a small set of accessible, well measured and well-accepted indicators that go to the core of city performance.

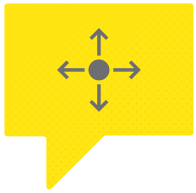
The indicator shortlist is not — nor is it intended to be — exhaustive. Rather, the Government has made a conscious decision to keep the Performance Framework as streamlined as possible to avoid what one stakeholder referred to as the 'indicator labyrinth'.

Indicators were shortlisted drawing on the internationally accepted Civitas criteria:[1]

- **Relevance:** Performance indicators must be relevant to the Government's six Smart Cities policy priorities. Indicators were also favoured that are amenable to policy change and that have broadly accepted policy interpretations (i.e. a fall in unemployment is good, a rise bad).
- **Completeness:** The set of indicators must cover all six policy priorities (Jobs and Skills; Infrastructure and Investment; Liveability and Sustainability; Innovation and Digital Opportunities; Housing and Governance, Planning and Regulation).
- **Data availability:** The Performance Framework compares city performance over time. Indicators were prioritised that have, and will continue to have, data series available for most of the 21 largest Australian cities and Western Sydney. Internationally accepted indicators were also favoured to allow for future international comparison and linkages.

  > A small number of highly relevant indicators without available data were nonetheless included to signal the Government's commitment to the policy objective. These were included as 'aspirational' indicators and the Government will work (where possible) to create these series in the future.
- **Comparability:** Indicators which are defined and measured consistently across the 21 cities and Western Sydney were preferred to enable meaningful comparison of data.
- **Measurability:** Indicators were favoured that are underpinned by objectively, accurately and quantitatively measured data.
- **Reliability:** Indicators should have clear definitions that are not subject to different interpretations. This holds for the definition itself and for the calculation methods behind the indicator.
- **Familiarity:** The indicators should be easy to understand by decision makers and key stakeholders. Indicators were therefore generally drawn from credible existing indicator sets that comply with this requirement.
- **Non-redundancy:** Indicators within a system or framework should not measure the same element of a policy priority. This means only one indicator was generally selected for each policy element. Similarly, where possible, highly correlated indicators were excluded to avoid double counting of effects.

1 Rooijen, T., Nesterova, N. & Guikink, D., 2013.



Indicators

Challenges and compromises

The Australian Government has aspired to populate the Performance Framework with indicators that meet all adapted Civitas criteria, but this has not always been possible. As occurs with all performance frameworks, some compromises were required, largely due to data limitations including:

- **Availability:** in some cases proxy indicators had to be used due to the absence of data on the primary benchmark of interest. For example, data on residential water use is not available, necessitating the use of an indicator measuring water expenditure
- **Comparability:** some indicators relating to state or local government responsibilities, such as policing and local planning, are not assessed nationally and different definitions and methodologies can mean that data is not always comparable across cities
- **Scale:** data is gathered at various different geographical levels. In some instances data may not be available for an area that corresponds to a city boundary and must be approximated, typically using data from broader geographical areas
- **Timeliness:** some indicators are based on Australian Census data which is available only every 5 years; others are collated annually but data is released with a considerable lag time

Ideal performance indicators can assess the complete and final stage effects of a policy. Such indicators, often termed 'outcome' or 'impact' indicators, track and measure the quality and quantity of long-term results generated by policy interventions. Some indicators of this nature such as air quality and peak travel delay are included in the Performance Framework.

Where such indicators were unavailable or of insufficient quality, 'output' or 'input' indicators have been included. For example, human health is an important indicator of quality of life in a city but is not measured directly, so obesity and life expectancy rates have been included. Similarly, the Performance Framework includes indicators such as suicide rates, level of trust and levels of socioeconomic disadvantage in lieu of harder to capture indicators such as quality of life and social capital. Descriptions and examples of different indicators types are provided in Box 4.

Box 4. Indicator types

Indicator types included in the National Cities Performance Framework are:

Input indicators: These indicators relate to whether a city has the right resources in place to achieve a particular activity or intervention. Input indicators are useful for tracking policy decisions, because they can be updated quickly once an action occurs. However input indicators cannot tell whether the ultimate policy objective is achieved. An example of an input indicator in the Performance Framework is development assessment decision time.

Output indicators: These indicators measure the results of an activity. Like input indicators, output indicators can be updated quickly once an action has occurred, and in some cases, can measure whether parties to a City Deal have delivered on their commitments. Output indicators in the Performance Framework include homelessness rates and broadband connections.

Outcome and impact indicators: These indicators measure the quality and quantity of long-term results generated by program outputs. These indicators can often only be measured well after the activity has occurred. Outcome and impact indicators in the Performance Framework include air quality and labour productivity.[2]

2 Indicator types are adapted from CITYkeys: Bosch et al. 2017.

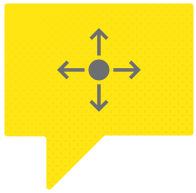
A related issue is the extent to which a policy intervention can affect an indicator. Ideally, indicators would reveal clear and direct causal links between policies and outcomes. However, while indicators will help understand whether policy objectives are achieved, the extent to which policy interventions can influence indicators varies considerably.

In some cases, there are strong causal links between policies and indicators. For example, broadband connections or development assessment decision times are directly influenced by government action. In other cases, a range of actions and conditions may be required to move an indicator measurably. Further, external factors such as macroeconomic conditions or international commodity prices have the potential to swamp the effect of government policies. This is the case for such things as the unemployment rate and housing affordability.

4.2 Contextual indicators

Contextual indicators highlight the circumstances and characteristics of a city on dimensions not amenable to, or appropriate for, local policy intervention. While contextual indicators are not measures of performance, they can help to understand why a city performs the way it does and what policies may be effective for improving economic performance and quality of life.

Detailed information about each indicator, including how it is calculated, the source of the data, its reporting frequency, the rationale for its inclusion and some of the limitations, is provided in the Data Dictionary in Appendix A.



Indicators

Contextual indicators

1. Median individual income

Median individual income is the median annual income of all households in a city. Knowing a city's average household income helps to understand how well off its residents are and whether housing, transport and other costs are affordable.

2. Dependency ratio

The dependency ratio is the ratio of a city's working aged population to its non-working aged population. Knowing a city's dependency ratio helps to understand its economic potential and its welfare and services needs.

3. Population

The population and population growth rate are measured in each city to help understand the strength of its economy, but also the pressure on housing, infrastructure and services.

4. Indigenous population

The proportion of a city's population that identifies as Indigenous helps understand cultural diversity and the demand for government services aimed at Aboriginal and Torres Strait Islander people.

5. Population-weighted density

Population-weighted density is the weighted average number of people per square kilometre in a city. Knowing a city's population-weighted density helps to understand its transport, housing, services and amenity needs.

6. Median detached house price

Median detached house price is the price of a typical house in a city. Knowing a city's median detached house price helps to understand whether housing is affordable for residents when it is compared with household incomes.

7. Dwelling type

Dwelling type is the share of dwellings in a city that are detached houses; semi-detached; and apartments. Knowing a city's dwelling type helps to understand its housing diversity and density.

8. Average household size

Average household size is the average number of people per home in a city. Knowing a city's average household size helps to understand its current and future housing needs.

9. Housing tenure profile

The housing tenure profile shows the share of properties owned outright, mortgaged or rented. Knowing a city's housing tenure profile helps to understand how it might be affected by changes in the housing market.

10. Languages other than English

Languages other than English is the proportion of a city's residents that speak a language other than English at home. Knowing how many residents speak a language other than English helps to target policies that support cultural awareness, integration and cohesion.

11. Industry share of employment

Industry share of employment is the proportion of workers in each industry sector. Knowing a city's industry share of employment helps to understand training and investment needs, and whether the city is susceptible to particular structural or cyclical economic changes.

12. Professional networks

Professional networks is the average ratio of workers' LinkedIn connections in: the same city; other parts of Australia; and overseas. Knowing a city's professional network ratio helps to understand how connected its professionals are to other markets, which supports innovation and adaptation.

4.3 Performance indicators

Performance indicators reflect the performance of cities in achieving wider economic, social and environmental objectives. Performance indicators aim to help governments implement city strategies by linking the six Smart Cities policy priorities with clearly defined measures.

Detailed information about each indicator, including how it is calculated, the source of the data, its reporting frequency and the rationale for its inclusion, is provided in the Data Dictionary in Appendix A.

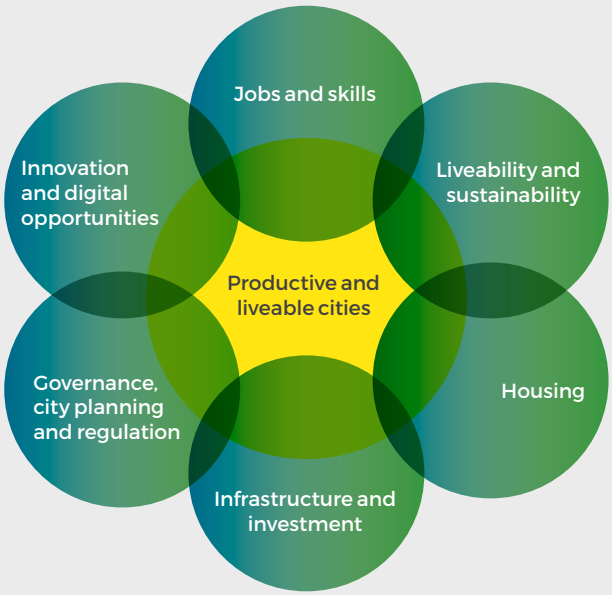
Box 5. Mapping performance indicators to policy priorities

The Government recognises that some indicators can provide insight into multiple policy priorities. The six Smart Cities policy priorities provide a practical reference point for the Performance Framework, however, as all priorities are aimed at making more productive and liveable cities, they necessarily overlap in places.

This is particularly the case for the 'liveability and sustainability' policy priority, which has many links to the 'housing', 'jobs and skills' and other priorities. For example, the homelessness rate indicator could have been placed under liveability (given the social implications of homelessness), but was instead placed under housing because many policy levers for addressing homelessness are managed by housing portfolios. Ultimately, the allocation of many indicators were line ball decisions.

In the end, the Government took the view that the mapping to priorities is less important than ensuring all key indicators are included and individually justified.

Figure 2. Policy priorities overlap in places



Jobs and Skills Indicators

1. Economic output per capita

Economic output per capita is the total economic production in a city, per person. Knowing a city's economic output helps to understand its productivity and economic strengths, as well as residents' wealth and living standards.

2. Unemployment rate

The unemployment rate is the proportion of a city's labour force not in work and actively looking for a job. Knowing a city's unemployment rate helps to understand the strength of the labour market and the local economy. The unemployment rate is also provided for gender, indigenous and youth. This helps to understand whether there are different employment outcomes for these groups.

3. Underemployment rate

The underemployment rate includes people who are working, but would prefer to work more hours. Knowing a city's underemployment rate helps to understand if it has spare labour market capacity and whether residents are able to find sufficient work.

4. Participation rate

The participation rate is the proportion of a city's working age population engaged in the labour market. Knowing a city's participation rate helps to understand its labour utilisation and dependency, and the strength of the local economy.

5. Educational attainment

Educational attainment is the share of a city's residents that have not completed year 10, completed year 10, completed year 12 or completed higher levels of education. Knowing a city's educational attainment helps to understand its average skill level and how well the workforce is positioned to respond to economic changes.

Infrastructure and Investment Indicators

1. Jobs accessible within 30 minutes

Jobs accessible within 30 minutes shows the proportion of all jobs in a city that the average resident can reach with a 30 minute commute. Knowing the number of jobs accessible within 30 minutes helps to understand how accessible the city is and whether residents enjoy access to wide range of employment opportunities.

2. Share of public transport

Share of public transport is the proportion of all trips taken in a city that are by public transport. This can help to understand how reliant city residents are on driving and whether road congestion could be alleviated by encouraging other transport options.

3. Share of active transport

Share of active transport is the proportion of all trips taken in a city that are walked or cycled. This can help to understand how reliant city residents are on driving and whether road congestion could be alleviated by encouraging other transport options.

4. Value of building approvals per capita

The total value of building approvals is a proxy for overall levels of capital investment, and helps to understand whether adequate provision is being made for expansion and renewal of infrastructure.

5. Peak travel delay

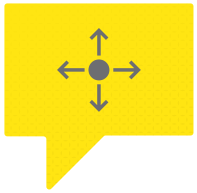
Peak travel delay provides insights into how a city's road transport network is meeting peak demand.

6. Cost of congestion

Cost of congestion is the annual cost of congestion in a city. Knowing a city's cost of congestion helps to understand the impact of road congestion on its economy.

7. Average time without power

Knowing the average amount of time a city's residents spend without power each year helps to understand the reliability of the electricity network.



Indicators

Liveability and Sustainability Indicators

1. Air quality

Air quality is the average count of particulate matter in a city's air. Breathing high levels of particulate matter has been shown to contribute to adverse health effects. Knowing a city's air quality helps to understand whether residents face health risks from air pollution.

2. Access to urban green space

Access to urban green space is the proportion of a city's residents that can access parks, playing fields or other open green space within 400 metres. Green space within a city provides human health and environmental benefits. Knowing a city's access to green space helps to understand whether a city has adequate open space for residents to enjoy and measures to protect biodiversity.

3. Gross parkland area

The gross parkland area is the proportion of all land area in a city that is parkland. Knowing this area helps to understand local access to environmental amenities and broader environmental outcomes.

4. Residential water use

Residential water use is measured as the average household expenditure on water. This provides a proxy for water use. Tracking water use gives insight into the environmental sustainability of a city.

5. Greenhouse gas emissions per capita

The average volume of greenhouse gases from transport emitted in a city per person each year helps to understand a city's contribution to climate change and where energy efficiency policies could be considered.

6. Life expectancy

Average life expectancy is the average number of years a person born today is expected to live. Knowing a city's average life expectancy helps to understand the health and quality of life of its residents and informs projections of the city's future population and age profile.

7. Indigenous life expectancy

Indigenous life expectancy is the average number of years an Indigenous person born in a city today is expected to live. Knowing a city's Indigenous life expectancy helps to understand whether there are different health and quality of life outcomes for Indigenous people.

8. Adult obesity rate

Obesity rate is the proportion of a city's adult population with a body mass index that classifies them as obese. Knowing a city's obesity rate helps to understand the health of residents, since obesity is highly correlated with chronic diseases such as diabetes and cardiovascular disease.

9. Violent crime rate

Violent crime rate is the number of violent crimes per 100,000 people in a city each year. Knowing a city's violent crime rate helps to understand the safety and wellbeing of residents and can indicate underlying social problems.

10. Share in the bottom income decile

Share in the bottom income decile is the share of households with annual incomes in the bottom 10 per cent of all Australian income earners. Having 10 per cent of residents in the bottom decile would mean the city is representative of Australia overall. More than 10 per cent would mean the city has more low income households than other parts of Australia. Knowing a city's share in the bottom income decile helps to understand its poverty rate and services needs.

11. Socio-Economic Indexes For Areas (SEIFA)

SEIFA is a ranking of areas in Australia according to relative socio-economic advantage and disadvantage. Knowing a city's SEIFA ranking helps to understand if the area is more disadvantaged than other parts of Australia and which areas may be in need of additional assistance.

12. Support in times of crisis

The proportion of city residents who indicate in a survey that they feel they could get support in a time of crisis. This provides a measure of trust and support between people in local areas, and helps to understand the social wellbeing of residents and the overall community sentiment in the city.

13. Suicide rate

Suicide rate is the number of suicides in a city each year, per 100,000 people. Knowing a city's suicide rate helps to understand the wellbeing and mental health outcomes of residents and whether additional support services are needed.

14. Perceived safety

Perceived safety is measured as the proportion of city residents who, in a survey response, indicate that they feel safe in their local area. This contributes to an understanding of residents' social wellbeing and community trust.

Innovation and Digital Opportunities Indicators

1. Knowledge workers ratio

The knowledge workers ratio is the number of people working in knowledge intensive industries in a city, as a percentage of all employed people. Knowing a city's knowledge worker rate helps to understand the types of businesses based in a city and how well it is placed to respond to new technologies or economic change.

2. Broadband connection rate

Broadband connection rate is the percentage of households in a city which have a broadband internet connection. Knowing a city's broadband connection rate helps to understand the availability and quality of internet access and can also provide insight into the digital engagement of residents.

3. New business entrants

New business entrants is the number of new businesses registered in a city each year, per 100,000 residents. Knowing a city's new businesses registration rate helps to understand its level of economic activity, entrepreneurship and innovation.

4. Labour productivity

Labour productivity is a measure of how much output a city produces relative to hours worked. Knowing a city's labour productivity helps to understand how efficient and effective its businesses and workers are at producing goods and services.

5. Patent applications

The number of patent applications in a city, per 100,000 residents. Knowing how many patent applications are made in a city helps to understand its level of innovation and inventiveness.

Governance, Planning and Regulation Indicators

1. Land use strategy

The land use strategy is a measure of whether a city has a planning strategy in place to determine future land use.

2. Development assessment decision time

Development assessment decision time is the average time taken in a city to decide the outcome of a development application. Knowing a city's development assessment decision time helps to understand planning efficiency and the cost of delayed development.

3. Investment readiness

Investment readiness indicates whether a city has a plan in place to attract and manage private investment and is an important indicator of how effectively local government is promoting the local economy.

4. Local government dispersion

Local government dispersion provides a measure of the size and fragmentation of the local governments in a city, which gives an indication of potential barriers to regional cooperation and economies of scale.

Housing Indicators

1. House price to income ratio

House price to income ratio is the ratio of the average house price in a city to the average annual income. Knowing a city's house price to income ratio helps to understand whether housing is affordable for homeowners.

2. Mortgage to income ratio

The mortgage to income ratio measures how much of their income homeowners with mortgages spend on their monthly repayments. Knowing the mortgage to income ratio for a city helps to understand affordability stresses on people who currently have mortgages on their homes.

3. Rent to income ratio

Rent to income ratio is the ratio of the average monthly rent in a city to the average monthly income. Knowing a city's rent to income ratio helps to understand whether housing is affordable for renters.

4. Public housing units

The number of public housing units in the city, per 100,000 residents helps assess whether local government is providing adequate housing services to its residents.

5. Homelessness rate

The homelessness rate is the number of people in a city who are homeless, per 100,000 residents. Knowing a city's homelessness rate helps to understand the effects of poverty and marginalisation and the need for government and community services.

6. Housing construction cost

Knowing the average cost per square metre of constructing new housing helps to understand the components of house prices and the efficiency of planning regulations.

APPENDIX A:
DATA DICTIONARY

Contextual Indicators

1. Median individual income

Description

Median individual income is the median annual earnings of all individuals in a city.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand residents' earnings and living standards. It also provides a benchmark for assessing the affordability of housing, transport and other living costs.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Statistical Area 4 — other cities

Source

Australian Taxation Office, 2014–15

Units

$AUD

Frequency

Annual

2. Dependency ratio

Description

The dependency ratio is the ratio of non-working age people to working age people. It is calculated as the total number of people aged 0–14 and 65 and over (numerator) divided by the total number of people aged 15–64 (denominator), multiplied by 100. The resulting figure is the number of 'dependents' for every 100 working age residents.

Rationale

A city's dependency ratio is a simple summary of its age demographics. Knowing this ratio can provide insights into local economic potential and needs.

Cities with a low dependency ratio have a high number of working age people, and so greater potential for a high level of economic activity and wage and jobs growth. A high dependency ratio indicates that a city is likely to have greater service needs in areas such as childcare and aged care.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Regional Population Growth (Cat. No. 3218.0), 2015–16

Units

Ratio

Frequency

Annual

3. Population

Description

The population measure refers to all people, regardless of nationality, citizenship or legal status, who usually live in Australia. It includes usual residents who are overseas for less than 12 months over a 16-month period, and excludes overseas visitors who are in Australia for less than 12 months over a 16-month period.

A supporting indicator is the population growth rate. This is the percentage change in total population compared to the previous year.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand the strength of the local economy (since flourishing cities attract new residents) and likely pressures on housing, infrastructure and services.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Regional Population Growth (Cat. No. 3218.0), 2015–16

Units

Persons
Percentage (growth rate)

Frequency

Annual

4. Indigenous population

Description

The proportion of a city's population that identifies as Aboriginal, Torres Strait Islander, or both.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand local cultural diversity and the demand for government services aimed at Aboriginal and Torres Strait Islander people.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

Units

Percentage

Frequency

5-yearly

5. Population-weighted density

Description

Population-weighted density is the weighted average number of people per square kilometre in a city. The metric reflects the average density experienced by each person rather than the density experienced by each square kilometre of the city. This helps to account for cities with large areas of rural resident land, which can impact the city wide average.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand the city's urban form as well as future transport, housing, services and amenity needs.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

Population data — Regional Population Growth, Australia (Cat. No. 3218.0)

Residential land area — ABS Census of Population and Housing 2011 Mesh Block data

Units

People per square kilometre

Frequency

Population growth — annual

Residential land area — every 5 years

6. Median detached house price

Description

The median detached house price is the median price of a detached house in the city.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand the cost of a typical house in a city. The median detached house price, when compared against income, is crucial in understanding whether housing is affordable for a city's residents, and may provide insight into the general economic situation of an area.

High or growing house prices may indicate that a city is economically strong, attracting new residents and investment. It can also indicate deficiencies in housing supply and land use regulations. The cost of housing is a major element of a city's living costs and comparing median house price to median household income is a common way of assessing housing affordability.

Geography

This should now read in full:"Local Government Areas, drawn from the Australian Standard Geographical Classification 2006, aligned to Local Government Areas

Source

Australian Property Monitors

Department of Infrastructure and Regional Development

Units

$AUD

Frequency

Annual

7. Dwelling type

Description

This indicator reports the share of dwellings in a city that are detached houses, semi-detached houses, or apartments.

Rationale

This indicator shows the degree of diversity in a city's housing stock. Understanding this diversity can provide insights into likely population density and likely infrastructure, services and amenity needs.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

Units

Percentage

Frequency

5-yearly

8. Average household size

Description

The average household size measures the number of people per home in a city. This is calculated by dividing the city's total population (numerator) by the number of dwellings (denominator).

Rationale

The inclusion of this indicator in the Performance Framework can provide users with insights into demographic and housing trends, including future housing needs. Though large average household size can reflect social preferences, it may also indicate that housing is currently unaffordable or that future demand is likely to be high.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing 2016

Units

People per household

Frequency

5-yearly

9. Housing tenure profile

Description

Housing tenure is the share of residential properties in a city which are owned outright by the occupier, owned with a mortgage, or rented.

Rationale

The inclusion of this indicator in the Performance Framework can help users to better understand how changes in housing policy or the housing market will impact on the city. This is because the impacts are likely to vary between those residents who own their homes, those paying mortgages and those renting a property. For example, a policy aimed at assisting renters is likely to have different impacts in a city of mostly renters than one where most people own their homes.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

Units

Proportion

Frequency

5-yearly

10. Languages other than English

Description

Languages other than English measures the proportion of a city's residents who speak a language other than English at home. This is calculated as the number of foreign-language speakers (numerator) divided by the total number of city residents (denominator).

Rationale

Languages other than English being spoken in the home is a measure of a city's cultural diversity. Understanding cultural and linguistic diversity can help target policies that support cultural awareness, integration and cohesion.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

Units

Percentage

Frequency

5-yearly

11. Industry share of employment

Description

Industry share of employment shows the proportion of a city's total employed population that work in its three largest industry sectors.

Rationale

Cities have different local specialisations and employment mixes, depending on factors such as history and policy choices. This means that cities have different policy needs and are affected by economic developments in different ways.

Knowing the industry share of employment can help better target skills training to meet the needs of local employers. It can also help target public investment toward more productive infrastructure and services.

Industry employment shares also affect how vulnerable a city is to different kinds of economic shock, which may not impact all sectors equally. Keeping track of employment shares can make policymakers aware of these vulnerabilities and help target policy interventions.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2011

Units

Percentage

Frequency

5-yearly

12. Professional networks

Description

This indicator has not yet been included in the Performance Framework.

Rationale

Measuring the depth and breadth of a city's professional networks helps to understand how connected its professionals are to other markets, which is an important supporting condition for innovation and adaptation.

Geography

TBC

Source

LinkedIn

Units

TBC

Frequency

TBC

Performance Indicators
Jobs And Skills

1. Economic output per capita

Description

Economic output per capita is the ratio of: the annual final value of goods and services produced in a city (numerator) divided by the city's population (denominator).

Economic output per capita is a custom indicator from SGS Economics and Planning. It is calculated by using estimates of the locations of industries and workers to distribute the total Gross State Product across cities.

Rationale

The inclusion of this indicator in the Performance Framework can help users to better understand the impact of changes in productivity and economic growth. It also provides a partial measure of wealth and living standards.

When economic output per capita is high, the city is producing more goods and services, relative to its population. This tends to correlate with higher incomes, greater wealth and higher livings standards. Conversely, when economic output per capita is low, the city tends to be less productive, have lower incomes and wealth, and therefore lower living standards.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

SGS Economics and Planning Australian Cities Accounts and Australian Bureau of Statistics Regional Population Growth, Australia (Cat. No. 3218.0) (2015–16)

Data on economic output per capita for cities is difficult to produce; estimates vary widely and should be used with caution. The data is more reliable for larger cities.

The Department of Industry, Innovation and Science has produced experimental estimates of small-area Gross Regional Product. The Cities Division intends to consult further with DIIS as these estimates are developed, with a view to using them in future Performance Framework updates.

Units

$AUD

Frequency

Annual

2. Unemployment rate

Description

The unemployment rate is equal to the number of a city's residents aged 15 years and over that are available for, and seeking, work but are not in paid employment (numerator) divided by the total labour force (denominator). The unemployment rate is also provided by gender and for the indigenous and youth populations.

Rationale

Including the unemployment rate allows users of the Performance Framework to better understand the strength of the local labour market and economy.

A city's unemployment rate has a strong negative correlation with the health of the local economy. When unemployment is low, economic growth tends to be strong, and when unemployment is high, the economy tends to be weaker.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

Unemployment rate — ABS Labour Force Survey (Cat. No. 6291.0.55), 2015–16

Indigenous unemployment rate — ABS Census of Population and Housing 2011

Units

Percentage

Frequency

ABS Labour Force — Quarterly, ABS Census — 5-yearly

3. Underemployment rate

Description

The underemployment rate is the total number of working aged residents in work who are employed but would prefer to work more hours (numerator), divided by the total labour force (denominator).

Rationale

The inclusion of this indicator in the Performance Framework can help users to better understand the strength of the local labour force and economy. Like unemployment, a high underemployment rate is indicative of labour market weakness, underutilisation of the labour force and a weaker economy.

Geography

State level

Source

ABS Labour Force Survey (Cat. No. 6202.0), 2015–16

This data is only available at the state level and does not give detailed insight into the utilisation of the labour force in particular cities.

Units

Percentage

Frequency

Quarterly

4. Participation rate

Description

The participation rate is the proportion of a city's working age population engaged in the labour market. It is measured as the total labour force (numerator) divided by the total civilian population aged 15 and over (denominator).

Rationale

The inclusion of this indicator in the Performance Framework can help users to better understand the strength of the local labour market and local economy. A high participation rate suggests a relatively strong labour market and local economy, and a low participation rate suggests a relatively weaker labour market and local economy.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Labour Force Survey (Cat. No. 6291.0.55), 2015–16

Data on the participation rate at city level is available only from the Census every five years, and so may not reflect more recent or short-term changes in a city's labour market.

Units

Percentage

Frequency

Quarterly

5. Educational attainment

Description

Educational attainment refers to the proportion of city's population who have:

School completion rate

- Completed Year 12
- Completed Year 10
- Not completed Year 10

Tertiary completion rate

- Completed postgraduate qualifications
- Completed a graduate diploma
- Completed a bachelor degree
- Completed a diploma
- Completed certificate level qualifications.

Rationale

The inclusion of this indicator in the Performance Framework can help users to better understand the skill levels of the local workforce and also provides a partial indicator of the employability of the workforce. This may help to understand how a city will be affected by long-term changes to the structure of the economy, such as a shift from manufacturing employment towards services.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

Secondary attainment — ABS Census of Population and Housing, 2016

Tertiary attainment — ABS Census of Population and Housing, 2011

Units

Percentage

Frequency

5-yearly

Infrastructure and Investment

1. Jobs accessible within 30 minutes

Description

The proportion of jobs accessible is the number of jobs that can be reached by a commute of 30 minutes or less, at the morning peak, divided by the total number of jobs in the city. The indicator takes the average of this number across all a city's residents. It is measured separately for travel by car and by cycling.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand liveability in cities. Shorter commute times are associated with improvements in quality of life and better access to employment opportunities. This measure is therefore an important indicator of a city's accessibility and whether its transport infrastructure is maximising economic opportunity for residents.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

SGS modelling; ABS Census of Population and Housing, 2011

Units

Percentage

Frequency

5-yearly

2. Share of public transport

Description

The share of public transport is measured as the number of journeys to work in a city which are taken by public transport, divided by the total number of trips to work taken in the city.

Rationale

The inclusion of this indicator in the Performance Framework can provide users with an understanding of how important public transport is relative to other modes of transport in a city. This information can be used to inform transport planning, including to identify opportunities to improve the public transport system.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2011

Units

Percentage

Frequency

5-yearly

3. Share of active transport

Description

The share of active transport is the number of journeys to work in a city which are taken by walking or cycling, divided by the total number of trips to work taken in the city.

Rationale

The inclusion of this indicator in the Performance Framework can provide users with insights into the uptake of active transport in a city. This information can be used to help inform transport planning and identify opportunities to promote healthy living.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2011

Units

Percentage

Frequency

5-yearly

4. Value of building approvals per capita

Description

This indicator is the total value of building approvals in the city, for all building types, divided by the total population to give a per capita figure.

Rationale

The inclusion of this indicator in the Performance Framework can provide users with insight into the amount spent within a city on new buildings and refurbishments. This serves as a proxy measure for total investment in the city and is likely to be associated with higher levels of economic growth.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Building Approvals (Cat. No. 8731.0)

This data measures the value of building approval; it is only a proxy for the total amount of investment occurring in a city.

Units

$AUD

Frequency

Monthly

5. Peak travel delay

Description

Peak travel delay is the average trip time by car during free flow periods subtracted from the average trip time during the busiest one-hour period in the morning and evening, divided by the average non-peak trip time. The result is expressed as a percentage increase in travel time during peak periods.

Rationale

The inclusion of this indicator in the Performance Framework can provide users with insights into how a city's road network is meeting peak demand. A reduction in peak travel time could help improve city level productivity and amenity or quality of life for residents.

Geography

Greater Capital City Statistical Area for the eight State/Territory capitals and the Newcastle-Maitland and Wollongong Significant Urban Areas.

Source

TomTom Australia & New Zealand Congestion Index

This data relies on the use of GPS devices manufactured by one company and may not accurately represent typical travel patterns across the city. The data is also produced irregularly and does not cover all cities of interest.

Units

Percentage

Frequency

Irregular

6. Cost of congestion

Description

The cost of congestion is an estimate of the 'avoidable' cost of congestion.

Rationale

Congestion delays make it harder for a city's residents to access jobs and reduce the productivity of workers and businesses. Estimating the cost of congestion provides users of the Performance Framework with a direct measure of these economic impacts.

Geography

Greater Capital City Statistical Areas for the eight capital cities.

Source

BITRE 2015, Traffic and congestion cost trends for Australian capital cities, Information Sheet 74.

This data is not produced for all 22 cities, and only on an irregular basis. It is difficult to determine the cost of congestion which leads to uncertainty in the estimates.

Units

$AUD at 2010 values

Frequency

Irregular

7. Average time without power

This indicator has not yet been included in the Performance Framework as no reliable source covering all cities could be identified. Existing sources often produce data for multiple cities or crossing state borders.

Description

The average time without power is the time in minutes of outage experienced by a customer on the city's power network.

Rationale

Blackouts and brownouts can cause significant financial loss for businesses, as well as lost amenity/quality of life for residents. The inclusion of this indicator in the Performance Framework can help users to better understand the frequency of these events and inform the development of appropriate responses.

Units

Minutes

Frequency

TBC

Liveability and Sustainability

1. Air quality

Description

Air quality is the average count of particulate matter in a city's air. The indicator is broken down into sub-indicators counting particles of more than 2.5 micrometres and more than 10 micrometres in diameter, per cubic metre.

Rationale

The presence of high levels of particulate matter has been shown to contribute to adverse health effects. The inclusion of this indicator in the Performance Framework can provide users with an understanding of whether residents face health risks from air pollution.

Geography

City level. Air samples are taken at specific city locations and may not always represent air quality in the city as a whole.

Source

World Health Organization, 2016

This data is subject to significant uncertainty.

Units

Micrograms per cubic metre

Frequency

Irregular

2. Access to urban green space

Description

Access to urban green space is the number of a city's dwelling that are located within 400 metres of public open space, divided by the total number of dwellings in the city.

Rationale

Having access to urban green space can provide for a range of human health and environmental benefits, including storm water abatement, improved air quality, urban heat island mitigation, habitat connectivity and improved overall ecosystem function.

Geography

Major Urban or Other Urban areas falling within the GCCSA, study boundaries as defined by the Clean Energy and Urban Landscapes Hub..

Source

Clean Air & Urban Landscape Hub

Definitions of green space vary widely, and none account for the variable quality of accessible green space. This data is comparable across cities but should be treated with some caution.

Units

Percentage

Frequency

Annual

3. Gross parkland area

Description

The proportion of land area in a city that is defined as parkland.

Rationale

Green space in a city provides amenity and improves air quality and heat management. The inclusion of this indicator in the Performance Framework can help users to understand whether the city has a reasonable amount of open space for residents to enjoy.

Geography

Greater Capital City Statistical Area

Source

Clean Air & Urban Landscape Hub

Units

Percentage

Frequency

Annual

4. Residential water use

Description

Residential water use is measured by the average household expenditure on water per week.

Rationale

Water consumption is an important element of a city's sustainability, particularly in Australia. The inclusion of this indicator in the Performance Framework can help users to assess whether a city is successfully encouraging its residents to minimise their environmental footprint, in line with the Liveability and Sustainability goals of the Smart Cities Plan.

Geography

Greater Capital City Statistical Area for the eight capital cities

Source

ABS Household Expenditure Survey (Cat. No. 6503.0)

Data is available only for the eight capital cities. Expenditure is an imperfect measure of water use: variation across cities may reflect water prices rather than usage patterns, and different usage may be due to different climactic conditions rather than different water efficiency.

Units

$AUD

Frequency

4-yearly

5. Greenhouse gas emissions per capita

Description

The total volume of greenhouse gases from transport emitted in a year, in kilograms, divided by the population.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand a city's contribution to climate change and to help inform potential mitigation policies.

Geography

State-level

Source

National Greenhouse Gas Inventory

ABS Regional Population Growth (Cat. No. 3218.0)

Per capita emissions data is available only at state level. Figures have been attributed to cities, but do not reflect data from the cities themselves.

Units

Kilograms of carbon dioxide equivalent

Frequency

Annual

6. Life expectancy

Description

Life expectancy is the number of years a person born today is expected to live (assuming current age-specific death rates). Data is provided for men and women as the two genders have different age-specific death rates.

Rationale

Life expectancy is affected by the availability of healthcare, air pollution and a wide range of amenities and liveability factors. The inclusion of this indicator in the Performance Framework can help users to understand city level health and quality of life and to project the city's future population and age profile.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS, Life Tables, States, Territories and Australia (Cat. No. 3302.0.55.001), 2013–15

Units

Years

Frequency

Annual

7. Indigenous life expectancy

This indicator has not yet been included in the Performance Framework as no reliable source could be identified. The ABS has released two datasets on Indigenous life expectancy in the last decade, and neither presents data at the city level.

Description

Indigenous life expectancy is calculated as the average number of years that Indigenous people born today are expected to live, if health and living conditions at the time of their birth remained the same throughout their lives.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand if Indigenous people in a city are experiencing different health and quality of life outcomes to the rest of the city's population.

Geography

TBC

Source

TBC

Units

Years

Frequency

TBC

8. Adult obesity rate

Description

This indicator is the number of people aged 18 or over in a city with a Body Mass Index of more than 30, divided by the total number of city residents over 18.

Rationale

Being overweight or obese can affect quality of life, and the obesity rate is an indicator of the health of a city's residents. Obesity is highly correlated with chronic diseases such as cardiovascular disease and diabetes. Keeping track of the obesity rate therefore supports the quality of life goals of the Smart Cities Plan.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

Public Health Information Development Unit

ABS Regional Population Growth (Cat. No. 3218.0)

Units

Percentage

Frequency

Annual

9. Violent crime rate

Description

The violent crime rate is the number of violent crimes per 100,000 people in a city each year. Violent crime includes homicide, sexual assault, robbery, threatening behaviour, abduction, blackmail and extortion and dangerous and negligent acts endangering people. Property damage, theft, drug offences and public order and security offences are excluded. A sub-indicator measures the rate of homicides per 100,000 people.

Rationale

The inclusion of this indicator in the Performance Framework can help users understand residents' personal safety and quality of life, and can indicate underlying social problems.

Source & Geography

New South Wales: NSW Bureau of Crime Statistics & Research — Local Government Area (LGA) & Greater Capital City Statistical Area (GCCSA)

Victoria: Crime Statistics Victoria — LGA & GCCSA

Queensland: Queensland Police Crime Statistics — Queensland Police Regions

South Australia: South Australian Office of Crime Statistics & Research – Metropolitan South Australia

Western Australia: WA Police Crime Statistics Portal — Perth Metropolitan Region

Northern Territory: NT Police Crime Statistics – Darwin Police Metropolitan command Area

Australian Capital Territory: ABS Recorded Crime — Offenders (Cat. No. 4519.0) — Territory-level

Tasmania: no data available

This data is collected by state authorities using different definitions and methodologies, so comparison between cities in different states is not possible.

Units

Variable: some states measure crime by the number of victims and others by the number of offenders.

Frequency

Annual

10. Share in the bottom income decile

Description

This indicator reports the percentage of the city's residents who are in the bottom 10 per cent of the national income distribution. A figure of 10 per cent would make the city representative of Australia as a whole.

Rationale

The inclusion of this indicator in the Performance Framework can help users understand how economic growth is affecting different segments of the population, and provides insight into the public transport and other services needs of the city's population.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

Units

Percentage

Frequency

5-yearly

11. Socio-Economic Indexes for Areas

Description

The Socio-Economic Indexes for Areas (SEIFA) is a product developed by the ABS that ranks areas in Australia according to relative socio-economic advantage and disadvantage.

There are four indexes: Relative Socio-Economic Disadvantage (IRSD), Relative Socio-Economic Advantage and Disadvantage (IRSAD), Education and Occupation (IEO), and Economic Resources (IER).

Rationale

SEIFA provides an indication of where a city stands relative to other parts of the country on a measures of socio-economic advantage. The ranking may suggest cities in particular need of assistance. Changes in ranking may help show where a city is doing better or worse than the nation overall at tackling disadvantage.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2011, Socio-Economic Indexes for Areas

SEIFA is available at the suburb level and can provide an insight into variation within cities. The data reported in the Performance Framework may obscure this variation.

Units

Index (national average = 1000)

Frequency

5-yearly

12. Support in times of crisis

Description

The percentage of the population who, when asked in a survey, state that they feel they could access support if needed during a time of crisis.

Rationale

Being able to turn to someone in a time of crisis provides an indication of the level of social capital within the city. The inclusion of this indicator in the Performance Framework can help users understand the social wellbeing of residents and the overall community sentiment in the city.

Geography

Local Government Areas

Amalgamations of Local Government Areas

Source

ABS General Social Survey, 2014

There are large amounts of research on different measures of social cohesion. The indication given by this survey response data should not be regarded as definitive.

Units

Percentage

Frequency

4-yearly

13. Suicide rate

Description

The suicide rate measures the number of suicides in the city per 100,000 people per year.

Rationale

The suicide rate is a proxy measure of wellbeing and mental health. The inclusion of this indicator in the Performance Framework can help users understand whether additional support services are needed and how well a city is assuring the health and quality of life of its residents.

Geography

Greater Capital City Statistical Area

Source

Public Health Information Development Unit

ABS Regional Population Growth (Cat. No. 3218.0)

Units

Number per 100,000 people

Frequency

Annual

14. Perceived safety

Description

Perceived safety is the proportion of people who, when asked in a survey, report that they feel safe walking alone in a local area after dark.

Rationale

Whether residents feel safe walking alone after dark can indicate the level of safety and trust in a city, and so help to understand the social wellbeing of residents.

Geography

Greater Capital City Statistical Area for the eight capital cities

Amalgamations of Local Government Areas

Source

ABS General Social Survey (Cat. No. 4159.0), 2014

Many factors influence perceptions of safety, some of which may not be directly amenable to being addressed by urban policy.

Units

Percentage

Frequency

4-yearly

Innovation and digital opportunities

1. Knowledge workers ratio

Description

The knowledge workers ratio measures the number of people working in knowledge-intensive industries (information media and telecommunications; financial and insurance services; rental, hiring and real estate services; and professional, scientific and technical services), as a percentage of the total number of employed people.

Rationale

The number of knowledge workers in a city helps to understand the types of businesses based there and how well the city is placed to respond to new technologies or economic change, since high-skilled workers typically find it easier to transition between jobs and industries.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Labour Force Survey (Cat. No. 6291.0.55), 2015–16

Units

Percentage

Frequency

Quarterly

2. Broadband connection rate

Description

The broadband connection rate is the percentage of households in a city with an active broadband connection. Broadband connection is defined as an access speed of 256kbps or higher. This includes DSL, cable, fibre, satellite, fixed and mobile wireless.

Rationale

The inclusion of this indicator in the Performance Framework can help users understand the availability and quality of internet access and can provide insight into the digital engagement of residents.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

Units

Percentage

Frequency

5-yearly

3. New business entrants

Description

The new business registration rate is the number of new businesses registered in a city in a year, divided by the city's total population, multiplied by 100,000.

Rationale

The rate of new business registration is a general indicator of economic activity in a city, and more particularly of levels of entrepreneurship. Strong entrepreneurial activity is associated with a dynamic and innovative local economy.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Counts of Australian Businesses, including entries and exits (Cat. No. 8165.0)

Units

Number

Frequency

Annual

4. Labour productivity

Description

Labour productivity is a measure of income or output produced per hour worked.

Rationale

Knowing a city's productivity helps to understand how efficient and effective its workers are at producing goods and services. It may also indicate how well a city is enabling innovation to fuel economic growth.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

SGS Economics and Planning Australian Cities Accounts (2015–16)

Labour productivity at a city level is estimated based on SGS economic modelling and is subject to uncertainty.

Units

$AUD

Frequency

Annual

5. Patent applications

Description

The number of patent applications by people resident in a city, divided by the population of the city, multiplied by 100,000. The resulting figure is the annual number of patents issued per 100,000 people.

Rationale

Patent applications are a proxy measure for the degree of innovation occurring in a city's economy. Keeping track of this indicator helps understand whether a city is fostering innovation in its economy.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

Department of Industry, Innovation & Science; IP Australia

Units

Number of applications

Frequency

Annual

Governance, planning and regulation

1. Land use strategy

Description

Whether or not a city has a planning strategy.

Rationale

Properly serving city residents requires coordinated decisions about planning and land use. Whether cities have established a planning strategy is an indicator of whether local government is attending to its residents' future needs.

Source

State & local governments

This is a binary indicator, which provides no measure of the quality of a land use plan or its integration with other urban policy decisions.

Units

-

Frequency

-

2. Development assessment decision time

Description

Development assessment decision time is the average number of days for a development application decision to be made in a city. Depending on the state or territory, there are various types of development applications. This indicator uses the average for all types of residential, commercial and industrial property applications.

Rationale

Lengthy development approval processes are indicative of inefficient planning processes, and cause economic loss through the delay of growth-enhancing investment. Tracking the average decision time gives insight into whether a city is effectively managing its regulatory processes to promote economic growth.

Source & Geography

New South Wales: Department of Planning & Infrastructure NSW — Local Development Performance Monitoring 2013–14 — Local Government Area (LGA) & Greater Capital City Statistical Area (GCCSA) — mean net determination time

Victoria: Department of Environment, Land, Water and Planning — Planning Permit Activity Reporting System — GCCSA & Regional Cities Sub-group — median processing days

Queensland: Department of State Development, Infrastructure and Planning — Development Assessment Performance Report 2011–2012 — State — gross assessment time

South Australia: Department of Planning, Transport and Infrastructure — Annual Report on the Administration of the Development Act 1993, 2014–15 — State — median days before approval

Western Australia: Department of Planning — Annual Report 2015–16 — City of Perth — average time for application

Northern Territory: Department of Lands, Planning and the Environment —Annual Report 2015–16 — Territory — average processing time

ACT: ACT Government, Environment, Planning and Sustainable Development Directorate — Territory — average days to decision

Tasmania: Department of Premier & Cabinet – Local Government Performance Report 2013–14 — LGA — average processing days

The definitions and units used and frequency of data collection vary across states. This data is not comparable between states. Decision times may also vary between development types (e.g. in relation to development size).

Units

Days

Frequency

Various

3. Investment readiness

Description

Investment readiness assesses whether or not a city has a plan for attracting and managing investment.

Rationale

City development requires a strategic effort to attract private investment to the area and manage it in ways that benefit local residents. Whether a city has an established plan for investment in its area indicates whether local government is functioning so as to promote economic development.

Source

State & local governments

This is a binary indicator, which provides no measure of the quality of an investment plan or its integration with other urban policy decisions.

Units

-

Frequency

-

4. Local government dispersion

Description

The smallest 20 per cent of Local Government Areas (LGAs) in the 21 cities have under 24,000 residents. This indicator measures what proportion of a city's LGAs are in this bottom quintile: the number of LGAs with less than 24,000 people, divided by the total number of LGAs in the city.

Rationale

Larger local governments can benefit from economies of scale in administration and service delivery. Small councils may have less capacity to efficiently and efficiently deliver services. In addition, achieving collaboration outcomes is more easily achieved when there are fewer parties to negotiate with.

Source

ABS Regional Population Growth (Cat. No. 3218.0), 2015–16

ABS Australian Statistical Geography Standard

Units

Days

Frequency

Annual

Housing

1. House price to income ratio

Description

The house price to income ratio is the average price of a detached house in a city, divided by the average annual income.

Rationale

The house price to income ratio is a key measure of housing affordability and whether homeownership is within the financial reach of residents. The inclusion of this indicator in the Performance Framework can help inform the development of housing affordability strategies.

Geography

For house price data — Local Government Areas, drawn from the Australian Standard Geography Classification 2006

For income data — Greater Capital City Statistical Areas for Sydney, Melbourne, Brisbane, Adelaide and Perth; Statistical Area 4 for other cities

Source

Australian Property Monitors, 2016

Australian Taxation Office, 2014–15

Units

Percentage

Frequency

5-yearly

2. Mortgage to income ratio

Description

The mortgage to income ratio is the ratio of the median monthly mortgage repayment in a city to the median monthly household earnings. A larger number implies that households spend more of their income on mortgage repayments.

Rationale

The mortgage to income ratio measures how much of their incomes homeowners with mortgages currently spend on their monthly repayments. It provides an indication of the affordability stresses residents are under due to housing costs, enabling assessment of whether a city is meeting its affordable housing goals.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

Units

Percentage

Frequency

5-yearly

3. Rent to income ratio

Description

The rent to income ratio is the average rent in a city, divided by the average annual income.

Rationale

The rent to income ratio measures the affordability of rental dwellings. This is the central measure of whether housing is affordable for those who do not own their own homes, indicating whether a city's planning and investment strategies are achieving housing affordability objectives.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

SGS Rental Affordability Index

Units

Ratio

Frequency

5-yearly

4. Public housing units

Description

The number of public housing units in the city, divided by the total population, multiplied by 100,000. The resulting figure is the number of public housing units per 100,000 city residents.

Rationale

Public housing is an important segment of the housing market. Measuring the number of public housing units in a city helps to assess whether adequate housing services are being provided to residents, in line with the housing affordability goals of the Smart Cities Plan.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2016

Units

Number per 100,000

Frequency

5-yearly

5. Homelessness rate

Description

The number of people in a city who are homeless, divided by the total city population, multiplied by 100,000. The resulting figure is the number of people who are homeless for every 100,000 residents.

Rationale

The inclusion of this indicator in the Performance Framework can help users to understand the effects of poverty and marginalisation and the need for government and community services.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2011

Units

Number per 100,000

Frequency

5-yearly

6. Housing construction costs

Description

The housing construction cost is the average cost per square metre of constructing new housing in a city.

Rationale

Measuring housing construction costs can help understand the various components, including construction and land value, of house prices in a city. This can give an indication of how planning and other regulations are affecting the cost and supply of housing.

Geography

Greater Capital City Statistical Area — Sydney, Melbourne, Brisbane, Adelaide and Perth

Territory boundary — Australian Capital Territory

Statistical Area 2 (aligned with Local Government Areas) — Western Sydney

Statistical Area 2 (aligned with Significant Urban Areas) — other cities

Source

ABS Census of Population and Housing, 2011

Rawlinsons Guide to Construction Costs

Units

$AUD per square metre

Frequency

Annual

APPENDIX B:
CONSULTATION

Below is a list of the individuals and organisations consulted during the preparation of this Interim Report.

Organisation Name

Australasian Railway Association

Australian Bureau of Statistics

Australian Chamber of Commerce and Industry

Australian Housing and Urban Research Institute

Australian Institute of Architects

Australian Institute of Landscape Architects

Australian Local Government Association

Australian Trade and Investment Commission (Austrade)

Bureau of Infrastructure, Transport and Regional Economics — Australian Government

Bus Industry Confederation

Chief Minister, Treasury and Economic Development Directorate — ACT Government

City of Sydney

Clean Air and Urban Landscapes Hub — University of Melbourne

Committee for Sydney

Commonwealth Bank of Australia

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Consult Australia

Cooperative Research Centre for Low Carbon Living

Council of Australian Governments Industry and Skills Council

Council of Capital City Lord Mayors

Curtin University

Cycling Promotion Fund

Data61

Department of Communications and the Arts — Australian Government

Department of Education and Training — Australian Government

Department of Employment — Australian Government

Department of the Environment and Energy — Australian Government

Department of Health — Australian Government

Department of Industry, Innovation and Science — Australian Government

Department of Infrastructure and Regional Development — Australian Government

Department of Social Services — Australian Government

Department of the Treasury — Australian Government

Department of the Chief Minister — Northern Territory Government

Department of Premier and Cabinet — NSW Government

Department of the Premier and Cabinet — Queensland Government

Department of Premier and Cabinet — Government of South Australia

Department of Premier and Cabinet — Tasmanian Government

Department of Premier and Cabinet — Victoria State Government

Department of the Premier and Cabinet — Government of Western Australia

Geoscience Australia — Australian Government

Green Building Council of Australia

Housing Industry Association

Infrastructure Australia

LinkedIn

Mastercard

National Growth Areas Alliance

Planning Institute of Australia

Property Council of Australia

Regional Australia Institute

Regional Capitals Australia

SGS Economics and Planning

Smart Cities Council Australia New Zealand

Social Ventures Australia

Universities Australia

Urban Development Institute of Australia

WSP | Parsons Brinkerhoff

APPENDIX C:
POTENTIAL NEW INDICATORS

The following indicators have been excluded from the Performance Framework primarily due to issues of data availability, measurement and comparability. These indicators will be considered for inclusion in future updates to the Performance Framework where barriers to inclusion can be resolved.

Indicator	Description
Change in total number of species	This indicator could help measure sustainability in a city. It has been excluded as there was a lack of data for some cities, and where it was available, it was not comparable across cities.
Percentage of children with access to quality outdoor play areas (by age group)	This indicator could help measure liveability in a city. It has been excluded due to a lack of available data.
Local government share of own sourced revenue	This indicator could help measure the capacity of local governments to finance future infrastructure needs. It has been excluded due to a lack of data, and difficulties in determining whether higher revenue raising by local governments is unambiguously good.
Local government debt servicing as % of expenditure	This indicator could help measure the capacity of local governments to finance future infrastructure needs. It has been excluded due to a lack of data, and difficulties in determining whether lower debt levels are unambiguously good.
Local government tax collect as a share of tax billed	This indicator could help measure the capacity of local governments to raise revenue and service future infrastructure needs. It was not included due to a lack of available data.
Taxes/charges share of development cost	This indicator could help measure barriers to development in a city. It has not been included due to a lack of available data.
Share of dwellings in disaster prone areas	This indicator could help measure how successful planning schemes are in avoiding development in disaster prone areas. It has not been included due to data availability at a fine enough scale.
Emergency Services Response Times	This indicator could help measure how well each city can respond to emergencies. It has not been included due to a lack of data at the city level.

Appendix C:
Potential new indicators

Indicator	Description
The percentage of mandated compliance checks undertaken by local governments	This indicator could help measure how well local governments are enforcing local regulations. It has not been included due to a lack of data availability.
Population growth to dwellings constructed ratio	This indicator could help measure whether the house stock is keeping up with population growth. It has not been included due to a lack of data.
Freight movement within cities	This indicator could help measure the efficiency of freight movements within a city. It has not been included due to a lack of data on smaller freight vehicles.
% of projects in a Council or City that failed to be approved despite being in-line with the Planning Strategy for the subject site	This indicator could help measure the ease of complying with regulation. It has been excluded due to data availability and concerns around reliability and comparability.
% of projects that were only approved after negotiation between the Developer and the Authorities/Regulators resulting in additional levies and taxes having to be contributed by the Developer	This indicator could help measure barriers to development in a city. It has not been included due to lack of available data
Is the water, sewer, transport infrastructure in place or planned and fully funded with timing certainty or not?	This indicator could measure the organisation and governance capabilities around public infrastructure. It has not been included due to a lack of available data.
Greenhouse Gas Emissions by sector	This indicator could measure the environmental impact of different sectors within a city. It has not been included due to a lack of available data.

APPENDIX D: REFERENCES

A.T. Kearney 2016. *Global Cities 2016.*

Adinyira, E., Oteng-seifah, S. & Adjei-kumi, T. 2007. 'A Review of Urban Sustainability Assessment Methodologies'. International Conference on Whole Life Urban Sustainability and its Assessment, January 2007.

Al-Hader, M. & Rodzi, A. 2009. 'The Smart City Infrastructure Development & Monitoring', *Theoretical and Empirical Researches in Urban Management* 4(2), pp87–94.

Australian Bureau of Statistics 2013. Measures of Australia's Progress, 2013 — Cat. no. 1370.0, Canberra.

Bosch, P., Jongeneel, S., Rovers, V., Neumann, H., Airaksinen, M., & Huovila, A. 2017. *CITYkeys indicators for smart city projects and smart cities.* CITYkeys.

Brookings Institution 2016. *Redefining Global Cities: The Seven Types of Global Metro Economies.* Metropolitan Policy Program.

Centre for Cities 2013. *City Deals: Insights from the Core Cities.* Centre for Cities.

Chourabi, H., Nam, T., Walker, S., Gil-Garcia, J.R., Mellouli, S., Nahon, K., Pardo, T.A. & Scholl, H.J. 2012. 'Understanding Smart Cities: An Integrative Framework'. 45th Hawaii International Conference on System Sciences 2012, pp2289–2297.

Clark, G. & Clark, G. 2014. *Nations and the Wealth of Cities: A New Phase in Public Policy.* Centre for London.

Committee for Sydney 2016. *Joining the top table? Benchmarking Sydney's performance 2017.* Issues Paper 16.

Department of Industry, Innovation & Science 2016. *Australian Innovation System Report 2016.* Australian Government, Canberra.

Department of Industry, Innovation & Science 2017. *Australian Industry Report 2016.* Australian Government, Canberra.

Department of Infrastructure & Regional Development 2016. *Progress in Australian Regions — Yearbook 2016.* Australian Government, Canberra.

Department of Infrastructure & Transport 2013. *State of Australian Cities 2013.* Australian Government, Canberra.

--------- 2011. *State of Australian Cities 2011.* Australian Government, Canberra.

--------- 2012. *State of Australian Cities 2012.* Australian Government, Canberra.

--------- 2015. *State of Australian Cities 2014–2015.* Australian Government, Canberra.

Department of Prime Minister & Cabinet 2016a. *Smart Cities Plan.* Australian Government, Canberra.

--------- 2016b. Townsville City Deal, Australian Government, Canberra.

--------- 2017. Launceston City Deal, Australian Government, Canberra.

Department of the Environment & Energy 2016. *Australia: State of the Environment 2016.* Australian Government, Canberra.

Fox, M.S. 2015. 'A Foundation Ontology for Global City Indicators'. Global Cities Institute Working Paper No. 3.

Houghton, M. & Rowell, A. 2017. *The Australian Night Time Economy 2009–2015.* Ortus Economic Research.

IESE Cities in Motion 2016. *IESE Cities in Motion Index 2016.* IESE Business School.

Infrastructure Australia 2010. State of Australian Cities 2010. Australian Government, Canberra.

Institute for Urban Strategies 2016. *Global Power City Index 2016.* Mori Memorial Foundation.

International Organization for *Standardization 2014. ISO 37120: Sustainable development of communities — Indicators for city services and quality of life.*

Kötter, T. & Friesecke, F. 2009. 'Developing urban indicators for managing mega cities'. Conference on Land Governance in Support of the MDGs: Responding to New Challenges.

KPMG 2017. *Global Cities Investment Monitor 2017.*

Lombari, P., Giordano, S., Farouh, H. Yousef, W. 2012. 'Modelling the smart city performance', *Innovation: The European Journal of Social Science Research* 25(2), pp137–149.

Appendix D: References

Manninen, A., Pumain, D., Lehtonen, R., Trutzel, K. & Croi, Wi. 2004. *Urban Audit Methodological Handbook. European Commission.*

McCaughey Centre, School of Population Health, University of Melbourne. *Community Indicators Victoria.* Available online at http://www.communityindicators.net.au

Melbourne City Council 2008. *Future Melbourne community plan.*

Nam, T. & Pardo, T.A. 2011. 'Conceptualizing smart city with dimensions of technology, people, and institutions', *Proceedings of the 12th Annual International Digital Government Research Conference*, pp282–291.

Networked Society Lab 2016. *Networked Society City Index: 2016 Edition.* Ericsson.

Partridge, E., Chong, J., Herriman, J.,Daly, J. & Lederwash, A. 2011. *City of Sydney Indicator Framework.* University of Technology Sydney.

PricewaterhouseCoopers 2016. *Cities of Opportunity, 7.*

Rooijen, T., Nesterova, N. & Guikink, D. 2013. *Applied framework for evaluation in CIVITAS PLUS II.* CIVITAS Initiative.

Science for Environment Policy 2015. *Indicators for sustainable cities.* In-depth Report 12, produced for the European Commission by the Science Communication Unit, University of West England.

SGS Economics & Planning 2017. *National Cities Performance Indicators — Background Report.* Report for the Department of Prime Minister & Cabinet.

Tamanini, J. & Valenciano, J. 2016. *The Global Green Economy Index 2016.* Dual Citizen LLC.

Tasmania Together Progress Board 2011. *Tasmania Together 10 year review: report to Parliament.*

The Economist Intelligence Unit 2016. *Global Liveability Ranking 2016.*

Tillie, N. 2014. Presentation to the Scientific Joint Workshop on Innovation in Assessing and Governing Low Carbon and Smart Cities. World Council on City Data.

TomTom 2016. TomTom Traffic Index 2016. Available online at https://www.tomtom.com/en_gb/trafficindex

United Nations Development Programme. Sustainable Development Goals. Available online at http://www.undp.org/content/undp/en/home/sustainable-development-goals.html.

United Nations Conference on Housing and Sustainable Urban Development (Habitat III) 2016. *New Urban Agenda.* United Nations.

UK National Audit Office 2015. *Devolving responsibilities to cities in England: Wave 1 City Deals.* Report to the House of Commons.

Water Services Association of Australia 2016. *Liveability Indicators: A report prepared for the water industry.* Occasional Paper No. 31.

Yeandle, Mark 2017. *The Global Financial Centres Index 21.* Financial Centre Futures.

Smart Cities Plan

NATIONAL CITIES PERFORMANCE FRAMEWORK

Interim Report

Smart Cities Plan

For more information visit:
cities.dpmc.gov.au