

PARLIAMENT OF THE COMMONWEALTH OF AUSTRALIA

Building Up & Moving Out

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

House of Representatives Standing Committee on Infrastructure, Transport
and Cities

September 2018
CANBERRA

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Foreword

Australia is undergoing rapid change. Population growth, urbanisation, the ageing of the population and the transformation of the economy towards service and knowledge based industries are causing profound changes in the urban and regional landscape. The outcome of these changes will depend on how they are managed. In recent decades, there has been no plan for how to accommodate the growth in our cities and population. The scope and complexity of the challenges of growth require a reconfiguration of our understanding of our cities and their relationship with surrounding regions. Managing these challenges requires a national vision—a national plan of settlement.

The national plan of settlement must set out a vision for our cities and regions for the next fifty years and beyond. It must take account of the fact that Australia's cities and regions are not sustainable in their current form, and will become less sustainable as the population grows and ages. Achieving the required economic, social and environmental outcomes for the sustainability of our cities and regions will require a high level of integrated planning. This is not achievable without the coherent vision which comes from master planning both land use and facilitating infrastructure.

The successful development of both cities and regions is intrinsically linked. Regional development needs to be seen as part of a broader pattern of national development, with cities, towns and regions being developed as part of an integrated whole. This demands a high level of coordination in planning and governance by all levels of government.

Greater connectivity is an essential element of this joint development. Well connected cities and regions means that opportunities can be distributed across a wider population. High speed rail can bring distant communities within close proximity of each other. Access to employment, education, services and recreation

would increase. Where someone lived would not predetermine access to opportunities. This in turn would enable a more dispersed pattern of settlement as new population centres would still have access to employment and services. This would allow the development of polycentric cities, potentially creating a pattern of population dispersal without the attendant vices of urban sprawl.

Another important catalyst for regional development is highlighting the economic and lifestyle advantages of regional communities. It would be useful to publish an index of the cost of housing, cost of living and wages at the scale of local communities, thereby giving people a direct comparison of their income and costs by locality. This index could do a great deal, in conjunction with better regional connectivity, to promote the benefits of living outside the major cities

The urban form must adapt to agglomeration. Part of this adaptation is densification, making the urban form tighter and more accessible. Densification has the additional benefit of reducing the environmental and spatial footprint of cities and is essential to the economical and efficient delivery of services. Without densification, cities will suffer from increasing sprawl. Greater connectivity ensures greater accessibility, meaning the benefits of agglomeration are accessible to more people. But densification rapidly turns into over-development if not incorporated into a master plan of infrastructure, service provision and simple connectivity. Improved connectivity is an essential element of maintaining economic productivity and social well-being. The ultimate expression of agglomeration, densification and connectivity is the 30-minute city.

The importance of highly integrated planning at a national level was emphasised on the Committee's visit to China. There are lessons for Australia in the Chinese approach to urban development and infrastructure procurement. In China there is a strong emphasis on integrated planning. Infrastructure development is directly connected to land use. There is a high level of master planning, ensuring that all development fits within a predetermined framework according to agreed priorities. These priorities are set broadly at a national level, years in advance, and implemented through master planning at the province and city level.

The China visit also highlighted the potential of value capture as a funding mechanism. Value capture is employed successfully by MTR in Hong Kong under the 'rail and property model'. The benefits to government include a free transport service, the land premium from lease of land, and an ongoing dividend from MTR's profit. The rail and property projects are implemented together in a coordinated way creating multiple uses of the same land. The outcome is rapid and coordinated development of infrastructure and commercial and residential space.

Value capture should be part of the conception of any infrastructure project to equitably capitalise on taxpayers funds invested. It should be incorporated organically into its planning and development. Suitable value capture mechanisms should be identified and applied from the outset. Ideally, this should involve coordination between different levels of government and project developers to ensure a maximum return on investment. The potential for value capture to contribute to the development of infrastructure was discussed at length in the Committee's previous report, *Harnessing Value, Delivering Infrastructure*. The Committee considers that the recommendations in that report are more relevant than ever, and should be adopted by the Australian Government. The development of value capture as an organising principle of infrastructure planning and procurement, and the reform of the taxation system to match its requirements, are fundamental to the significant investment in infrastructure required to ensure the efficient growth and functioning of Australia's cities and regions.

Parliamentary Inquiries are an under-appreciated tool that gathers on the ground evidence for the benefit of Ministers and Departments. Months of work have gone into this document; both from the deeply committed Secretariat and from the scores of Australian organisations who felt the need to give their independent and critical insights in this vitally important policy area. This is a good, substantive report that contains a strong evidence based plan for how to solve the many problems of our settlement. Previous reports by this Committee have received delayed and token responses from the Department; I strongly recommend this one is given the consideration that it richly deserves.

In conclusion, I would like to thank all those who have contributed to this inquiry. The Committee received a great deal of high quality evidence from across the nation from people committed to the progress of Australia's cities and regions. This report should see that commitment turned into action. We are at a turning point right now. The evidence is clear. It is now time for action on this critically important policy area that affects Australians every day of their lives. I also thank my Committee colleagues and the secretariat for their enthusiasm and hard work during the inquiry and their contribution to the report.

The governing of Australia is at its best when representatives from both sides can come together to determine the facts and deduce the best course of action in consideration of only one thing the wellbeing of the Australian people now and in the future.

Therefore I am indebted to my Deputy Chair the Hon Sharon Bird MP and equally grateful to each member of the committee.

We have, I believe, produced a bipartisan vision for the future settlement of Australia.

Mr John Alexander OAM, MP, Chair

Chair

Chair

Mr John Alexander OAM, MP

Deputy Chair

Hon Sharon Bird MP

Members

Hon Warren Entsch MP

Mr Andrew Gee MP

Mr Andrew Giles MP

Ms Emma McBride MP

Ms Cathy McGowan AO, MP

Mr Ted O'Brien MP

Mr Andrew Wallace MP

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Samantha Leahy, Senior Research Officer

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Terms of Reference

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

With Australia's population expected to double by 2075, it is important to consider how national policy can foster collaborative and flexible urban planning responses. While recognising the primacy of state, territory and local government in the areas of planning and service provision, the Committee will examine what spatial planning mix (compact city, satellite city, etc) makes best use of natural resources, brings jobs closer to where people live, and helps ensure a high quality natural and built environment. It will also examine what planning tools, models, indicators and alternate funding options would be required to inform an assessment of the liveability, sustainability and resilience of different scenarios of urban settlement across Australia, and what settlement policy can deliver greater social equity and better health and wellbeing.

To do this, the Committee will undertake, concurrently, two sub-inquiries, dealing with these matters in relation to existing cities and new regional cities and towns respectively.

Submitters may make submissions to either or both of the sub-inquiries, but submissions should clearly articulate which part of the terms of reference they address.

The terms of reference for the two sub-inquiries are:

The Committee to inquire into and report upon:

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

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

Abbreviations

ABCB	Australian Building Codes Board
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
ACT	Australian Capital Territory
AEC	Australian Electoral Commission
AILA	Australian Institute of Landscape Architects
ALC	Australian Logistics Council
ALGA	Australian Local Government Association
AMS	Amsterdam Institute for Advanced Metropolitan Solutions
ANEF	Australian Noise Exposure Forecast
ANSTO	Australian Nuclear Science and Technology Organisation
APRA	Australian Prudential Regulation Authority
APVMA	Australian Pesticides and Veterinary Medicines Authority
ARA	Australasian Railway Association
ASBEC	Australian Sustainable Built Environment Council
ATAP	Australian Transport Assessment and Planning
ATO	Australian Taxation Office
ATSE	Australian Academy of Technology and Engineering
AURIN	Australian Urban Research Network
AV	automated vehicles

BASIX	Building Sustainability Index
BBRF	Building Better Regions Fund
BCR	benefit-cost ratio
BEEC	Building Energy Efficiency Certificate
BIC	Bus Industry Confederation
BIM	building information modelling
BMS	Building Management Systems
B2B	business to business
B2C	business to consumer
C	Celsius
CBD	central business district/Commercial Building Disclosure
CCCLM	Council of Capital City Lord Mayors
CCTV	closed-circuit television
CEO	Chief Executive Officer
CGT	Capital Gains Tax
CHP	community housing provider
COAG	Council of Australian Governments
COTA	Council on the Ageing
CRC	Cooperative Research Centre
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CUR	Centre for Urban Research (RMIT)
CUSP	Curtin University Sustainability Policy Institute
DA	Development Approval
DER	distributed energy resources
DIRD	Department of Infrastructure and Regional Development
EA	Engineers Australia
EAROPH	Eastern Regional Organisation for Planning and Human Settlements
EDOs	Environmental Defenders' Offices
EIC	Economist Intelligence Unit

EJD	effective job density
EPA	Environment Protection Authority
ESD	Ecologically Sustainable Development
EV	electric vehicle
FBT	Fringe Benefits Tax
FTE	full-time equivalent
GBCA	Green Building Council of Australia
GDP	gross domestic product
GPOP	Greater Parramatta and the Olympic Peninsula
GPR	Greyfield Precinct Renewal
GPS	Global Positioning System
GRESB	Global Real Estate Sustainability Benchmark
GROW	Geelong Region Opportunities for Work
GSC	Greater Sydney Commission
GST	Goods and Services Tax
G20	Group of Twenty
HIA	Housing Industry Association
HK	Hong Kong
HPV	high productivity vehicle
HSR	High Speed Rail
ICMA	International City/Country Management Association
ICT	information and communications technology
IoT	Internet of Things
IoTAA	Internet of Things Alliance Australia
IPFA	Infrastructure and Project Financing Agency
ITF	International Transport Forum
JCU	James Cook University
km	kilometre
kWh	kilowatt hour

LED	light emitting diode
LEP	Local Environmental Plan
LEV	low emission vehicle
LGA	Local Government Area
LGA SA	Local Government Association of South Australia
LVR	loan to value ratio
MBA	Master Builders Australia
MOU	Memorandum of Understanding
MPA	Metropolitan Planning Authority
MTR	Mass Transit Railway Corporation Limited
NABERS	National Australian Built Environment Rating System
NAGA	Northern Alliance for Greenhouse Action
NAHA	National Affordable Housing Agreement
NatHERS	Nationwide House Energy Rating Scheme
NBN	National Broadband Network
NCC	National Construction Code
NDIA	National Disability Insurance Agency
NGAA	National Growth Areas Alliance
NGO	non-government organisation
NHFIC	National Housing Finance and Investment Corporation
NHIF	National Housing Infrastructure Facility
NHMRC	National Health and Medical Research Council
NO _x	Nitrogen Oxides
NPV	net present value
NSRF	National Stronger Regions Fund
NSW	New South Wales
NUP	National Urban Policy
NWC	National Water Commission
NWI	National Water Initiative

OECD	Organisation for Economic Cooperation and Development
OEH	Office of Environment and Heritage (NSW)
OSCAR	Organisation Sunshine Coast Association of Residents
PIA	Planning Institute of Australia
PM	particulate matter
PT	public transport
PV	photovoltaic
QUT	Queensland University of Technology
RAAF	Royal Australian Air Force
RAC	Royal Automobile Club
RAI	Regional Australia Institute
RCA	Regional Capitals Australia
RDA	Regional Development Australia
RDD	Regional Development and Decentralisation Committee
REM	Rapid Energy Modelling
RLCIP	Regional and Local Community Infrastructure Program
RMIT	Royal Melbourne Institute of Technology
ROI	return on investment
RUN	Regional Universities Network
SCCA	Shopping Centre Council of Australia
SCCANZ	Smart Cities Council Australia New Zealand
SCOTI	Standing Council on Transport Infrastructure
SDG	Sustainable Development Goals
SE	South East
SEK	Swedish Krona
SIBA	Spatial Industry Business Association
SME	small and medium enterprises
SPA	Sustainable Population Australia
SWIRL	South-West Illawarra Rail Link

TAC	Transport Accident Commission
TAFE	Technical and Further Education
TCPA	Town and Country Planning Association
TIEDAC	Transport Impacts of Employment Decentralisation in Australian Cities
tkm	tonne kilometres
TOD	transit oriented development
UCC	Urban Consolidations Centres
UK	United Kingdom
UKCRIC	UK Collaboratorium for Research in Infrastructure and Cities
UN	United Nations
UNDESA	United Nations Department of Social and Economic Affairs
UNFCCC	United Nations Framework Convention on Climate Change
US/USA	United States of America
UTS	University of Technology Sydney
WA	Western Australia
WHO	World Health Organisation
WSAA	Water Services Association of Australia
WSUD	water sensitive urban design

List of Recommendations

Recommendation 1

- 2.67 The Committee recommends that the Australian Government, in conjunction with State and Territory governments, and in combination with the governance arrangements set out in Recommendation 28, develop a national plan of settlement, providing a national vision for our cities and regions across the next fifty years, providing for:
- growth and change in population
 - growth and change in employment
 - the economically, socially and environmentally sustainable development of cities and regions
 - the relationship between cities and regions on a national, regional and local scale
 - connectivity within and between regions, and between residence and employment
 - resources for the implementation of the plan.

Recommendation 2

- 2.73 The Committee recommends that, as part of the development of a national plan of settlement, the Australian Government encourage the development of integrated master plans for States and Territories, regions and communities which link vertically across different levels of government; and horizontally, providing infrastructure, housing, employment and services

within a coherent integrated framework. In addition, plans must link the provision of infrastructure with land use to maximise the value of both.

Recommendation 3

3.77 The Committee recommends that the Australian Government, in conjunction with State and Territory Governments, pursues a system of urban planning which promotes:

- accessibility and liveability, promoting health and quality of life
- economic, social and environmental sustainability
- high quality natural and built environments
- access to employment
- a more compact urban form
- the concept of the 30-minute city.

This planning must incorporate the reality of agglomeration and the need for connectivity and densification, with a focus on the development of polycentric urban forms. Further, the Committee recommends that the Australian Government, in conjunction with State and Territory Governments, promotes a system of planning that is focussed on targets and goals, underpinned by a long-term broad-scale vision (the national plan of settlement), informed by comprehensive data collection, modelling and scenario testing.

Recommendation 4

4.97 The Committee recommends that the Australian Government develop a framework for the development of cities and regions outside the major metropolitan centres, based on the hub-and-spoke concept, within the context of a national planning framework. These Regional Plans would:

- Explore connectivity within and between regions
- Develop options for investment based on a realistic appreciation of regional characteristics

- Explore options for local action and investment, including local government leadership in infrastructure and investment
- Explore options for strategic decentralisation of government services in a coordinated way
- Explore options for developing opportunities for post-secondary education within the region.

Recommendation 5

4.104 The Committee recommends, that as part of the national plan of settlement, the Australian Government, in conjunction with State and Territory Governments, undertake the development of transport networks which allow for fast transit between cities and regions, and within cities and regions, with a view to developing a more sustainable pattern of settlement based on the principle of accessibility at a local, regional and national level. The Committee further recommends that the development of a fast rail or high speed rail network connecting the principal urban centres along the east coast of Australia be given priority, with a view to opening up the surrounding regions to urban development.

Recommendation 6

4.106 The Committee recommends that the Australian Government consider producing an effective cost of living index, including housing, at the scale of local communities to highlight the economic and lifestyle advantages of living in regional communities.

Recommendation 7

5.140 The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement, aligns existing regional infrastructure programs to the objectives of these plans to support investment in:

- communities experiencing rapid and sustained population growth; and
- regional centres which are strategically placed to expand with catalytic investment in community infrastructure.

Recommendation 8

5.142 The Committee recommends that the Australian Government work with the States and Territories to ensure that nationally consistent age-inclusive standards for urban development are put in place, informed by:

- community consultation; and
- reviews of international and Australian best practice.

Recommendation 9

5.148 The Committee recommends that the Australian Government, in partnership with the States and Territories, establish nationally consistent measureable targets to reduce waste to landfill, incorporates waste indicators into the National Cities Performance Framework, and establishes a grant program to offer once-off financial support to catalyse new businesses focussed on waste recycling or utilisation.

Recommendation 10

5.150 The Committee recommends that the Australian Government work with the States and Territories to establish nationally consistent guidelines for urban green space and establish a clear trajectory to continued carbon emissions reductions.

Recommendation 11

6.117 The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement, ensure that governments at all levels:

- Commit to a more sustainable model of urban transport connectivity than currently exists.
- Actively promote investment in the development of a public transport *network* that is capable of meeting the goal of the 30-minute city.
- Actively plan for and promote the integration of active transport within the transport network.
- Embrace innovation.

- Ensure that transport infrastructure planning is consistent with planning for a more sustainable urban form and conforms to integrated planning at local, regional and city levels.

Recommendation 12

6.146 The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement:

- Require all levels of government provide for the accommodation of and access to dedicated freight facilities, that planning at all levels include freight access as a matter of priority, and that in the planning of areas consideration be given to prioritising the needs of existing and approved freight terminals. This should include provision of Urban Consolidation Centres and shared parcel lockers at a regional and local level.
- Give priority to the development of a national freight network, with a view to creating a strong system of multimodal integration based on dedicated freight nodes, prioritising the movement of freight by rail, separating freight and passenger movements where possible, and developing dedicated fast-rail and high-speed-rail passenger rail lines to relieve the congestion of existing networks.

Recommendation 13

6.147 The Committee recommends that the Australian Government develop incentives, including tax incentives, promoting fleet modernisation to make trucks safer, quieter and cleaner, and proceed with the development of the National Freight Performance Framework.

Recommendation 14

7.83 The Committee recommends that the Australian Government:

- complete a regulatory impact assessment on lowering the participation threshold of the CBD Program;
- investigate the feasibility and cost implications of extending the CBD Program's mandatory disclosure requirements to include information about the energy efficiency of tenanted areas of commercial office buildings above 1000 metres squared.

Recommendation 15

8.78 The Committee recommends that the Prime Minister appoint a senior Minister with responsibility for housing to:

- monitor housing affordability issues and lead a joint federal, state and local government response;
- ensure all policies considered by cabinet support the provision of more affordable quality housing and strike the right balance between investors and home buyers;
- coordinate all government agencies with a role in implementing housing outcomes;
- identify and strategically develop Commonwealth land holdings to address housing affordability and amenity issues; and
- investigate viability of nationalising and streamlining planning regulation similar to the Australian Building Codes Board model.

Recommendation 16

9.80 The Committee recommends that the Australian Government ensure that the development of the NBN is commensurate with the future capacity requirements of intelligent transport systems and the Internet of Things (IoT), and that relevant capacity constraints be identified and addressed.

Recommendation 17

9.82 The Committee recommends that the Australian Government offer additional funding and technical support to local governments by extending the Smart Cities and Suburbs Program and the Future Ready Incubation Package indefinitely. The Committee also recommends that the Future Ready Incubation Package specifically address local governments' capacity to effectively and efficiently procure smart cities technology.

Recommendation 18

9.84 The Committee recommends that Standards Australia develop a 'standards roadmap' for Australia, including:

- identifying the standards required in each sector to unlock the benefits of connected Australian cities; and
- developing standards in strategic priority areas, including standards to safeguard the interoperability of IoT and other smart cities technologies.

Recommendation 19

9.89 The Committee recommends that the Australian Government continue to expand the performance indicators and cities assessed under the National Cities Performance Framework, including:

- enhancing indicators for environmental sustainability and innovation; and
- incorporating smaller regional capitals into the framework.

Recommendation 20

9.91 The Committee recommends that the Australian Government provide ongoing funding to increase the visibility of and enhance data collection and analysis undertaken through AURIN and CSIRO's urban living labs.

Recommendation 21

10.98 The Committee recommends that the Department of Infrastructure, Regional Development and Cities and the National Chief Planner apply international best practice approaches to urban development, to:

- the development of national settlement plans;
- the design of policies and programs;
- the provision of funding to support Australian cities and regional centres; and
- investigate international companies with proven unique global best practice expertise in infrastructure provision and urban development.

Recommendation 22

10.100 The Committee recommends that the Australian Government maintain the CRC research agenda's previous focus on urban issues until the nation's

cities have achieved an environmentally and socially sustainable urban form.

Recommendation 23

10.102 The Committee recommends that the Australian Government establishes a national institute for cities research, on the model of the UKCRIC, to enhance collaboration, knowledge and data sharing across research groups and universities; and tasks the new institute for cities research with identifying how international best practice approaches to urban development can best be applied in Australian cities.

Recommendation 24

10.104 The Committee recommends that the Australian Government re-endorse *Creating Places for People: An Urban Design Protocol for Australian Cities* and provide financial support for the purposes of maintaining and promoting these design principles.

Recommendation 25

10.106 The Committee recommends that the Australian Government support the broader application of rating systems, such as the Green Building Council of Australia's Green Star program, to urban regeneration.

Recommendation 26

11.74 The Committee recommends that the Australian Government conduct a review of the spatial impact (distribution of population, housing, employment, industry and services) of its policies in areas of federal responsibility.

Recommendation 27

11.76 The Committee recommends that the Australian Government ensure that urban and regional infrastructure is developed giving consideration to potential settlement patterns.

Recommendation 28

11.81 The Committee recommends that the Australian Government, in pursuit of a sustained, coordinated, holistic vision for the development of Australia's cities and regions, create:

- A Minister for Cities and National Settlement with a place in Cabinet, with responsibility, amongst other things, for the oversight of a national plan of settlement and housing;
- The statutory Office of a National Chief Planner, incorporating Infrastructure Australia and the Infrastructure and Project Financing Agency, to provide independent expert advice on urban and regional planning and development;
- A COAG Cities & Regional Development Ministerial Council involving representation by state and territory treasurers, housing ministers and planning ministers, and local government; and
- A Cities & Regional Development NGO Roundtable to ensure business and community groups have a direct voice to government on issues involving our cities and regions.

Recommendation 29

12.33 The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement, provide funding and resources for a significant acceleration of the City Deals program, with a view to creating greater opportunities for cities to engage in the City Deals program, developing more sophisticated interactions between the various levels of government and the private sector—including implementing more sophisticated funding methods such as value capture—and extending the City Deals concept to the regions in the form of Regional Deals, thereby providing a meaningful and sustainable mechanism for promoting urban and regional development across Australia.

Recommendation 30

12.63 The Committee recommends that the Australian Government encourage the State and Territory Governments to investigate city commissions, along the lines of the Greater Sydney Commission.

Recommendation 31

12.76 The Committee recommends that the Australian Government investigate the provision of spatially and industry targeted tax incentives to drive strategic secondary economic agglomeration in major cities.

Recommendation 32

12.79 The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement, provide financial support, in the form of grants, to projects with demonstrated potential to generate significant employment growth in the rapidly expanding, outer suburban communities of Australian cities.

Recommendation 33

13.85 The Committee recommends that the Australian Government adopt infrastructure procurement practices that require a ‘whole-of-life’ approach to infrastructure procurement which look at costs and benefits across the service life of any given piece of infrastructure, its place within long-term planning frameworks, and how well it meets objectives in terms of economic, social and environmental sustainability.

Recommendation 34

13.90 The Committee recommends that the Australian Government adopt an approach to infrastructure procurement that:

- where appropriate, utilises independent development corporations to manage the procurement and development of infrastructure projects;
- promotes technical innovation; and
- supports and engages with Tier 2 & 3 contractors.

Recommendation 35

13.91 The Committee recommends that the Australian Government, in conjunction with State and Territory Governments, establish a national training program for public sector infrastructure procurement.

Recommendation 36

13.94 The Committee recommends that the Australian Government should adopt an approach to infrastructure project appraisal that includes assessment of:

- wider economic, social and environmental benefits;
- costs and returns over the life of the infrastructure; and

- cost of the project using a discount rate of 4 per cent.

Recommendation 37

13.98 The Committee recommends that the Australian Government develop a system of value capture as an organising principle of infrastructure planning and procurement, and progress the reform of the taxation system to match the requirements of value capture, in conjunction with State and Territory Governments, to provide a single, seamless, transparent system of taxes, charges and contributions, which allows for the costs of infrastructure development, where appropriate, to be met on the beneficiary pays principle.

Executive Summary

This report is about the future of our cities and the regions around them. Our major cities and our regions have one future—they will depend on each other for their prosperity, sustainability and liveability—and planning for this future needs to be done in an integrated and holistic way.

Our cities need to be better planned, better connected, more compact, more diverse and more sustainable. They will need to engage with, and hopefully lead, global best practice in technology, urban form, accessibility and sustainability. They will need to connect to regions which are also well planned, well connected, more sustainable and better integrated. This requires vision and leadership from government at all levels, and the development of systems of urban and regional governance well-adapted to the challenges of the future.

Part 1 of the report (Chapters 2–4) addresses the high level issues of population growth and the distribution of population, employment and services; the sustainability of current trends; and the solutions needed to ensure that our cities and regions remain sustainable, accessible and liveable. It addresses the need for a national plan of settlement to ensure that people and resources are directed to outcomes that maximise sustainability, liveability and accessibility. It also specifically addresses the need for the integrated holistic planning of our cities. It identifies the symbiotic relationship between cities and regions and the need to progress their development in conjunction with each other

Part 2 of the report (Chapters 5–10) takes the focus down from national and regional level to city level, addressing particular issues vital to the sustainable development of cities. It examines issues of urban sustainability; the vital issue of urban connectivity; the sustainability of the built environment; housing accessibility and affordability; the importance of technology to the development of smart cities; and the importance of pursuing global best practice.

Part 3 of the report (Chapters 11–13) focuses once again on policy at the national level, in particular the role of the Australian Government in the development of cities. It addresses the impact of the Australian Government on the development of cities, through its various policy responsibilities, and stresses the importance of Commonwealth leadership; looks at a range of government programs which have or could contribute to the development of sustainable cities; and the issue of infrastructure procurement within the context of urban and regional development. It concludes with an examination of financing and funding innovation—especially the importance of value capture.

Developing a National Settlement Strategy

The evidence presented to the Committee indicates that Australia’s current population growth and changing demographics are placing increasing stress upon our cities and regions. Urbanisation, the ageing of the population and the transformation of the economy towards service and knowledge based industries are causing profound changes in the urban and regional landscape. The outcome of these changes will depend on how they are managed.

There is widespread acceptance that change on a national scale requires a national vision—a national plan of settlement—covering:

- growth and change in population
- growth and change in employment
- the economically, socially and environmentally sustainable development of cities and regions
- the relationship between cities and regions on a national, regional and local scale
- connectivity within and between regions, and between residence and employment.

The national plan of settlement must set out a vision of what our cities could and should look like over the next fifty years and provide a pathway to achieving that vision.

Australia’s cities and regions also require a high level of integrated planning. Plans must link vertically across different levels of government, and horizontally, providing infrastructure, housing, employment and services within a coherent integrated framework. Plans must link the provision of infrastructure with land use to maximise the value of both. This is not achievable without the coherent vision which comes from master planning.

Integrating cities

Cities are complex systems—‘systems of systems’. The evidence presented to the Committee demonstrates that the creation of liveable, accessible and sustainable cities requires holistic vision and integrated development. To achieve successful development, we must envisage cities that perform for their citizens. The evidence highlights some of the essential ingredients of urban design and spatial planning, including:

- the need for integrated urban planning which provides for accessibility, liveability, and economic social and environmental sustainability
- the impact of agglomeration and the need to address the spatial distribution of population, employment and services through densification and connectivity, particularly mass transit
- the need for diversity in housing types and the need to fully integrate housing into the planning of space, infrastructure, employment and services
- the need for polycentricity.

There is also a need for greater sophistication in the way we plan cities. Access and use of a wide range of data is essential to effective planning. Targets need to be set, monitored and reviewed to ensure positive outcomes. Modelling and scenario testing is available at increasing levels of complexity and granularity. It is essential that urban planning take advantage of this.

Integrating regions

The evidence presented to the Committee highlighted the links between cities and regions, and the need to coordinate their development through a national plan of settlement. Regional development needs to be seen as part of a broader pattern of national development. The ‘hub-and-spoke’ model of development offers the opportunity to achieve integration at a local, regional and national level.

It is also important that regions be able to differentiate themselves from each other and from major urban centres in the planning process, playing to their strengths rather than copying urban planning norms. Connectivity to metropolitan centres is important to the development of regional centres, but they also need to be ‘balanced communities’ in their own right.

Government has an important role to play in promoting regional development. It can promote economic development by direct investment in regional areas, facilitate local government investment and directly promote regional development with overseas investors. Government investment in post-secondary education is of

particular significance—regional universities are central to the development of regional economies.

Decentralisation of government services is also seen as a potential catalyst for growth, but it needs to be done in a sustained and coordinated way.

The Committee has also highlighted the importance of connectivity to regional development and recommended the development of transport networks which allow for fast transit between cities and regions, and within cities and regions, and the development of a high speed rail network connecting the principal urban centres along the east coast of Australia as a matter of priority.

An important catalyst for regional development is highlighting the economic and lifestyle advantages of regional communities. The Committee believes it would be useful to produce an effective cost of living index, including housing, at the scale of local communities, which would highlight the economic and lifestyle advantages of living in regional communities.

Urban sustainability

Community infrastructure and utilities play an important role in fostering the long term social and environmental sustainability of communities. But Australia's urban development has reached a critical juncture. Business as usual approaches to community infrastructure provision no longer represent best practice and are ill-equipped to deliver prosperous and liveable communities. Urban development planning is not comprehensive and does not leverage the benefits of strategic investment in community infrastructure and utilities. Furthermore, national policy guidance is needed to ensure urban development incorporates environmentally friendly design. Urban redevelopment offers a significant opportunity to improve the environmental sustainability of Australia's urban form.

Community Infrastructure

The Committee has recommended aligning existing regional infrastructure programs to the proposed plan of national settlement to support investment in communities experiencing rapid and sustained population growth and regional centres which are strategically placed to expand with catalytic investment in community infrastructure. It has also recommended establishing nationally consistent age-inclusive standards for urban development informed by community consultation and reviews of international and Australian best practice.

Urban water management

The Committee notes that smarter urban water management has the potential to drive significant sustainability gains and improved liveability in Australian communities and urges the Australian Government to seriously consider the findings of the Productivity Commission review of National Water Reform.

Waste management

The Committee recommends the establishment of nationally consistent measurable targets to reduce waste to landfill, and the incorporation of a waste indicator into the National Cities Performance Framework. The Committee also recommends that the Australian Government provide grant funding to catalyse new innovative businesses focussed on waste recycling or utilisation.

Climate change

The Committee recommends establishing nationally consistent guidelines for urban green space and the establishment of a clear trajectory to continued carbon emissions reductions.

Urban connectivity

Transport connectivity is an essential element of the development of cities. It defines the urban form, determines accessibility to employment and services, and has significant economic, environmental, social and health implications. Creating a more sustainable urban form will involve developing more sustainable forms of connectivity. The Committee is of the view that in order for this transformation to take place, governments must:

- commit to a more sustainable model of urban transport connectivity than currently exists
- actively promote investment in the development of a public transport network that is capable of meeting the goal of the 30-minute city
- actively plan for and promote the integration of active transport within the transport network
- embrace innovation
- ensure that transport infrastructure planning is consistent with planning for a more sustainable urban form and conforms to integrated planning at local, regional and city levels.

Freight

Freight connectivity is no less important than passenger connectivity. The efficient movement of freight is essential to the economy and employment. Future planning of the urban environment needs to incorporate freight connectivity in a variety of forms and levels. The critical issues around freight connectivity are urban encroachment, managing the movement of freight and CBD delivery.

The Committee recommends:

- that planning at all levels include freight access as a matter of priority
- the development of a national freight network, creating a strong system of multimodal integration based on dedicated freight nodes, prioritising the movement of freight by rail, separating freight and passenger movements where possible, and developing dedicated fast-rail and high-speed-rail passenger rail lines to relieve the congestion of existing networks
- road fleet modernisation
- the development of the National Freight Performance Framework.

Sustainable buildings

Governments at all levels acknowledge the importance of transitioning Australia's built environment to a more environmentally sustainable future. The private sector has also demonstrated its commitment to a more sustainable built environment by implementing building sustainability rating systems. However, Australia's built environment still accounts for almost a quarter of the nation's greenhouse gas emissions and more than half of electricity consumption.

The Committee believes that enhancing the environmental sustainability of Australia's built environment is critical to maintaining the prosperity, liveability and resilience of settlements of all sizes. It supports continuing to enhance the environmental sustainability of Australia's built environment.

Improving housing affordability

Adequate affordable housing with good amenity is fundamental to the sustainability of Australian communities. Evidence to the inquiry suggested that rapid population growth—decoupled from land release, housing construction and job creation—is jeopardising Australians' access to appropriate and affordable housing. Australia's largest two cities, Sydney and Melbourne, are now experiencing a housing crisis threatening their social sustainability. The Committee

acknowledges the complexity of the housing affordability issue, examining possible solutions around:

- national oversight of housing
- opportunities to expand and streamline housing supply
- strategies to rebalance demand for housing.

The Committee has recommended the appointment of a senior Minister with responsibility for housing to:

- monitor housing affordability issues
- ensure all government policies align with the provision of more affordable quality housing
- coordinate all government agencies with a role in implementing housing outcomes
- identify and strategically develop Commonwealth land holdings to address housing affordability and amenity issues
- investigate the viability of nationalising and streamlining planning regulation similar to the Australian Building Codes Board model.

Smart cities

Smart cities are those which apply innovative technologies to enhance urban services, reduce costs and resource consumption, and to engage more effectively with citizens. Smart cities, which leverage technology to improve the efficiency of services, enhance liveability, and improve environmental and social sustainability, are critical to the ongoing prosperity of Australia and the well-being of Australians. Evidence to the inquiry indicated that conditions and infrastructure required to generate ‘smarter cities’ in the Australian context include:

- connection to fast and reliable internet
- the proliferation of internet of things (IoT) technologies
- establishing mechanisms to safeguard the interoperability of IoT technologies
- a move to ‘open data’.

The Committee has made a number of recommendations designed to promote technological innovation in the urban landscape and create smarter cities.

Global best practice

It is clear that a successful transition to best practice urban development will create vibrant, sustainable and prosperous Australian cities. It will also deliver a number of international benefits, including:

- enhancing Australia's reputation as a responsible global citizen
- safeguarding Australia's competitiveness in the knowledge economy
- positioning Australia to export expertise and innovative new products.

The Committee believes that the Australian Government must lead this reorientation to global best practice by:

- applying international best practice approaches to urban development, to the development of national settlement plans, the design of policies and programs; and the providing funding to support Australian cities and regional centres
- facilitating access to international expertise in infrastructure provision and urban development
- maintaining the CRC research agenda's previous focus on urban issues
- establishing a national institute for cities research, on the model of the UKCRIC
- tasking the new institute for cities research with identifying how international best practice approaches to urban development can best be applied in Australian cities
- re-endorsing *Creating Places for People: An Urban Design Protocol for Australian Cities* and providing financial support to maintain and promote these design principles
- supporting the broader application of rating systems, such as the Green Building Council of Australia's Green Star program, to urban regeneration.

Role of the Commonwealth – improving governance

The need for the Australian Government to take a leading role in the development of cities was highlighted in the evidence presented to the Committee. Australian Government policy touches on many areas which relate directly to the development of cities and regions. Whether it is in immigration, taxation, infrastructure, telecommunications and digital technology, or a host of other policy areas, the Commonwealth already plays a critical role in the development of cities. The Australian Government is the only entity which can influence policies and outcomes at a national level.

The Commonwealth to a large degree also controls the purse strings. The development of cities is heavily reliant on Commonwealth funding and support. The evidence presented to the Committee indicates that most stakeholders believe the Australian Government should be taking an even larger role in the development of cities.

The Committee has recommended that the Australian Government conduct a review of the spatial impact (distribution of population, housing, employment, industry and services) of its policies and ensure that urban and regional infrastructure is developed giving consideration to potential settlement patterns.

In pursuit of a sustained, coordinated, holistic vision for the development of Australia's cities and regions, it has also recommended a substantial change to the governance arrangements at a national level coordinating urban and regional development, including creating a Minister and Department for Cities and National Settlement and the Office of National Chief Planner. These would have responsibility for and oversight of the national plan of settlement.

Role of the Commonwealth—government programs

Over the years the Commonwealth has engaged in a number of programs which have or could contribute to the development of sustainable cities. The former Building Better Cities Program is widely regarded as a great success and a template for future action. Currently, the City Deals program seeks to promote the coordinated planning and development of cities and regions.

The City Deals program has excited much interest, but with so far limited results. The Committee is of the view that a strong bipartisan commitment to the City Deal concept, the development of more sophisticated interactions between the various levels of government and the private sector (including implementing more sophisticated funding methods such as value capture), and the extension of the City Deals concept to the regions in the form of Regional Deals, will provide a meaningful and sustainable mechanism for promoting urban and regional development across Australia.

The Committee is also of the view that creating a governance mechanism that operates at a whole-of-city level has much to recommend it. It supports the creation of city region commissions along the lines of the Greater Sydney Commission.

It is the Committee's view that addressing the impacts of economic agglomeration, changing demographics and climate change will also require a national policy to coordinate the initiatives of all levels of government and different government agencies. The Committee recommends that the Australian Government investigate the provision of spatially and industry targeted tax incentives to drive strategic secondary economic agglomeration in major cities. It also proposes providing financial support, in the form of grants, to projects with demonstrated potential to generate significant employment growth in the rapidly-expanding outer-suburban communities of Australian cities.

Infrastructure procurement

Infrastructure procurement is a key element in the development of Australia's cities and regions. Without effective procurement processes, the provision of infrastructure is less likely to meet the economic, social and environmental needs of the Australian people, or provide for the successful integration of the nation's cities and regions. The evidence presented to the Committee highlighted the need to refine infrastructure procurement methods and bring them more closely into line with planning mechanisms. In particular, there was an identified need to align procurement with innovation, creating innovative outcomes underpinned by innovation in financing and funding methods.

The Committee endorses adopting a 'whole-of-life' approach to procurement. It also supports an approach to infrastructure procurement that, where appropriate, utilises independent development corporations to manage the procurement and development of infrastructure projects, promotes technical innovation, and supports and engages with Tier 2 & 3 contractors.

The Committee has recommended establishing a procurement training program to develop and promote good procurement skills and practice at all levels of government.

The Committee believes that innovation in project appraisal is essential to successful urban development, and that individual infrastructure projects should be assessed not only in terms of the cost-benefit ratio, but also in terms of how well it integrates with long-term planning requirements. It has recommended an approach to infrastructure project appraisal that includes assessment of wider economic, social and environmental benefits; costs and returns over the life of the infrastructure; and cost of the project using a discount rate of 4 per cent.

The Committee is also conscious that there are significant opportunities to apply value capture to the development of infrastructure. Value capture should be part of the conception of any infrastructure project. The Committee has recommended that the Australian Government develop a system of value capture as an organising principle of infrastructure planning and procurement, and progress the reform of the taxation system to match the requirements of value capture, in conjunction with State and Territory Governments, to provide a single, seamless, transparent system of taxes, charges and contributions, which allows for the costs of infrastructure development, where appropriate, to be met on the beneficiary-pays principle.

1. Introduction

1.1 This report is about the future of our cities *and* the regions around them. Our major cities and our regions have one future—they will depend on each other for their prosperity, sustainability and liveability—and planning for this future needs to be done in an integrated and holistic way.

- This report does not attempt to closely define what is meant by cities and regions.
- It should be noted that the Australian Government's National Cities Performance Framework provides no specific definition of 'a city'. The framework focuses on common issues and information relating to the 21 biggest cities by population size, and western Sydney. These cities range from regional centres with populations in the tens of thousands to metropolitan centres with populations in the millions.
- This report adopts a broader definition and works at a range of levels across a range of issues, some being relevant at a national or state level, some pertaining mostly to major metropolitan centres, others more to regional centres and their immediate surrounds, yet others having relevance to communities of any size. What the report seeks to emphasise is that the challenges facing cities and regions are complex and require multi-layered and multi-faceted solutions. It seeks to construct an outcome that acknowledges complexity and diversity within a common policy framework.

1.2 Why an inquiry into the development of cities? In its submission to the inquiry, the CSIRO highlighted the global importance of cities to the world, stating:

The 21st century has been referred to as the 'urban century' (Kourtit et al. 2015). More than half (54%) of the world's population now reside in cities, and this proportion is expected to increase to 66% by 2050 with cities projected to

accommodate nearly all future global population growth (UNDESA 2014). An estimated 90% of this future urban growth by mid-century is expected to occur in Asia and Africa. Australia is already highly urbanised with 89% of our citizens living in cities or towns of more than 1,000 people (ABS 2013b). So while the world is rapidly urbanising, Australia is already there. This represents a significant opportunity for our nation to lead the world through showcases of international leading practice in urban development and creating commercial outcomes through the global export of sustainability knowledge and innovations.¹

- 1.3 A future based on urban living needs sustainable cities. CSIRO observed that ‘the sustainability of our cities is influenced by the type of housing stock, land use mix, transport systems, employment location, and density of development (Newton 1997)’. It noted that ‘when it comes to Australia’s housing stock, all new homes are required to meet minimum standards for energy and water efficiency (Ambrose 2008)’, but that ‘almost half (45%) of Australia’s existing housing stock is 30 years of age or older and was built with little thought for sustainability (ABCB 2010)’. CSIRO observed that ‘Australia’s cities are considered highly liveable, but are facing a growing number of challenges’:

These include car reliance and vulnerability to fuel prices (Dodson and Sipe 2007), house sizes that are among the largest in the world (CommSec 2016), considerable waste and material footprints associated with overconsumption (Wiedmann *et al.* 2015), climate change impacts and vulnerability to more frequent and severe weather events (Reisinger *et al.* 2014), just to name a few.²

- 1.4 Answering the question, ‘why does this matter?’ CSIRO stated:

Our cities are vital for national productivity. Even during the mining boom, our cities provided the bulk of Australia’s economic growth. During 2015-16, just over two thirds (67%) of Australia’s Gross Domestic Product (GDP) was generated by Sydney and Melbourne alone (SGS Economics and Planning 2016). Our cities are engines of economic growth and innovation that are vital to the nation.³

¹ CSIRO, *Submission 121*, p. 4.

² CSIRO, *Submission 121*, p. 4.

³ CSIRO, *Submission 121*, p. 4.

- 1.5 CSIRO noted that while ‘Australian cities are regarded as among the most liveable in the world (EIU 2016) ... they face a growing number of pressures’:

These include growing population (ABS 2013a), changing demographics (ABS 2017), rising social inequalities (Sarkar *et al.* 2016), ageing and inadequate infrastructure (IA 2015), unsustainable resource consumption (Wiedmann *et al.* 2015), decreasing housing affordability (Cox and Pavletich 2017), car reliance and oil vulnerability (Dodson and Sipe 2007), climate change impacts (Reisinger *et al.* 2014), and so on.⁴

- 1.6 CSIRO observed that ‘steering our existing cities towards trajectories that maintain liveability and quality of life, while at the same time improving their sustainability and resilience will be no easy task’. This was due to ‘a common feature of complex urban systems known as path dependence, where the legacy of past decision-making either locks-in or reinforces “well-trodden” development pathways’:

Examples include continued low density sprawl on the urban fringe despite a growing appreciation of compact city planning principles (Bunker 2012), through to the persistence of carbon-intensive technologies (Erickson *et al.* 2015). This inertia in urban systems is difficult to overcome, even when there are better alternatives available (Bai *et al.* 2016).⁵

- 1.7 Addressing the importance of cities to society, the Smart Cities Council Australia New Zealand (SCCANZ) cited urbanist and writer Jane Jacobs (*Cities and the Wealth of Nations* (1984)), who argued that ‘the engine of economic development is a city and its surroundings. Cities, not countries, she insisted, are the constituent elements of a developing economy and have been so from the dawn of civilization. Civilisations fail when their cities do.’ SCCANZ believed that we now have a chance ‘to create more advantages for our country, our citizens, our cities and regions and towns, our business and industry – and along the way, our planet’, and to do all this by ‘investing in smart infrastructure’. But the time to make this investment is now ‘because we cannot compete globally without it’. SCCANZ stated:

And nowhere is the need more obvious than in our urban centres where swelling populations are putting increasing pressure on aging infrastructure. Yet we cannot ignore smaller cities and surrounding towns and rural

⁴ CSIRO, *Submission 121*, p. 6.

⁵ CSIRO, *Submission 121*, p. 6.

communities either. So many of them face infrastructure challenges, so many face food and water insecurities, so many are hampered by inefficient processes and policies, so many need secure jobs in the fourth industrial revolution. Yet so many of them are budget constrained.⁶

- 1.8 SCCANZ argued that ‘what they all need is for this generation’s visionary leaders and thinkers at all levels of government to see the promise of smart infrastructure investments—and take action’.⁷
- 1.9 Mr Stephen Kanowski, from Deloitte Access Economics, agreed that the future is ‘very much digital’. Addressing the vision of the future, he told the Committee:

Three key words I heard recently from a chap from Bosch was that the future will be connected. It will be electric or renewable based and it will be autonomous, by and large. Those things are critical to where we go. If we don’t get that then we have problems.⁸

- 1.10 Planning expert, Professor Sue Holliday, highlighted the challenges facing our major cities. She stated that ‘sprawling cities, as Sydney and Melbourne have become, are the most highly unsustainable cities that we have’. She argued that ideally we would focus on ‘the way people actually use our cities’, stating:

For most people in the cities, with the exception of journey to work, they live within a subregion of the city in which they live. They might come into the city for the occasional artistic or cultural event and go to certain bars and things, but basically they live in their region. So there is the idea of actually restructuring public transport, around the idea that people need to access their subregion on a regular basis and then have fast linkages between the other cities so that they can access their journey to work more easily as well. That would apply to most people, with the exception of tradies, who need their utes in order to go over the whole city every day.⁹

- 1.11 This gives us the ‘city of cities’, an urban form focused upon the actual needs of its citizens at a local, regional and metropolitan level. She noted, however, that:

⁶ Smart Cities Council Australia New Zealand, *Submission 62*, p. 8.

⁷ Smart Cities Council Australia New Zealand, *Submission 62*, p. 8.

⁸ Mr Stephen Kanowski, Partner, Deloitte Access Economics, *Committee Hansard*, 29 September 2017, p. 27.

⁹ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 20.

To be effective, that restructuring of our cities needs public transport and it needs a lot more public transport than we have yet provided. Because that form of transport is the least able at the moment to be funded by the private sector, we need government support, and I would argue that we need both state and Commonwealth government support to build public transport. That is the most critical element of ensuring that our cities in the future—our big cities—will be sustainable, liveable and workable. I like the term ‘workable’ because, if you talk to people about whether their city works for them, they often say, ‘No, it doesn’t; I have to travel two hours to get to work,’ et cetera.¹⁰

- 1.12 Mr John Wynne, National Director of Planning with Urbis Pty Ltd, observed that ‘Australia today is among the most urbanised nations in the world, with over 70 per cent of the population living in cities and 80 per cent of the national economy taking place in cities’. Our cities, he stated, ‘are rightly considered “cradles of national creativity, wealth and innovation”’ and ‘planning prosperous, sustainable and resilient cities is clearly a national priority’. He noted that ‘as the physical focus of our wealth and wellbeing, ensuring sustainable cities is absolutely vital’. Conversely, ‘failing to plan properly will result in declining economic, social and environmental standards which will clearly undermine our much-envied quality of life’.¹¹
- 1.13 Mr Wynne noted that ‘Australian cities are undergoing profound change. The megatrends of urbanisation and globalisation are propelling cities rapidly to a future vastly different from today’:

The complexity, speed and scale of change is challenging traditional models of planning and developing cities, presenting uncharted issues relating to equity and access, social and economic engagement, cultural identity, homelessness, housing affordability, energy and resource use, economic growth and prosperity, biodiversity, and ecological outcomes. So, in that context, we're strongly of the view that developing new and better approaches to planning cities is essential to securing the future of our cities. And we consider that a national cities platform can contribute positively to achieving more holistic, integrated, integrated, efficient and innovative approaches to planning urban areas.¹²

¹⁰ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 20.

¹¹ Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, p. 35.

¹² Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, p. 35.

- 1.14 Mr Wynne highlighted an important role for government, particularly the federal government, in the development of our cities:

The federal role, in our view, is not about regulation. Frankly, we have so much regulation in the planning industry that we do not need more. It's about vision, leadership and influence. It's about fostering collaborative actions across states and territories. It's about creating a unified commitment to addressing common challenges. It's about engendering cross-portfolio coordination focusing on achieving better place-based outcomes. And just from the last presentation, I know that's a common issue you will hear about.¹³

- 1.15 In its submission, the Town and Country Planning Association urged 'a bipartisan commitment to planning and delivering better cities; to working collaboratively with the states and territories, and with industry, to prioritise and fund the infrastructure we need for jobs, growth and a better way of life is now more urgent than ever'.¹⁴

- 1.16 Mr Adam Beck, Executive Director of the Smart Cities Council Australia New Zealand, stressed the urgency of change:

We don't have the luxury of two decades to work out how to build better cities, how to build more sustainable cities, to work out what value capture means. We are really on the clock, and Australia needs to embrace and move beyond individual pilots. Whilst they're fantastic, we need to really supercharge and accelerate and move from lab and piloting to scale and replication very quickly, because we're a rapidly urbanising nation.

I don't know any nation in the world, any sprawling nation, physically, that thrives, so we've got a lot of work to do.¹⁵

- 1.17 This report does not address every single issue surrounding the development of our cities and regions. What it does do is draw on the evidence provided by academic, public service, industry and community experts to present a new vision and new approach to the development of cities.

¹³ Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, p. 35.

¹⁴ Town and Country Planning Association Inc., *Submission 55*, p. 8.

¹⁵ Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 22.

- 1.18 Our cities need to be better planned, better connected, more compact, more diverse and more sustainable. They will need to engage with, and hopefully lead, global best practice in technology, urban form, accessibility and sustainability. They will need to connect to regions which are also well planned, well connected, more sustainable and better integrated. This requires vision and leadership from government at all levels, and the development of systems of urban and regional governance well-adapted to the challenges of the future.

Conduct of the Inquiry

- 1.19 The inquiry was referred to the Committee by the Minister for Transport and Infrastructure, the Hon Darren Chester MP, on 30 May 2017.
- 1.20 Over the course of the Inquiry, the Committee received 174 submissions. A list of submissions is at Appendix A. Other publications, documents and supplementary material were received during the inquiry as exhibits. A list of exhibits is at Appendix B.
- 1.21 In addition, the Committee undertook a program of public hearings. Between August 2017 and May 2018 the Committee held 25 public hearings, including a number of hearings in interstate capitals and regional centres. Details of the public hearings, including a list of witnesses, are at Appendix C.

Structure of the report

- 1.22 This report is presented in 3 parts:
- Part 1 (Chapters 2–4) focuses on the development of cities and regions at a national and regional level;
 - Part 2 (Chapters 5–10) takes the focus on development down to city level; and
 - Part 3 (Chapters 11–13) looks specifically at the role of the Australian Government in the development of cities.

Part 1

- 1.23 Part 1 addresses the high level issues of population growth and the distribution of population, employment and services; the sustainability of current trends; and the solutions needed to ensure that our cities and regions remain sustainable, accessible and liveable.

- 1.24 To this end, Chapter 2 addresses the need for a national plan of settlement to ensure that people and resources are directed to outcomes that maximise sustainability, liveability and accessibility. This will require a high level of integrated and holistic planning to engage all levels of government and the community across a range of inter-related problems and solutions. It also calls for master planning of communities across all levels of government to ensure that all planning and development actions are coordinated within a single coherent vision.
- 1.25 Chapter 3 specifically addresses the need for the integrated holistic planning of our cities. It focuses on the need to re-imagine our cities in order to create a new development paradigm, one that sees the city as a 'system of systems', a complex organic whole which demands new responses to the challenges of growth and economic and social change. It addresses the challenges of agglomeration and the distribution of population, employment and services—especially the costs of urban sprawl—and highlights the importance of promoting a more compact urban form through densification and the development of polycentric cities.
- 1.26 Chapter 4 identifies the symbiotic relationship between cities and regions and the need to progress their development in conjunction with each other and, within this context, looks at various means for promoting the sustainable development of our regions. It highlights the importance of regional centres and the hub-and-spoke model of regional development. It looks at mechanisms for investment in regional communities, including direct government investment, the development of universities, strategic decentralisation of government departments and services, promoting the competitive advantages of regions, and promoting national connectivity—particularly transport connectivity—to promote the coordinated development of the cities and regions.

Part 2

- 1.27 Part 2 of the report (Chapters 5–10) takes the focus down from national and regional level to city level, addressing particular issues vital to the sustainable development of cities.
- 1.28 Chapter 5 examines issues of urban sustainability—particularly the role of community infrastructure—schools, hospitals, etc.—and urban services—energy, water and waste—to the economic, social and environmental sustainability of our cities. It addresses the need to manage demographic change—particularly the ageing of the population—and will also touch on

the impacts of climate change and the need to manage them in the urban environment.

- 1.29 Chapter 6 focuses upon the vital issue of urban connectivity. It considers sustainability in urban transport systems and the interrelationship between transport connectivity and urban form. It also examines the impact of technological innovation and the need to embrace innovation to promote connectivity and accessibility. It concludes by examining the importance of freight connectivity in the urban environment.
- 1.30 Chapter 7 examines the sustainability of the built environment, its importance to the sustainable development of cities, and mechanisms for promoting sustainable buildings.
- 1.31 Chapter 8 addresses housing accessibility and affordability as a component of liveability and sustainability in the urban environment, and considers possible solutions to current and potential problems in the form of national oversight of housing, opportunities to expand and streamline housing supply and strategies to rebalance housing demand.
- 1.32 Chapter 9 considers the importance of technology to the development of smart cities and the need to incorporate technology in urban design.
- 1.33 Chapter 10 considers the importance of pursuing global best practice in urban design, both in terms of creating better urban environments and the opportunities that will flow from global leadership in urban design.

Part 3

- 1.34 Part 3 of the report (Chapters 11–13) focuses once again on policy at the national level, in particular the role of the Australian Government in the development of cities.
- 1.35 Chapter 11 addresses the impact of the Australian Government on the development of cities, through its various policy responsibilities, and stresses the importance of Commonwealth leadership in ensuring that the planning of our cities and regions takes place within a system of long-term coordinated planning at all levels of government. It proposes a range of mechanisms to promote national coordination of the development of cities and regions, including the creation of a Cities and National Settlement Minister, and the office of National Chief Planner.
- 1.36 Chapter 12 looks at a range of government programs which have or could contribute to the development of sustainable cities. The chapter begins with

a brief overview of the Building Better Cities Program, before examining the potential of the current City Deals program to promote the coordinated planning and development of cities and regions. The chapter will then explore the issue of metropolitan governance, and the use of tax incentives and grants to promote sustainable development.

- 1.37 Chapter 13 concludes the report by examining the issue of infrastructure procurement within the context of urban and regional development. It addresses the need to refine procurement methods, procure for innovation, and refine project appraisal methods to ensure that infrastructure procurement is aligned with the identified need to develop cities and regions in sustainable, accessible and liveable ways. It also examines the need to develop procurement skills within government, and better promote engagement with tier 2 and 3 businesses in infrastructure development. The chapter concludes with an examination of financing and funding innovation—especially the importance of value capture.

Part 1. The pattern of settlement

2. Developing a National Settlement Strategy

- 2.1 Part 1 of the report (Chapters 2–4) addresses the development of cities and regions at a national and regional level. Chapter 2 discusses the need for integrated planning at a national level, while Chapters 3 and 4 focus on the integrated planning and development of cities and regions respectively.
- 2.2 Australia is undergoing rapid demographic changes. Population growth, increasing urbanisation and an ageing of the population are having a substantial impact on the distribution of population, employment, opportunities and services.
- 2.3 These changes are currently occurring in a largely unplanned and uncontrolled way. This chapter will look at the impact demographic change is having on Australia's cities and regions. It will then look at how we may address this—how change may be better managed through the development of a national settlement strategy. It also discusses how this national vision needs to be underpinned by a system of multi-tiered integrated planning, including the master planning of cities and regions in order to make them more sustainable, accessible and liveable.

Populations and the pattern of settlement

- 2.4 Australia is experiencing rapid population growth; a trend which is expected to continue well into the future. A number of stakeholders told the Committee that this has real implications for the future of Australia's cities and regions.
- 2.5 CSIRO noted that 'under a medium growth scenario, Australia's population is projected to double by 2075 (ABS 2013a)', and that 'the large majority of this growth is expected to occur in towns and cities'.¹ The Planning Institute of Australia (PIA) observed that, 'based on current immigration, fertility and life expectancy trends, Australia's population is expected to double over the next 60 years'. This would 'place pressure on settlements that accommodate growth'. This growth would 'in turn require additional land supply (infill and greenfield) to accommodate associated housing and employment needs as well as different infrastructure and services'. The PIA noted that the 'ability to address these pressures in a sustainable and feasible manner requires integrated land use and infrastructure planning, coordination and delivery'.²
- 2.6 The Centre for Urban Research at RMIT observed that 'continuing rapid growth is now regarded as an enduring feature of Australia as a nation due to natural increase and through immigration (ABS 2016)'. It noted that 'overwhelmingly this growth is adding to the population of the state and territory capital cities', and stated:

The headline growth statistics show that the combined population of these capital cities increased by 2.9 million people (22%) between 30 June 2006 and 30 June 2016. Melbourne had the largest growth in the ten years to 2016 (964,600), followed by Sydney (773,600), Brisbane (452,000) and Perth (445,100). Within the capital cities this growth is concentrated in the outer suburban growth areas. In Melbourne, there has also been significant growth in the inner city.³

¹ CSIRO, *Submission 121*, p. 6.

² Planning Institute of Australia, *Submission 136*, p. 2.

³ Centre for Urban Research RMIT, *Submission 35*, p. 3.

Population growth in the major cities

2.7 Sydney and Melbourne have both experienced high population growth in recent years and are expected to continue growing at a high rate. The NSW Government noted that Sydney experienced ‘a 36 per cent population increase between 1991 and 2016 (3.4 million to 4.7 million people). Between 2006 and 2016, Greater Sydney’s population growth rate was around twice that of the rest of NSW. Over the next 40 years Sydney’s population is expected to grow to 8 million people.’⁴

2.8 The Victorian Government stated that ‘Victoria is currently experiencing its third population boom, rivalling the gold-rush and post-War booms’:

In the last decade, Victoria’s population grew by over a million and is forecast to grow by 2.2 million people to 7.7 million by 2031. Much of this growth is concentrated in Melbourne, which added nearly one million new residents over the period and is predicted to soon surpass Sydney as Australia’s largest city.⁵

2.9 This rapid growth had brought ‘profound demographic changes’:

Between 2015 and 2051 Melbourne is projected to grow by 3.4 million people, from a population of 4.5 million to almost 8 million—and the population is ageing. By 2051, the percentage of Melbourne’s residents aged over 65 is projected to increase from 13.8 per cent to 20.5 per cent. During the same period, Victoria’s total population is projected to reach 10.1 million, however it is expected that growth in regional areas will be uneven. Forty per cent of all regional population growth over that period is forecast to occur in the regional cities of Greater Geelong, Bendigo and Ballarat.⁶

2.10 The Victorian Government noted that this growth had both benefits and challenges. It observed that ‘population growth has the potential to provide Victoria with the critical mass of people and skills we need to build better infrastructure for our cities, suburbs and towns; deliver services to our ageing population; transition to a low-carbon economy; and profit from the opportunities of the Asian Century’. The challenge was ‘to manage this growth so that Victoria maintains its enviable liveability and prosperity. Unless action is taken now to prepare for population change, climate change

⁴ NSW Government, *Submission 125*, p. 8.

⁵ Victorian Government, *Submission 148*, p. 6.

⁶ Victorian Government, *Submission 148*, p. 6.

and economic change, Victoria will, in the years to come, become less liveable, sustainable and prosperous.’⁷

- 2.11 Other major cities were also experiencing rapid growth. For example, since 2001 South East Queensland’s population ‘has grown 38 percent to 3.4 million. By 2041 it is projected to grow to 5.3 million, an additional 2 million people.’ The Queensland Government observed that ‘the majority of growth will occur in existing urban areas’, and that South East Queensland ‘is the most urbanised region in Queensland, accounting for 70 per cent of the state’s population’.⁸

Uneven pattern of population distribution

- 2.12 The uneven pattern of this population growth was highlighted in several submissions. Under current projections, population growth is expected to be concentrated in existing major cities. Engineers Australia observed that:

By 2030, Australia’s population is projected to increase by 7.4 million to 30.1 million at an average annual rate of 1.6%. The projections suggest that population growth in capital cities will be much higher than in the regions, so that almost two-thirds of the increase to 2030 will be in these cities with only 29% in other locations, including all of Australia’s smaller cities. The populations of Sydney and Melbourne will increase to over six million; Brisbane and Perth will increase to over three million and the other capitals will experience similar growth. Only in Queensland will population growth outside the capital rival growth in the capital.⁹

- 2.13 SGS Economics and Planning identified a similar pattern in population, with population growth centred on major cities and ‘large parts of regional Australia ... facing static or declining populations’.¹⁰ Taking the example of Victoria, SGS noted that while ‘total population growth in Victoria over the 2006 to 2016 period was 993,000, taking the population to 5.925 million ... Only 20,000 of this growth occurred in those Victorian regions located outside the 2 hour drive to Melbourne cordon’. It stated that ‘90% of the growth which took place in those parts of Victoria officially classified as

⁷ Victorian Government, *Submission 148*, p. 6.

⁸ Queensland Government, *Submission 137*, p. 10.

⁹ Engineers Australia, *Submission 45*, p. 4.

¹⁰ SGS Economics and Planning, *Submission 51*, p. 10.

‘regional’ occurred in areas within 2 hours drive of central Melbourne’.¹¹
Looking more widely, SGS observed that:

If the capitals and their 150 km radius zones are set aside, Australia has only 5 cities with populations of more than 50,000. All but one of these (Launceston) is located in Queensland. This further underlines the role of the metropolises in hosting specialised business services and, ultimately, in powering regional population growth.¹²

- 2.14 LeadWest highlighted the high population growth rates of the outer suburbs of our major cities, stating:

At the 2016 Census, the residential population of Melbourne’s West had grown from 2011 by a further 16.5% to 834,621 people. This represents an annualised residential population growth rate of 3.0%. Population forecasts indicate that the region will accommodate more than 40 per cent of metropolitan Melbourne’s population growth over the next 40 years.¹³

The impacts of growth

- 2.15 In its submission, Sustainable Population Australia (SPA) highlighted the costs of rapid population growth. It argued that ‘regardless of the method in which we continue to grow cities, the costs on infrastructure must be considered’, and that ‘a higher population growth rate means a greater proportion of total economic activity has to be dedicated to expanding infrastructure’.
- 2.16 SPA noted that ‘the public cost (across all levels of government) per extra person for Gross Fixed Capital Formation (largely infrastructure) is at least \$100 000 with some estimates much higher’. SPA cited the work of Queensland University researcher, Dr Jane O’Sullivan, who stated:

These analyses show that acquiring the durable assets to support population growth has historically cost around 6.5-7% of GDP per one percent population growth rate. Thus, if Australia’s growth is 1.5% p.a., around 11-12% of GDP is diverted to the task of acquiring infrastructure and other durable assets,

¹¹ SGS Economics and Planning, *Submission 51*, p. 11.

¹² SGS Economics and Planning, *Submission 51*, p. 12.

¹³ LeadWest, *Submission 146*, p. 3.

merely to extend to the additional people the level of service already available to the existing population.¹⁴

- 2.17 SPA observed that the ‘long-term average cost has been compounded in the last decade by the much higher cost of retrofitting already built-up areas, and the dis-economies of scale of high rise construction’. It noted ‘for example, the East west link tunnel was costed at \$1 billion per kilometre, around twenty times higher than above-ground roads and rail’. SPA also highlighted the environmental cost of infrastructure, ‘as all infrastructure requires the use of scarce resources and energy to make and operate. We are not making our cities more environmentally resilient by concreting over them.’¹⁵
- 2.18 In a similar vein, the National Growth Areas Alliance (NGAA) argued that ‘in order to consider and plan for sustainable transitions in existing cities, it is necessary to properly understand the geography of population growth and the role these population hotspots are playing in our cities’. NGAA noted that ‘Australia’s population growth is faster than many comparable nations. In the fast growing outer suburbs, this was amplified, with the population growing by 3.0% (+133,239 people) in 2015-16’, and that the rate of economic growth ‘was 1.4% for the same period’. The impact of this growth had fallen disproportionately on the ‘fast growing outer suburbs’, which housed ‘both a disproportionate number of immigrants, that come as a result of Federal policy, and also sustaining a high level of births (23% of all Australian births in 2015)’. NGAA stated:

Research by the late Professor Graeme Hugo and Kevin Harris demonstrated the ‘over representation’ of permanent migrants in NGAA areas, with one in five settling there between 2006-2011. Especially significant, they said, in terms of support required, is the 28.7% of all humanitarian arrivals settling in these areas.

They also said that these areas are absorbing:

- a disproportionately large share of national growth in population and households—on average twice their share;
- a disproportionate share of growth in dependent children and youth groups;

¹⁴ Sustainable Population Australia, *Submission 32*, p. 3, citing J. N. O’Sullivan, ‘The burden of durable asset acquisition in growing populations’, *Economic Affairs* 32 (101, pp, 31–7.

¹⁵ Sustainable Population Australia, *Submission 32*, p. 3.

- faster growth in the aged population than the nation, albeit off a lower base;
- a disproportionately large share of those who moved within Australia.¹⁶

2.19 In the outer suburbs, population growth was outstripping jobs growth ‘resulting in a worsening jobs deficit since 2006 and the consequent “nightmare commutes” so often spoken about’. Furthermore, ‘there is also still a skills gap with 13% of residents in these areas having a bachelor degree compared to the national average of 19%’. NCAA noted that while ‘high tech jobs are emerging strongly, there is still a long way to go’.¹⁷

2.20 Other significant population trends were identified in the evidence presented to the Committee. MacroPlan Dimasi noted that: the population over seventy years of age is expected to double by 2051;¹⁸ strong population growth in our capital cities is underpinning Australia’s economic growth;¹⁹ employment growth is concentrated in the services sector;²⁰ and ‘High paying tertiary sector jobs are heavily weighted to the 20 major cities with populations greater than 100,000’ and ‘they decrease the further you move from the capital city of each state.’²¹ MacroPlan Dimasi argued that:

Without policy direction, the focus for population and employment will increasingly concentrate in capital cities and for the next 15 years this will mean Melbourne and Sydney, (including their hinterland and Canberra) followed in the long term by Brisbane and Adelaide.²²

2.21 A similar point was made by Urban Taskforce—without policy intervention, Australia’s major cities were condemned to an increasingly unsustainable future:

Over the past century, Australian cities have evolved as low-rise suburbs spreading out from high rise urban cores where jobs were located (City 1). As the biggest cities (Sydney, Melbourne) have reached populations approaching five million people the century old low-rise mode of urban development is not

¹⁶ National Growth Areas Alliance, *Submission 4*, p. 4.

¹⁷ National Growth Areas Alliance, *Submission 4*, p. 5.

¹⁸ MacroPlan Dimasi, *Submission 151*, p. 4.

¹⁹ MacroPlan Dimasi, *Submission 151*, Appendix 2, *Big Cities vs Regions*, p. 4.

²⁰ MacroPlan Dimasi, *Submission 151*, Appendix 2, *Big Cities vs Regions*, p. 7.

²¹ MacroPlan Dimasi, *Submission 151*, Appendix 2, *Big Cities vs Regions*, p. 10.

²² MacroPlan Dimasi, *Submission 151*, p. 36 (Appendix 4, *Destructive Cities*, Ch. 10).

sustainable. A population heavily dependent on private vehicles using the road network to access cities and centres only leads to congestion, pollution and hours of time travelling to and from work which eat into family and leisure time.²³

2.22 Urban sprawl was having a number of other impacts. The Australian Academy of Technology and Engineering (ATSE) observed that the populations of Sydney and Melbourne exceeding 7 million people each by 2061 would cause ‘a dramatic increase in pressure on infrastructure’, and that Australia’s ‘60 per cent growth in population by 2050 will significantly affect the way we consume energy’.²⁴

2.23 SPA also noted that urban sprawl was coming at a cost:

By virtue of our increasing infrastructure deficit and indicators that our capital cities are struggling to keep up with growth, we are becoming increasingly limited in our ability to reduce our per-capita footprint. This is because suburban sprawl requires longer commutes, increased biodiversity loss, loss of agricultural land and all round higher carbon living. Higher density increases the urban heat island effect, and is requiring increasingly costly and high-environmental-impact infrastructure, particularly for transport tunnels. This is where the dichotomy of population versus consumption starts to break down when discussing sustainability. The two are interconnected.²⁵

2.24 Another impact of urban sprawl highlighted by SPA was the encroachment on food-producing lands, noting that around Melbourne ‘continued urban sprawl will reduce the city’s food bowl capacity significantly, from 40% currently to around 18% by 2050’.²⁶ The University of Technology Sydney made a similar observation, stating:

Australia’s cities have tended to sprawl onto the peri-urban agricultural areas that have functioned as their food bowls. In a changing climate, with liveability concerns such as the urban heat island, pressures on biodiversity and declining food security, we risk rapidly losing the many benefits that peri-urban agriculture provides if we continue to sprawl onto these areas.²⁷

²³ Urban Taskforce, *Submission 132*, p. 3.

²⁴ Australian Academy of Technology and Engineering, *Submission 17*, p. 2

²⁵ Sustainable Population Australia, *Submission 32*, p. 2.

²⁶ Sustainable Population Australia, *Submission 32*, p. 2.

²⁷ UTS, *Submission 67*, p. 4.

- 2.25 Professor Marcus Foth (QUT) argued that ‘population pressures facing Australian cities push them on a pathway towards further urban sprawl, which is entirely incompatible with enhancing urban liveability and quality of life’. He stated that ‘we cannot have “sustainable” cities without considering the effect the built environment has on regional areas and the natural environment’.²⁸ CSIRO stated that ‘if urban sprawl remains a default setting, Sydney and Melbourne risk becoming megacities (over 10 million people), negatively impacting liveability (Weller and Bolleter 2013)’.²⁹

The need for national integrated policy responses

- 2.26 In response to these growing problems, stakeholders urged the need for policy coordination at a national level. Professor Barbara Norman, a planning expert from the University of Canberra, noted that ‘the negative social, economic and environmental externalities of continuing the urban sprawl of Sydney and Melbourne will only increase at significant national cost to national productivity, environmental degradation and social isolation on the urban fringe’. She urged new approaches to urban settlement, stating:

Exploring alternative scenarios such as investing in larger regional centres and/or examining new possibilities of ‘medium sized cities’ will require an integrated approach considering all the elements of sustainability (social, economic and environmental).³⁰

- 2.27 New policy approaches based on integrated planning and innovation were also advocated by the PIA. It stated:

With Australia’s population expected to double by 2075, it is important to consider how national policy can foster collaborative and dynamic urban planning responses. The Australian settlement pattern is increasingly characterised by population concentrated in capital cities. This is linked to the growth of the new economy, access to skills and global markets, migration and the cosmopolitan amenity potentially on offer. The process of globalisation has also reconfigured the forces driving development in regional Australia, including new technologies, production methods, new lifestyle preferences, and new business and investor location decisions. These factors are explored in PIA’s report: *Through the Lens, Megatrends shaping our Future* (2016).³¹

²⁸ Professor Marcus Foth, *Submission 75*, p. 3.

²⁹ CSIRO, *Submission 121*, p. 5.

³⁰ Professor Barbara Norman, *Submission 29*, p. 3.

³¹ Planning Institute of Australia, *Submission 136*, p. 3.

- 2.28 Similarly, the Green Building Council of Australia (GBCA) in its submission stated:

The terms of reference for this Inquiry rightly identify that with Australia's population expected to double by 2075, it is critical that national policy is developed to foster collaborative and flexible urban planning processes for more sustainable, liveable and resilient cities and towns. The growing populations of our capital cities puts stress on housing supply, infrastructure and resources. However, better planning for an increasing population also provides opportunities to make infrastructure more efficient, provide greater amenity and increase liveability.³²

- 2.29 The solution, according to Dr Ruth Spielman, Executive Officer of the National Growth Areas Alliance, was to remake the pattern of settlement:

To achieve more sustainable and liveable cities we also need more sustainable and liveable outer suburbs. Less requirement for travel, and especially less car travel, is the key to enhancing liveability, quality of life and energy and resource reduction through less time spent on roads, less spent on fuel, less congestion and fewer adverse health impacts.

To achieve this there will need to be a pattern of settlement and associated infrastructure investment to support jobs and services closer to home, better public transport connectivity, improved road networks and broadband connectivity. Education, health, recreation and cultural facilities and services are also critical to enable people and places to realise their potential.³³

- 2.30 She noted that 'our current mode of allocation of infrastructure goods bears little relationship to the geographic location of population growth', arguing that:

Actions that would assist include a policy position on addressing the differential spatial impacts of rapid population growth, planning and investment to support the development of polycentric cities, a more strategic approach to the placement of catalytic infrastructure to open up opportunities where they will make a real difference, and a dedicated national infrastructure fund for the fast-growing outer suburbs to address the backlog and what is needed going forward. Community infrastructure, skills development and jobs also require investment and, lastly, planning, policy and program coordination, such as a national growing outer suburbs taskforce.

³² Green Building Council of Australia, *Submission 99*, p. 5.

³³ Dr Ruth Spielman, Executive Officer, National Growth Areas Alliance, *Committee Hansard*, 29 August 2017, p. 30.

Governments need to use all the levers at their disposal from tax incentives to strategic land purchase, infrastructure funding and placement of government offices to help achieve more sustainable, liveable cities.³⁴

A National Settlement Strategy

- 2.31 The need for a policy response designed to manage population pressures and settlement patterns was highlighted in the evidence presented to the Committee. Professor Barbara Norman observed that ‘Australia is one of the very few, if not the only OECD nation not to have a national plan for settlement and growth’. She noted that ‘while much of the planning and development of our cities remains the responsibility of States and local councils, the scale of urban growth is now at a level that affects national interests’.³⁵
- 2.32 The need for a national plan of settlement was emphasised by the Planning Institute of Australia (PIA) which called for ‘the Australian government to embark on the development of a national settlement strategy’. This strategy would ‘articulate high-level expectations of the Commonwealth Government, particularly in relation to urban development policies’, and ‘provide for better and more consistent strategic planning across the country, and so we will see far more aligned planning’.
- 2.33 The PIA argued that we need a ‘holistic view of what the country should look like in the next 20, 30 or 40 years’.³⁶ PIA President, Brendan Nelson, emphasised that ‘we are not suggesting that a national urban agenda or program involves the Commonwealth taking over planning responsibilities. That planning responsibility should remain with the states and territories, as should local government work, where they do the more localised planning.’ He emphasised, however, that ‘there are some issues at a national scale that do need greater direction and commitment from the Commonwealth, and it’s important that all levels of government work together in this regard’.³⁷

³⁴ Dr Ruth Spielman, Executive Officer, National Growth Areas Alliance, *Committee Hansard*, 29 August 2017, p. 30.

³⁵ Professor Barbara Norman, *Submission 29*, p. 1.

³⁶ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 33.

³⁷ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 34.

2.34 CSIRO also advocated national settlement planning and analysis, stating:

... a comprehensive, longer term, national settlement plan for how we sustainably accommodate future population growth in Australia is needed. This would bring an integrated spatial planning focus to the process of urban development across multiple scales (i.e. building, suburb, city, and nation). There are a number of national models and roadmaps that could be integrated to enable different scenarios of future population distribution and their implications to be explored. This would help identify how our cities and regions work and which interventions, including policy options, will be most effective for 'steering' urbanisation in Australia along desired pathways.³⁸

2.35 Urbis Pty Ltd, advocated the creation of a 50-year vision—Australia 2067—providing an aspirational picture of a desired future:

A 2067 vision sets expectations of what our future cities and communities will be. Where diverse, healthy, mixed communities thrive in a clean, green post-carbon environment, benefitting from high quality built places. Where public transport and other non-vehicle movement modes have largely replaced private vehicles. Where open and public spaces play are enhanced to play increasingly important roles in supporting the health and wellbeing of communities. Where renewable energy sources harnessed with new technologies have successfully transformed our cities into sustainable, highly energy efficient places.³⁹

2.36 This would be underpinned by a national settlement strategy, 'a top down view of the long term desired settlement patterns and priorities across the nation'. The national settlement strategy would provide 'direction on the physical extent, form and character of cities':

It confirms limitations around the outward spread of the urban footprint, supplemented by definitive positions on adopting higher density environments through well planned urban renewal—accelerating transition of our urban forms from the horizontal to vertical. The strategy enshrines commitment to the protection and conservation of areas of national environmental, resource, agricultural or cultural significance. It provides the framework for a national green space masterplan.⁴⁰

³⁸ CSIRO, *Submission 121*, p. 3.

³⁹ Urbis Pty Ltd, *Submission 46*, p. 3

⁴⁰ Urbis Pty Ltd, *Submission 46*, p. 3.

2.37 Planning expert, Professor Sue Holliday, noted that ‘promoting the regional centres requires a clear settlement strategy across Australia’. She believed that:

as the major cities grow beyond their ‘liveability’ size, people will begin to look elsewhere for their employment and for their family wellbeing. Although Australians may look to the regional centres along the coast in the first instance, a settlement strategy must also look to the inland centres.⁴¹

2.38 Engineers Australia (EA) called for the development of a population policy, stating:

In our view, the substance of the Committee’s inquiry cannot be achieved without the information contained in a comprehensive national population policy. The absence of this information means that land use and infrastructure planning will continue to be driven by a catch-up approach, a situation not conducive to productivity growth and improvements in community wellbeing. Migration policies are important to the composition and skill levels of the population, but are not substitutes for population policies. We know that new migrants show strong preferences to locate in capital cities thus contributing to the projections outlined above and limiting the growth potential of locations outside the capitals. Without concerted action for change, present growth patterns will remain entrenched.⁴²

2.39 EA argued that the current situation pointed to a ‘serious disconnect between infrastructure development, land use planning and infrastructure planning’.⁴³ It believed that ‘without information about future population distribution as well as size, land use and infrastructure planning will continue to be hampered, the growth of capital cities will continue in line with projections and efforts to influence the development of Australia’s smaller cities will continue to be hamstrung’. EA recommended that ‘the Commonwealth Government should reconsider support for the Infrastructure Australia proposal to adopt a national population policy’.⁴⁴

2.40 Professor Paul Burton, Director of the Cities Research Institute at Griffith University, also argued for a strategy to manage population growth and distribution, stating:

⁴¹ Professor Sue Holliday, *Submission 31*, p. 4.

⁴² Engineers Australia, *Submission 45*, pp. 4–5.

⁴³ Engineers Australia, *Submission 45*, p. 4.

⁴⁴ Engineers Australia, *Submission 45*, p. 5.

I see no reason logically why a federal government shouldn't take a similarly spatial view about the country as a whole and say, 'If we envisage an increase in the national population' – and that is principally going to arise through migration, although the rate of net increase is increasing as well – 'then why should we not have a view on where that might sensibly go?'⁴⁵

- 2.41 He argued that in the absence of a policy, most immigrants 'will go to Sydney, Melbourne and some of the other capital cities until and unless those places become so intolerable that people then start to think about moving elsewhere simply to escape the horribleness of life in those places'. He did not regard this as sensible approach, stating that 'if it's logical and sensible for local governments to think about spatial distribution of activities – residential, economic and so on – and the argument applies to state governments, then there is no logical reason why the federal government shouldn't do that as well'.⁴⁶
- 2.42 The Australian Local Government Association also advocated 'developing a national settlement and population strategy'.⁴⁷
- 2.43 Not everyone agreed with the concept of a national settlement strategy. Mr Brian Haratsis, Chairman of MacroPlan Dimasi, argued that 'if you decided to shift into a national urban settlement type approach, I think it would be doomed to failure'. His reasoning was that 'if we had tried to have a national urban strategy before the last mining boom we would have got it 100 per cent wrong. We didn't see it coming'.⁴⁸ He also highlighted the impact of technological change:

If I looked at history I would never have been able to have predicted this technology boom. I would never have been able to have predicted the automated vehicles. And 15 or 20 years ago we did not know there was going to be a smart phone. If I just went through the economic cycles in Australian history you would be taking some interesting leaps of faith at that national level.⁴⁹

⁴⁵ Professor Paul Burton, Director, Cities Research Institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 11.

⁴⁶ Professor Paul Burton, Director, Cities Research Institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 11.

⁴⁷ Australian Local Government Association, *Submission 83*, p. 3.

⁴⁸ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 1.

⁴⁹ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 11.

- 2.44 Mr Haratsis did not believe that a national planning strategy was possible. Instead, he advocated ‘for example, considering major infrastructures that could influence the future, and then allowing local governments and state governments to plan around it. I would be a strong advocate for that.’⁵⁰ He also argued that ‘settlement planning should understand and extend planning models to create a new paradigm, as the current structure has resulted in infrastructure investment being focused in capital cities and mainly benefiting inner and CBD areas’. He noted that ‘it’s almost a self-fulfilling prophecy that, if you let cities grow with increasing centralisation, you will always have a cost-benefit analysis which says, “Put more infrastructure into central areas.”’⁵¹

Pursuing integrated planning

- 2.45 To be effective, a national plan of settlement must be underpinned by effective planning policies at a national, regional and local level. This system of planning must be multi-tiered and integrated, providing an element of master-planning across a range of issues and jurisdictions.

Multi-tiered integrated planning

- 2.46 The need for better planning systems—working in an integrated way within and across different levels of government—was highlighted in the evidence presented to the Committee.
- 2.47 CSIRO observed that ‘our cities are changing, but in an uncoordinated way, with each of our cities developing plans in isolation’. CSIRO pointed to a lack of clear vision as to ‘what type of future cities our nation wants’, whether we are ‘content to let our major capital cities grow into large mega-cities’ or ‘want more and stronger regional urban centres’, and the ‘the consequences of each of these development pathways’. CSIRO argued for ‘a comprehensive, integrated, longer term, national strategy for how we sustainably accommodate future population growth in Australia’. The strategy should be based on ‘integrated spatial planning with a focus on our national settlement patterns and interconnections between cities and regions’. CSIRO noted that ‘our emerging understanding of cities as complex systems is helping identify how cities work and which interventions, including policy options, will be most effective for “steering” our urban

⁵⁰ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 11.

⁵¹ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 3.

trajectories along desired pathways'; and that 'the development of a national settlement plan would ideally be supported by research evidence and data'. This capability 'could be used to support a multi-level and multi-actor stakeholder engagement process to explore scenarios of future population distribution and urban investment across Australia'. CSIRO believed that:

There are significant opportunities to plan the delivery of sustainable, liveable, higher density residential development throughout Australia ... which could be usefully informed by a national settlement plan that provides an overarching vision and strategy for delivering our cities of the 21st century.⁵²

- 2.48 Mr Stephen Kanowski, of Deloitte Access Economics, agreed. He noted that 'our cities have a significant and increasingly important role in the nation's ongoing prosperity' and that 'the organisation, operation and planning of our cities is a complex, multi-governmental task'. There needed to be 'a shared vision between and across government, and the non-government sectors as well', and much better integration of different facets of planning. This required 'leadership from the federal government and cooperation with state and regional governments', and 'direct financial support and also involvement by the non-government sector, be it not-for-profits or for-profits'.
- 2.49 Mr Kanowski identified 'five key features around productive and sustainable cities':

One is having a vision. You need a common city vision and plan through an economic development lens. It's not about infrastructure and it's not about civics; it's about growing an economy which is sustainable and resilient—particularly resilient. It's about governance, collaboration and partnerships across government and the non-government sectors focused on outcomes, not focused on process or who's got the largest total and who's got the biggest role; it's, 'What are we providing for the communities which we are serving?' It's integration, land use and transport as well, but what about other utilities? What about digital networks? What about health, education, leisure and social outcomes? It's a very integrated system. At the moment, we are locked into producing single infrastructure plans, land use plans, health precinct plans and so forth. They're not communicating and they're not connected. It's that connectivity that's important, because as we move forward it'll be connected. By and large they'll be renewable, electric and communicating with each other. A lot of it will be autonomous as we move forward over time as well. I think in terms of connected, electric or renewable and autonomous. That's part

⁵² CSIRO, *Submission 121*, p. 7.

of our future cities. Investment needs to be prioritised and funded based on the vision, in fairly broad terms and with a rigorous cost-benefit analysis and those sorts of things, but also recognising that there is more to life than simple, hard numbers. There are social and soft factors that must be brought into the equation and considered. The last one: outcomes — metrics on outcomes that reflect the vision and then guide that future investment.⁵³

- 2.50 Urbis urged higher quality and greater consistency for metropolitan strategic planning. It stated that ‘metropolitan plans are the critical interface between national and state objectives and detailed local outcomes’. They guide ‘major changes to land use, built form, movement, and open space, defining the character of the city. It is where planning and infrastructure investment align’. Urbis noted, however, that ‘metropolitan strategic planning in Australia has a patchy reputation’:

Short lifespans, shifting goals affected by changes of government, insufficient research funding, lack of integration within and between government agencies, and absence of detailed delivery plans, have impacted the effectiveness of plans.

- 2.51 Urbis suggested that ‘increased funding for research and commitment of effort is needed to ensure that metropolitan strategic planning rises to a higher level’. Ideally, bi-partisan processes would be adopted, ‘facilitating agreement to metropolitan objectives, with major initiatives and priorities resilient to changes of government’. It noted that ‘while metropolitan plans must reflect the unique aspirations of each geography, common criteria for plans should be developed, including’:

- Planning for growth over 15 and 30 year timeframes.
- Demonstrating alignment with national urban policies.
- Providing structured housing and employment lands release programs capable of meeting demands.
- Demonstrating appropriate balance between greenfield and infill development emphasis.
- Mapping of priorities for infrastructure and other investments with associated responsibilities and timeframes for delivery.⁵⁴

⁵³ Mr Stephen Kanowski, Partner, Deloitte Access Economics, *Committee Hansard*, 29 September 2017, p. 17.

⁵⁴ Urbis Pty Ltd, *Submission 46*, p. 5.

- 2.52 The Local Government Association of South Australia (LGA SA) observed that ‘there is currently no national urban development framework for Australia’ and indicated that, as part of the creation of national urban development policies and strategies, ‘a national urban development (or ‘settlement’) framework could be developed that could drive settlement patterns across the country, and ensure new settlements are viable’. The LGA SA indicated that:

In the same way as multi-tier government collaboration would assist in targeting investment where it is needed, a settlement framework could ensure that growth patterns are strategic, and only occur in areas that can be sustainably serviced by reliable and affordable transport, clean energy, water and waste.⁵⁵

- 2.53 LeadWest argued that ‘it is critically important that the Australian Government works with other levels of government to provide the public policy settings and public investment contributions that assist the development of cities’. It was LeadWest’s view that ‘integrated city planning of transport, economic and residential growth, community infrastructure and services, in both core metropolitan and suburban growth areas, will have intergenerational impacts for both the local communities and for greater metropolitan and regional areas’.⁵⁶
- 2.54 Consult Australia stated that ‘delivering an integrated strategic approach to infrastructure planning and prioritisation, will facilitate better urban and regional development through support for a long-term pipeline of coordinated infrastructure projects, supporting productivity and jobs growth’.⁵⁷ The Regional Australia Institute urged strategic development planning for regional communities, ‘that includes all levels of government and non-government players’. It noted that global experience demonstrated that best practice planning ‘is achieved with all government and non-government leaders (including private business) involved and with strong leadership and capacity to deliver’, and that ‘the Australian Government has a role in making “best practice” planning happen for all Australian cities’.⁵⁸

⁵⁵ Local Government Association of South Australia, *Submission 112*, p. 6.

⁵⁶ Leadwest, *Submission 146*, p. 5.

⁵⁷ Consult Australia, *Submission 61*, p. 9.

⁵⁸ Regional Australia Institute, *Submission 63*, p. 2.

Master Planning

- 2.55 Master planning is about creating a unified long-term concept for a location or region that connects the physical, social and economic environments and their interactions in a coherent framework in pursuit of coherent outcomes. Master planning was considered an important feature of urban and regional development by a number of stakeholders.
- 2.56 Mr Stephen Kanowski, of Deloitte Access Economics, stated that ‘for each of our major cities and regions, we should have an economic development master plan’. He argued that ‘you need to have those master plans as to what we are trying to develop across our different sectors, whether it is tourism, education, agriculture, resource development or whatever’. He indicated that ‘a key role for the federal government is to drive that process towards those large, longer term economic master plans for our cities and our regions’. He suggested that ‘without that framework and without that vision, it is very hard to see where your infrastructure and where your soft and your hard things actually fit within the longer term’.⁵⁹
- 2.57 The Regional Australia Institute (RAI) identified master planning as a key requirement of regional development, stating that ‘the absence of master planning at significant scale for regions holds back the potential future for these places and their relationships with major cities’. The RAI saw ‘an opportunity for the Australian Government to coordinate master planning of Australia’s network of small cities which extend across the nation, appearing in each state and territory’. Master planning would improve the outcomes of existing government programs and enhance the application of City Deals to regional centres.⁶⁰
- 2.58 The Green Building Council of Australia also advocated master planning of regional communities. It noted that:

Regional cities and towns and growth areas compete with capital cities and other regional centres for talent and investment. Encouraging and empowering regional centres to demonstrate leadership in sustainable development and master planning provides an opportunity to attract people,

⁵⁹ Mr Stephen Kanowski, Partner, Deloitte Access Economics, *Committee Hansard*, 29 September 2017, p. 21.

⁶⁰ Regional Australia Institute, *Submission 63*, p. 2.

companies and investment, while establishing liveable, affordable economic centres that can ease the pressure on our capital cities.⁶¹

- 2.59 The GBCA suggested that ‘master planning of regional communities provides an opportunity to consider and include all the elements of successful and thriving urban centres’. It stated that ‘the opportunities identified already in this submission to catalyse better urban environments through the Australian Government leveraging infrastructure investment, urban renewal and city deals applies across communities, and includes regional centres’.⁶²
- 2.60 Ms Marianne Richards, of the Town and Country Planning Association (TCPA), alluded to the current ‘patchwork’ approach to planning in regional Victoria, noting that ‘when you lay them side by side together, and even at their interfaces with the metropolitan areas, things don’t always quite match up’. The TCPA urged the ‘development of master planning of regional centres and communities’. Ms Richards noted that the TCPA submission ‘deals with the sustainable urban form, which considers access to jobs, schools, services and family needs in a very integrated way. So it is about access; it is about networks.’⁶³
- 2.61 Professor Jago Dodson supported the concept of master planning, as long as we avoided the ‘firm, inflexible master planning processes’ of the past. He thought we could ‘develop a contemporary version of that that is not too deterministic and focuses on the big picture’.⁶⁴
- 2.62 Dr Jaz Choi, Director of the Urban Informatics Research Lab at the Queensland University of Technology, was less sanguine about the prospects of master planning. She cited the example of Songdo, in Korea, ‘which is always mentioned in smart cities discussions’, but which ‘is a failure, and I think we need to acknowledge that’. She thought ‘big cities like Seoul and Tokyo realise that it is impossible to master-plan all the urban developments’, highlighting the dynamic mix of youth, technology and social entrepreneurship that was driving change in these places, and the

⁶¹ Green Building Council of Australia, *Submission 99*, p. 20.

⁶² Green Building Council of Australia, *Submission 99*, p. 20.

⁶³ Ms Marianne Richards, Executive Committee Member, Town and Country Planning Association, *Committee Hansard*, 21 November 2017, p. 17.

⁶⁴ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 12.

inevitability that the success of some communities and regions would accompany the demise of others. She stated:

In Japan that is the kind of thing I am talking about. Some towns will die out. We need to accept that and build infrastructure around it, and think about not just reviving everything but selectively and strategically think about where people would like to go. That is where the cookie-cutter approach would not work. All the regional cities just because we have infrastructure would not attract people. So, with death, where would be the lively parts and what can we do around it? In Seoul and Tokyo, young people are leading that. Cities are leaving them to it. That sort of uncertainty, rather than master-planning everything, I think, is very important in terms of roles of the government from local to federal level.⁶⁵

Committee Conclusions

- 2.63 The evidence presented to the Committee indicates that Australia's current population growth and changing demographics are placing increasing stress upon our cities and regions. Urbanisation, the ageing of the population and the transformation of the economy towards service and knowledge based industries are causing profound changes in the urban and regional landscape. The outcome of these changes—for good or for ill—will depend very much on how they are managed.
- 2.64 There is widespread acceptance that change on a national scale requires a national vision. The scope and complexity of the challenges of growth require a reconfiguration of our understanding of what our cities are for, how they operate, and their relationship with each other and the surrounding regions. In short, what is required is a national plan of settlement.
- 2.65 This national plan of settlement must account for:
- growth and change in population
 - growth and change in employment
 - the economically, socially and environmentally sustainable development of cities and regions
 - the relationship between cities and regions on a national, regional and local scale

⁶⁵ Dr Jaz Choi, Director, Urban Informatics Research Lab, Queensland University of Technology, *Committee Hansard*, 29 September 2017, p. 25.

- connectivity within and between regions, and between residence and employment.

2.66 The national plan of settlement must set out a vision of what our cities could and should look like over the next fifty years. It must set out in broad scale the pathway to achieving that vision and the resources required to achieve it. The national plan of settlement must also be flexible and adaptive—capable of responding to emerging trends and technology.

Recommendation 1

2.67 The Committee recommends that the Australian Government, in conjunction with State and Territory governments, and in combination with the governance arrangements set out in Recommendation 28, develop a national plan of settlement, providing a national vision for our cities and regions across the next fifty years, providing for:

- growth and change in population
- growth and change in employment
- the economically, socially and environmentally sustainable development of cities and regions
- the relationship between cities and regions on a national, regional and local scale
- connectivity within and between regions, and between residence and employment
- resources for the implementation of the plan.

2.68 The national plan of settlement must take account of the fact that Australia's cities and regions are not sustainable in their current form, and will become less sustainable as the population continues to grow and age. Achieving the required economic, social and environmental outcomes for sustainability of our cities and regions will require a high level of integrated planning.

2.69 Plans must link vertically across different levels of government, addressing a common vision. They must link horizontally; providing infrastructure, housing, employment and services within a coherent integrated framework.

Plans must link the provision of infrastructure with land use to maximise the value of both.

- 2.70 The importance of highly integrated planning at a national level was emphasised on the Committee's visit to China. There are lessons for Australia in the Chinese approach to urban development and infrastructure procurement. In China there is a strong emphasis on integrated planning, vertically and horizontally. Planning at all levels of government must integrate with those above, and ultimately with the directions set by the national government. Moreover, all planning of infrastructure is done in the context of broader urban planning—infrastructure development is directly connected to land use. There is a high level of master planning, ensuring that all development fits within a predetermined framework according to agreed priorities. These priorities are set broadly at a national level and implemented through master planning at the province and city level.
- 2.71 Master planning can conjure images of perfectly formed but sterile environments unfit for human habitation. A better picture is one that shows a coherent vision, in which all the different aspects of the urban environment are designed to optimise the whole. The Committee argues that there is an increasing need to ensure that our cities and regions are coherent entities, objectively designed to simultaneously achieve a range of outcomes for the benefit of their inhabitants.
- 2.72 People require affordable housing; access to employment; access to health care, education, culture and recreation; connections to employment, services and family; and environments that are conducive to physical and psychological wellbeing. Under conditions of high population growth, this is not achievable without the coherent vision which comes from master planning. The alternative is cities in which access is entirely a function of wealth and income, dysfunctional sprawl is matched by dysfunctional densification and population growth leads to increasing economic, social and environmental stress.

Recommendation 2

- 2.73 **The Committee recommends that, as part of the development of a national plan of settlement, the Australian Government encourage the development of integrated master plans for States and Territories, regions and communities which link vertically across different levels of government; and horizontally, providing infrastructure, housing,**

employment and services within a coherent integrated framework. In addition, plans must link the provision of infrastructure with land use to maximise the value of both.

- 2.74 Various aspects of urban and regional development will be explored further in the report. This will include the need for integrated planning, managing the relationship between cities and regions, increasing connectivity, and ways of promoting liveability, accessibility, and sustainability.

3. Integrating cities

- 3.1 Cities need to change. Creating modern, sustainable, accessible cities requires a reimagining of the city—a re-evaluation of what cities look like and how they function.
- 3.2 This Chapter will look at critical elements of urban form—the need for integrated planning; accounting for densification, agglomeration, and the distribution of population, employment and services; the centrality of density to sustainable urban development; and the concept of polycentricity. Part 2 of the report will focus in more detail on different aspects of sustainability and liveability in the urban environment.

Re-imagining cities

- 3.3 Two noted experts on the urban environment gave their views on the need to re-think the way we view our cities. Professor Peter Newton, from Swinburne University of Technology, urged ‘more sustainable urban development’, principally through increasing housing supply in the well located established inner and middle ring suburbs of our cities’. This would require ‘an urban transition from low density suburban cities to more urban compact cities achieved by redirecting population growth and property investment inwards from the greenfields to urban infill, the brownfields and what I call the “greyfields”’. He also urged ‘a transition in the type and scale of new infill housing development’:

What I mean by that is medium density is the type that needs to increase, and at a precinct scale. This has come to be termed the missing middle, medium density at a precinct scale in the middle suburbs. In this context there needs to be less piecemeal, suboptimal knockdown/rebuild housing, which currently dominates the greyfield infill and is really contributing to cities not meeting their infill targets. Some cities have an infill target, which is a really positive step in terms of trying to limit greenfield development.¹

- 3.4 This transition needed ‘to be regenerative’, with new development shrinking the ‘ecological carbon and urban footprints that characterise our cities’. To achieve this, ‘the transition needs to accommodate new distributed infrastructures in renewable energy generation and also decentralised water and wastewater treatment’. He also argued that new zoning schemes are required to ‘more accurately target where intensified redevelopment should take place within our existing established cities, akin to what I would ascribe to precision surgery within medicine’. He noted that ‘at the moment, zoning schemes are locking up a massive amount of property with high redevelopment potential that needs to be regenerated’.²
- 3.5 Professor Billie Giles-Corti (RMIT University) also urged an urgent re-evaluation of the city. She observed that in terms of urban design ‘density is really critical’.

One of our recommendations is that federally we need to look at the density of our cities. We’re still building at less than 15 dwellings per hectare in many cities across Australia—in fact, those are the policies of our Australian cities. This is a major problem because it means that we can’t provide enough people to have shops and services and have decent public transport.³ [Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, Committee Hansard, 21 November 2017, p. 30]

¹ Professor Peter Newton, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, p. 17.

² Professor Peter Newton, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, p. 17.

³ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 30.

- 3.6 Other important factors included distance to transit and diversity of land uses. She noted that ‘the agglomeration of shops into big shopping centres means that there are no shops and services for people to walk to in the local neighbourhoods’. She highlighted the need for diversity in housing, stating that ‘on the fringe of cities, we still continue to build low-density single-residential homes, as opposed to a mix of different types of densities. Small cottage lots, different types of townhouses and even medium to high rise could work on the fringe.’⁴
- 3.7 Professor Billie Giles-Corti, observed, however, that the current policy frameworks were not delivering on liveability. She stated ‘we all value having liveable cities. We think this is important, but we do not have the policies in place to deliver that’:
- We really need to have an inquiry to make sure that if we value liveability, walkability and better cities we have a policy framework to deliver it. We found a limited number of measurable spatial policies. There were none for local employment and housing affordability. We found little consistency and understanding of how to achieve healthy liveable cities. It depends on every jurisdiction and they come up with their own policies, so there’s variation.⁵
- 3.8 She observed that ‘different cities have different levels of policy ambition. Some look good because they’re achieving their policies, but the policies are not very ambitious’. She urged national consistency in urban policy, and greater consistency of outcomes within the urban environment ‘otherwise, we’ll get inequities across our cities’.⁶

⁴ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 30.

⁵ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 31.

⁶ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 31.

Creating integrated cities

3.9 The need for the integrated planning and development of cities was highlighted in the evidence presented to the Committee. Integrated planning and development treats cities as complex entities with interrelated economic, social and environmental characteristics that require holistic long-term vision and management.

3.10 Ms Megan Motto, CEO of Consult Australia, observed that in Australia we are ‘seeking to solve a problem which is that we need to house a population that is three things’:

It’s growing exponentially and will continue to grow; it’s more demanding than it has ever been before; we want everything. We want the cheap house which is liveable, we want sustainability and we want good governance. We want it all and we’re very demanding as a population. And we’ve got more choice. We’ve got more choice where international investment goes, where we seek to and choose to live and where we take our skills around the country or internationally.⁷

3.11 She noted that ‘we need cities that can respond to all three of those challenges simultaneously, and we need to do so in an environment where the challenges are both complex and need long-term solutions’. She stated that ‘we can’t continue to have ad hoc solutions to the way that we build our cities’. Responses required three elements—‘coordination, capacity and culture’. She observed that we had three levels of government, including 547 local councils:

The complexity and mismatch between some of the planning and desires and wants and needs of those different jurisdictions adds humungous layers of complexity to our planning that we don’t particularly need. We need to streamline and have much better coordination between the tiers of government and horizontally across agencies.

We need a much better, integrated and longer term view, and that’s only going to come through coordination. Governance is absolutely key here and that governance, for example, needs to coordinate the different agencies.⁸

⁷ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 12.

⁸ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 12.

- 3.12 Ms Motto argued that ‘there is no ideal size of a city, but there are ideal efficiencies within cities’:

Each city will be constrained by geographical boundaries ... and a whole range of other environmental constraints. What we can change within those cities though is the fit-for-purpose systems that we need to make those cities appropriately liveable, sustainable and economically productive, according to their own size and scale.⁹

- 3.13 She also stated that ‘we need to be really careful about the planning and project prioritisation process’.¹⁰ A key element of the planning process was shifting from a short-term outlook to a long-term outlook. Ms Motto noted that currently ‘we seek to rush towards a solution as opposed to really defining what the problem is, identifying multiple solutions, doing scenario testing and looking at the different ways that we can deliver the built environment in a better form’. This needed to change.¹¹

- 3.14 Professor Stuart White, Director of the Institute for Sustainable Futures at UTS, introduced the Committee to the concept of the city as ‘a system of systems’, stating

... we often find it quite useful, in our research and particularly our practical work, to think of it in those terms, thinking about the infrastructure, energy and water systems and how they interact with each other and the transport and waste and so on, and then the human systems: the food that flows in and out, the livability of the city, the green infrastructure and the things which make a city more pleasant to live in. So that’s the first thing, and we often consider that—for example, as we’ve just heard from previous witnesses, the interaction between transport and housing affordability and the nexus, and often tension, between those two things. So it’s impossible to consider these systems separately.¹²

⁹ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 12.

¹⁰ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 12.

¹¹ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 13.

¹² Professor Stuart White, Director, Institute for Sustainable Futures, UTS, *Committee Hansard*, 14 November 2017, p. 23.

- 3.15 He identified the need for the temporal integration of city planning—planning for the future as well as the present—using the method of ‘backcasting’:

... asking what is the city we want to see in 2030 or 2050, what is it that would serve our needs as humans occupying the city and as the environment with our other targets and goals that we have as citizens, and then to backcast, to work back from 2050 to 2040 and say what would we have to have in place in 2040, what would we have to have in place in 2030 and so on to determine what our policies would need to be in the next five years to set us on a path which is often quite different, and qualitatively different as well as quantitatively different, to the path that we are currently on. So that sort of futures methods foresighting is absolutely crucial, otherwise we’ll just be tinkering at the edges and making marginal improvements based on a trend that isn’t destiny anyway.¹³

- 3.16 Professor White also stressed the importance of the ‘liveability of cities’:

We can have perfectly functioning mechanical cities, and often there are visions for the future which are somewhat technical in their nature, and that is extremely important. We do a lot of work in the area of smart cities and future digital services applied to cities, but cities are for the people. We know we have a sense of what is a more liveable city than another city and we know that there are profound implications for the way we design our cities for the health of their citizens.¹⁴

- 3.17 He stressed the importance of integrated design and planning on something as basic as human health, stating:

The epidemic of diabetes that we see in low-income areas of Australian cities is something that needs to be addressed, and it can be addressed through the design of cities—through our transport systems, through support or not for active transport through the design of urban form and so on. These are matters that are both a cost to the Commonwealth and states but also within the power of the Commonwealth and states to have some influence—over a medium to longer term period to be sure; these are not things that can be fixed overnight. There is a huge linkage there—transport, obviously; active transport and obesity, diabetes; just one example of many. There is urban vegetation, the liveability of cities through greening. Some of our work, as you have seen in

¹³ Professor Stuart White, Director, Institute for Sustainable Futures, UTS, *Committee Hansard*, 14 November 2017, p. 23.

¹⁴ Professor Stuart White, Director, Institute for Sustainable Futures, UTS, *Committee Hansard*, 14 November 2017, p. 23.

the submission, shows that you can get up to 15 degrees difference in terms of the urban heat island effect in an area like Penrith. These are significant impacts on the liveability.¹⁵

- 3.18 Professor White emphasised the importance of data and targets to effective planning. He noted that ‘we can’t manage what we don’t measure’ and stressed that ‘generating data and having a common platform for managing that data—open data principles, open source management of that data and so on—is extremely important’. He argued that ‘targets are important, but they need to be clever’:

They need to be well designed and have a good strategy put in place to work out how to meet them. I would emphasise the importance of them as having something to shoot for, and then some design of a plan to be able to meet them and what that will cost.¹⁶

- 3.19 Mr John Wynne, National Director of Planning for Urbis Pty Ltd, highlighted the challenges facing Australia’s cities and the need for effective planning to meet those challenges. He noted that ‘Australian cities are undergoing profound change’ and that ‘the megatrends of urbanisation and globalisation are propelling cities rapidly to a future vastly different from today’. In that context, Urbis was ‘strongly of the view that developing new and better approaches to planning cities is essential to securing the future of our cities’, and that ‘a national cities platform can contribute positively to achieving more holistic, integrated, efficient and innovative approaches to planning urban areas’. Mr Wynne stated that the federal role was not about regulation:

Frankly, we have so much regulation in the planning industry that we do not need more. It’s about vision, leadership and influence. It’s about fostering collaborative actions across states and territories. It’s about creating a unified commitment to addressing common challenges. It’s about engendering cross-portfolio coordination focusing on achieving better place-based outcomes.¹⁷

¹⁵ Professor Stuart White, Director, Institute for Sustainable Futures, UTS, *Committee Hansard*, 14 November 2017, pp. 23–4.

¹⁶ Professor Stuart White, Director, Institute for Sustainable Futures, UTS, *Committee Hansard*, 14 November 2017, p. 24.

¹⁷ Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, p. 35.

- 3.20 He also noted, however, that ‘failing to plan properly will result in declining economic, social and environmental standards which will clearly undermine our much-envied quality of life’.¹⁸
- 3.21 The Planning Institute of Australia (PIA) also emphasised the importance of strategic planning. It observed that ‘strategic planning integrated with infrastructure and service delivery funding and delivery is fundamental to the success of cities’. It argued ‘a commitment to developing and implementing a strategic plan for a city, region and state that takes account of growth scenarios is a prerequisite for success’, and that ‘a successful strategic plan must be based on actionable and measurable outcomes that are specific to the place’.
- 3.22 PIA members highlighted the importance of a focus on outcomes, identifying the following as the four most important outcomes to drive the future development of Australia’s cities:
- Improve urban liveability, health and quality of life
 - Make the most sustainable use of natural resources (i.e. reduces energy, water, and resource consumption)
 - Bring jobs closer to where people live (i.e. productivity / agglomeration economies / reduced living costs)
 - Ensure high quality natural and built environment.
- 3.23 The PIA gave as an example ‘the adoption of an outcome for a ‘30 minute city’ as a structuring element of the Greater Sydney Region Plan (in preparation by the Greater Sydney Commission)’:
- This is based on an outcome to have jobs closer to where people live and underwrites a three-city approach (West / Central / East) in which more of Sydney’s housing has access within 30 minutes to a major city hub. This represents a measurable basis for the cities future performance with respect to accessibility — as well as a proxy for productivity advantages associated with agglomeration economies.¹⁹
- 3.24 Other outcomes highlighted by the PIA included ‘our cities becoming “more compact” and “promoting poly-centricity”’.²⁰

¹⁸ Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, p. 35.

¹⁹ Planning Institute of Australia, *Submission 136*, pp. 7–8.

²⁰ Planning Institute of Australia, *Submission 136*, pp. 7–8.

3.25 The City of Sydney did ‘not recommend a density or city structure (such as compact, satellite or poly-centric) that is the definitive “sustainable urban form”’. Rather, it indicated that ‘the urban form, and the degree to which it is sustainable, liveable and productive, will be a consequence of geography and how a city manages the various pressures and changes imposed on its communities, environment and economy’. It observed that ‘the trajectory of existing cities can be directed towards a more sustainable and liveable urban form by addressing the key challenges of housing affordability, infrastructure, transport and climate change’.²¹

3.26 The key to the future was a new vision of what cities should look like and do. Mr Wynne stated:

Of course we should have a vision of what Australia is as a country of highly urbanised people. What is this place? The advantage we have is that we have some of the best cities and places to live in the world. We know that. They are under the pressure of change. So we need to accommodate that growth and change. It is inevitable. It’s going to happen. But we need to accommodate it in a manner that ensures that our cities remain attractive, liveable and distinctly Australian.²²

3.27 Mr Chris Johnson, Chief Executive Officer of Urban Taskforce Australia, also sought a new vision—the shift from suburban to urban cities. He stated:

I think Sydney is at the forefront of a change in the nature of cities. As we were a city of three million, maybe four million, but now up to five million, the suburban model of people living in a detached house is questionable for the whole city as we increase our density. Some interesting research in Melbourne showed that, from 1950 to today, the average number of square metres per person for a typical house has grown from 30 square metres to 90 square metres. We now have the average house being 90 square metres per person—so for two people it is 180 and for three people 270. I think the average house size in Australia is something like 240 square metres, which is one of the largest in the world.²³

3.28 Mr Johnson questioned ‘whether this is a fabulous thing for an affluent society to be able to get the biggest houses in the world’, and suggested that

²¹ City of Sydney, *Submission 100*, p. 4.

²² Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, p. 37.

²³ Mr Chris Johnson, Chief Executive Officer, Urban Taskforce Australia, *Committee Hansard*, 14 November 2017, p. 9.

‘there is also a question on the long-term sustainability and affordability of that model as our population increases and the cost of housing goes up’. He suggested that:

... there has been a swing, particularly in Sydney and coming into other cities, towards a different lifestyle ... a swing from a more suburban model—not that the suburban model is not an important one to have for many people—to a more urban model that I think really needs to be supported.²⁴

- 3.29 Mr Brendan Nelson, President of the Planning Institute of Australia agreed. He noted that there is still ‘an expectation around the great Australian dream, which is “owning my block of land”’, but that this was increasingly unsustainable and unaffordable:

I have a look at the average lot sizes here in Sydney, which are still pretty well the largest in the whole of the country. I look at the change in price point of being able to afford a home here. Building costs over the last 20 years haven’t gone up by a hugely significant amount, but what has gone up is land.²⁵

- 3.30 In his view, ‘where we need to get to around the role of housing in the future is to break this nexus and have an informed debate with the Australian people around what the new Australian dream is’:

Is it really owning a block of land, or is it living somewhere where I can go down to the cafe and have my morning coffee and then take the dog for a walk? I still have somewhere where I can have a dog but I’m not spending all my money on paying a mortgage.²⁶

Densification, agglomeration and distribution

- 3.31 Key features of urban planning include agglomeration, densification and distribution of population, employment and services.
- 3.32 SGS Economics and Planning observed that ‘there is an effective consensus amongst planners regarding the elements of a sustainable, prosperous and inclusive metropolis’, and that ‘this consensus is evidenced in the

²⁴ Mr Chris Johnson, Chief Executive Officer, Urban Taskforce Australia, *Committee Hansard*, 14 November 2017, p. 9.

²⁵ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 37.

²⁶ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 37.

convergence and consistency amongst the metropolitan strategies developed across all Australian jurisdictions over the past 3 decades'. These elements include:

- a compact footprint;
- a poly-nucleated structure, including the formation of major second and third cities within the metropolitan footprint as foci for employment and services;
- provision of advanced public transport to facilitate effective labour markets and to foster productivity boosting agglomeration economies; and
- provision of widely distributed and embedded affordable housing to further boost efficiency in labour markets and create more inclusive communities.

3.33 SGS noted that 'more recently, the scope of this "better cities"' model has extended to include distributed power and water systems'.²⁷

Agglomeration

3.34 Agglomeration refers 'to a clustering of activities and the innovation and specialisation that stems from this':

As more businesses and expertise locate within close proximity of one another it allows for increased collaboration, a reduction of costs when exchanging goods and services and a greater labour specialisation as people can move more easily between jobs.²⁸

3.35 As the NSW Government noted, 'economies of agglomeration explain why cities such as Sydney are more productive and contribute more to the economy per capita than their regional counterparts'.²⁹

3.36 Agglomeration was a defining aspect of the knowledge economy, creating a new impetus towards urbanisation that has not existed before. The Committee for Sydney stated:

While all cities have such cycles of growth, dominance and challenge, what makes this era of urbanism different is the triumph of the knowledge economy which is adding to the attractions of certain cities and indeed certain places within cities. Agglomeration of the economy is increasing in the knowledge

²⁷ SGS Economics and Planning, *Submission 51*, p.1.

²⁸ NSW Government, *Submission 125*, p. 9.

²⁹ NSW Government, *Submission 125*, p. 9.

economy not dispersing because if having access to knowledge is now the prime source of economic wealth then success comes to cities which attract talent and enable them to cluster and learn from each other most efficiently. This process has been called the 'reurbanisation of the economy'. By contrast, agriculture and indeed manufacturing were far more dispersed in terms of 'location of industry'.³⁰

3.37 The Committee for Sydney noted that 'certain cities attract today's key workers—graduates—more than others and that such workers themselves are agglomerating in knowledge dense work environments'. They are 'also seeking to live in denser settlements closer to where they work, particularly if well connected by mass transit or indeed walkable'. This process means that some parts of cities become "'hot" both in terms of productivity and talent attraction but also in terms of residential costs'; while other areas, 'far from the economic action in their city', have 'fewer easily accessible opportunities for their citizens while still experiencing some of the consequences of higher urban costs, such as housing'.³¹

3.38 The benefits of agglomeration were emphasised by the City of Melbourne. Mr Ben Rimmer, CEO of the City of Melbourne, noted that 'within the City of Melbourne the economic activity is about 27 per cent of the whole of Victoria's state product, and that equates to about six per cent of Australia's gross domestic product'. That meant that 'what happens in the centre of this city is incredibly important in terms of Australia's national productivity story and also incredibly important in terms of employment growth'. He continued:

Right now, today, there are about 400,000 people employed within the city of Melbourne. We forecast another 250,000 people will be working within the city of Melbourne over the coming decades, and over the last decade there has been about 90,000 additional jobs created within the City of Melbourne. So, in terms of the land mass of this wonderful country, the City of Melbourne is just a fragment, but in terms of the economic output of the country, the City of Melbourne is a very significant component.

If you take the centre of Sydney and the centre of Melbourne together, with no disrespect to Brisbane, you are getting up to 12 or 13 per cent of the national economy within a very small nonconcentrated couple of areas. So, to put that in real numbers, the economy of the City of Melbourne is now close to \$100

³⁰ Committee for Sydney, *Submission 88*, p. 4.

³¹ Committee for Sydney, *Submission 88*, p. 4].

billion on an annual basis, which has grown by 42 per cent over the last 10 years. There is no surprise in that because as the economy shifts from a heavy focus on manufacturing and mining towards a focus on knowledge, high-tech, biotech service economy what happens is that companies that are investing in those areas want to invest in areas where there are other companies also doing business of a similar kind.

You can see this. I know you were at Docklands the other day. You saw, within a couple of hundred metres of each other, the head offices of ANZ and National Australia Bank and there are some other very large banking institutions right next to each other. That is no accident. That is companies choosing to do their business close to each other. You can see another version of that in the Parkville biotechnology precinct where you have this incredible research output happening within really what is a few hundred metres of each other.³²

3.39 The Council of Capital City Lord Mayors observed that ‘agglomeration benefits of linked clustered development have long been recognised overseas as generating significant productivity benefits to cities’, but that ‘in Australia there has been virtually no spatial innovation policy which results in reduced productivity outcomes for Federal and State/Territory governments from Australian cities’. It stated that ‘there is a clear leadership role the Australian government could take that achieves significant economic gains both locally and nationally’.³³

3.40 Both the Regional Australia Institute and the City of Ballarat argued that regional development and agglomeration were compatible. The Regional Australia Institute stated:

Australia’s economy, like other developed economies, is becoming services focused with the growth of jobs concentrating in new economy industries. It is assumed that regional cities are inevitably being left behind in this trend as significant airtime is given to the benefits of agglomeration and the recent concentration of growth in our metro capital CBDs. However an examination of the data shows that regional cities are in fact making the transition. Regional cities are already producing more output in new economy industries (finance, education, health and professional services) than old industries (agriculture, mining and manufacturing). With all cities growing their new

³² Mr Ben Rimmer , Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 49.

³³ Council of Capital City Lord Mayors, *Submission 103*, pp. 7–8.

economy industries over the last decade and old industries shrinking, it's time to focus on how to nurture this transition over the next decade.³⁴

- 3.41 The City of Ballarat observed that 'in many regions, regional capitals play a very similar role to major metropolitan cities'. It regarded decentralisation of government services as the key to developing agglomeration benefits in regional areas, stating:

We believe that decentralising corporate Commonwealth entities to regional Australia can provide many advantages, both for the Commonwealth government and for the communities where entities are relocated to. Of the regional areas in Australia, we believe that Ballarat would greatly benefit from the relocation of services and can also provide several benefits for entities that are relocated to the area.³⁵

- 3.42 The tension between agglomeration and decentralisation was highlighted by SGS Economics and Planning. SGS observed that 'the idea of decentralisation is premised on the assertion that the metropolitan areas have reached capacity constraints. That is, their productivity is being eroded by congestion, high housing prices and stretched human services infrastructure.' It argued that 'the evidence does not seem to support this position':

On the contrary, it appears that the cities provide indispensable specialised services which the non-metro areas simply cannot provide. The level of specialisation in knowledge based services—which are critical to the productivity of all economic activity whether it occurs in the city or the country—is made possible by the scale and agglomeration economies offered by the major metros.

Congestion in metropolitan areas is indeed a problem. But it is also a sign of success. The fact that investment in specialised enterprises continues to occur in the major cities despite the congestion shows that these locations offer more than compensating benefits in access to skills, a diverse supply chain and a creative environment for business. It would assist city and country alike if these agglomeration benefits were better understood and supported in policy making.³⁶

³⁴ Regional Australia Institute, *Submission 63*, p. 7.

³⁵ City of Ballarat, *Submission 23*, p. 3.

³⁶ [SGS Economics and Planning, *Submission 51*, p. 15.

- 3.43 Others disputed this, arguing that the benefits of agglomeration could be made more widely available, but only with improvements in connectivity. Professor Peter Newton argued for integrating cities and regions through high speed rail. He stated:

Until the federal government undertakes a comprehensive nation-building planning study of high speed (>370kph) rail (HSR) options in relation to its capacity to re-shape significant parts of the national settlement system, especially focused on the two largest cities of Sydney and Melbourne, decentralisation will remain elusive. Traditional 20th century policies focused on attempts to create new basic industries or relocate federal or state government offices will not succeed. 21st century agglomeration economies favour large cities and will continue to do so until provincial cities become part of a functional mega-metropolitan region centred on a major capital city connected via high speed rail (HSR) that converts their CBD travel times to 30 minutes (the Marchetti constant)—equivalent to an average metropolitan work commute.³⁷

- 3.44 In its submission, MacroPlan Dimasi stated that ‘connectivity between economic centres is crucial to achieving the agglomeration benefits’.³⁸ One of the scenarios it described for managing population and urban growth was the Gateway Cities Network, which would apply to the entire south-east of Australia:

This scenario uses the population critical mass potential of 25-30 million people that could be generated by linking Brisbane, Sydney and Melbourne (and potentially Adelaide). It integrates future growth and development potential in intervening regional areas to create a new social, environmental and economic outcome that could transform the concept of urban living nationally and globally. This model seeks to leverage capital city competitive economic advantage into regional Australia, beginning with the key gateway capital cities.³⁹

- 3.45 The Gateway Cities network model would create ‘a distributed network of environments with sufficient capital city/CBD critical mass to generate a foundation for globally connected tradeable services’. It would ‘shift global thinking from the garden city model of “liveable cities” to “creative networks” and “cohesive communities”’. The key objective ‘is to attract the

³⁷ Professor Peter Newton, *Submission 70*, p. 2.

³⁸ MacroPlan Dimasi, *Submission 151*, Appendix 3, *Polycentric Sydney: Not Yet?*, p. 39.

³⁹ MacroPlan Dimasi, *Submission 151*, p. 42 (Appendix 4, *Destructive Cities*, Ch. 10).

world's best talent to live in the safest and best environments in the world, not just focus on the single aim of high residential density'. The model would 'require the NBN and a high-speed rail network to connect the expected population of around 30 million by 2060'. MacroPlan Dimasi noted that 'the primary foundation of the concept is access to many environments using the world's best fast rail and bus network'.⁴⁰

Densification

- 3.46 Alongside agglomeration, and tied to it, another key component of urban planning is densification. CSIRO noted that 'there is strong evidence that compact urban growth not only delivers better environmental and social outcomes than low density development', it also 'makes good economic sense through reduced infrastructure costs and increased efficiencies'.⁴¹
- 3.47 Referring to Grattan Institute research, RMIT noted that 'new low density greenfield communities are heavily dependent on motor vehicles due to a shortage of public transport' and typically 'also lack social infrastructure such that "meeting the demand for childcare, school places, recreation and social services remains a major challenge in growth areas"'. Research highlighted a strong preference by residents of outer suburbs for access to transport and services, and a significant requirement for additional infrastructure investment 'to meet shortfalls in infrastructure requirements in growth areas'.⁴² RMIT observed that:

A major contributing factor to the shortage of public transport and the lack of social infrastructure on the urban fringe of cities is the prevailing level of low density housing in greenfield areas. Detached family housing still predominates greenfield developments: 88 percent of homes in rapidly growing new growth areas are detached compared with 76 per cent nationally. Delivering local public transport and social infrastructure in low density is challenging because the housing is spread over a wide area, and the population is too low to make mixed use planning and public transport viable. Low density housing development discourages active forms of transport including local walking and cycling, and requires more time being spent driving.⁴³

⁴⁰ MacroPlan Dimasi, *Submission 151*, p. 42 (Appendix 4, *Destructive Cities*, Ch. 10).

⁴¹ CSIRO, *Submission 121*, p. 6.

⁴² RMIT, *Submission 15*, p. 1.

⁴³ RMIT, *Submission 15*, p. 2.

- 3.48 RMIT believed 'higher density, mixed use development pedestrian and cycling friendly development well connected to employment with good public transport, is likely to produce a range of co-benefits including lower levels of driving, reduced traffic congestion, improved air quality and lower greenhouse gas emissions'. It stated:

In our recent paper published in *The Lancet*, we identified the need for integrated planning of all the urban policies required to create liveable cities (i.e., transport, land use and urban design, social and health services, education, employment and economic development, housing, public open space and recreation and public safety) with the aim of ensuring the delivery of urban and transport planning and design interventions that encourage active modes of transport. These include good regional planning that ensures access to employment by high quality public transport, the equitable (re-)distribution of employment across cities to reduce commuting times; and demand management (i.e., controlling the cost and amount of parking, and congestion charging). It also includes local urban design that encourages local walking: connected street networks (rather than curvilinear design); higher density development, reduced distances to transit, the diversity of land use mixes and housing types; and the desirability of an area (aesthetics and real and perceived safety).⁴⁴

- 3.49 RMIT found that 'dwelling density is therefore a critical factor to deliver healthy liveable communities, as it underpins the delivery of three other 'D's (i.e., distance to transit, diversity and destination accessibility) and is related to another 'D' (i.e., neighbourhood design'. It concluded:

Both the Australian Government, and many State Governments, including the Victorian State Government, are promoting the 30 or 20-minute city (respectively). However, if this aspiration is to be achieved, more attention needs to be given to the density of housing being built in our rapidly growing Australian cities. While high density housing attracts both attention in the media and in the general community, low density development is equally problematic with poor access to public transport and amenity, promoting car dependency and discouraging active forms of travel.⁴⁵

- 3.50 Speaking to the RMIT submission, Professor Billie Giles-Corti observed that it was 'important to get the density right'. She noted that 'the evidence says that if it's too high a density it can be detrimental to mental health', and that 'if it's located on a busy road and it's noisy, it's detrimental to mental

⁴⁴ RMIT, *Submission 15*, p. 2.

⁴⁵ RMIT, *Submission 15*, p. 2.

health'. Lack of public open space for children would be 'clearly detrimental to the mental health of the parents'. She stated that 'there are design issues that need to be taken into account, and it also depends on where it's located in terms of the geography and local amenities'.⁴⁶ Professor Giles-Corti also observed that 'higher density does not need to be high rise':

On higher density, the sorts of results we've found are that, if you get up to 25 or 35 dwellings per hectare, that's enough to encourage people to walk, cycle or use public transport and be less likely to drive. At those sorts of levels of density you could have a mixture of different types of diversity of housing. You could have cottage lots, which would get your point about people being able to have a small garden; you could have townhouses; you could have single residential homes; and you could have three- to four-storey-high development on the fringe. That would actually create the sort of diversity that's necessary to get the densities up, especially if the higher density was around the town centres and the mixed-use areas.⁴⁷

3.51 Professor Giles-Corti also highlighted the link between housing affordability and urban sprawl:

One thing I want to mention is that we often hear that people get the neighbourhoods they want, that people prefer to live in these places. We've done a number of studies now that show that a large number of people who live on the fringe are living there because of housing affordability issues. They don't live there because they haven't got access. If we ask them where they would rather live, they would rather be living next to public transport and infrastructure, and that is consistent across work that we've done in Western Australia and also work that we've done in Brisbane. So I think it's really important that we don't just believe people are living there because they want to. They're living there because they can afford to, but there is certainly, on the fringe, a real need to deliver better infrastructure. We believe that unless we

⁴⁶ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 31.

⁴⁷ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, pp. 36–7.

put the policy frameworks in place, even around the way we're designing our cities, we're not going to be able to deliver on that.⁴⁸

- 3.52 Master Builders Australia (MBA) noted that the 'combination of high urbanisation rates and low city density has a significant impact on house prices, and therefore living costs, in Australia' and that 'Australia's two city structure imposes population pressure on these dominant urban hubs, creating scarcity and pushing up the price of well-located land'. MBA continued:

The impact of our highly urbanised but low density city structures was examined in a Reserve Bank report; *City Sizes, Housing Costs, and Wealth* (2001). The report found "that dwelling prices tend to be higher in large cities than in small ones. Therefore, the expensive cities in Australia drag up the average level of dwelling prices more than in other countries."

In doing so the paper finds that the spatial aspects of demography are important for the level of non-financial wealth and house prices, in much the same way as demographic factors of the labour market and population.⁴⁹

- 3.53 In a separate submission, the Centre for Urban Research at RMIT highlighted the impact of urban sprawl, noting that 'Australian cities, especially the large metropolitan capital cities of Sydney and Melbourne, are experiencing significant stresses that are impacting on standards of living, widening socio-economic inequality, and environmental degradation'. This was evident in

- increasing journey to work times
- inequality in the distribution and availability of meaningful employment to different social groups
- traffic congestion and extensive public transport deficits
- declining housing affordability
- poorer health outcomes for outer suburban residents
- reduced access to social infrastructure on the fringe due to lags in provision.

⁴⁸ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 31.

⁴⁹ Master Builders Australia, *Submission 48*, pp. 4–5.

- 3.54 The Centre for Urban Research observed that ‘many of these stresses are associated with continuing low density suburban development on the fringe. These stresses bring considerable economic, environmental and social impacts.’⁵⁰
- 3.55 The Green Building Council of Australia (GBCA) emphasised that densification did not necessarily mean 50-storey towers. Ms Romilly Madew, CEO of the GBCA, noted that ‘there’s a lot of work that’s been done by the City of Melbourne around densification that could be three to five storeys, for instance, that fits really neatly and you still get some great uplift in population growth’.⁵¹ She emphasised the importance of the location of density—around transport hubs:
- That is what I think you see in Paris, you see that in Hong Kong and you see that in those cities where it’s most sophisticated. You have that densification around the transport hub and then it flows down to the lower density where it flows away from the transport hub and it really goes up close to the density—North Sydney, transport hub; Chatswood, transport hub; Parramatta, transport hub—and it really flows around where that transport is intensified.⁵²
- 3.56 Ms Megan Motto, CEO of Consult Australia, stated that densification also meant ‘housing affordability closer to where the jobs are in the major centres’. She indicated that we also need ‘to think about job distribution and how we can utilise technology to have a more distributive model for our jobs’, and ‘about public transport systems and making public transport systems more efficient, more affordable and more accessible to those in the community that need them’. She suggested that ‘there’s no one silver bullet solution. It’s a combination of all those things.’⁵³
- 3.57 A similar perspective was offered by the Australian Sustainable Built Environment Council (ASBEC). It argued that ‘to support affordable living outcomes, housing policy must promote the provision of diverse dwellings to cater for needs at all stages of life, and encourage density in the right places, with improved access to jobs and services’. This required:

⁵⁰ Centre for Urban Research RMIT, *Submission 35*, p. 4.

⁵¹ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 3.

⁵² Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 4.

⁵³ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 15.

- Long term alignment between population growth and housing supply, with periodic targets integrated into adopted planning policy.
- Strategic planning for accessible centres to link residential concentrations with jobs and services, reducing the costs of transport and vulnerability to social exclusion.
- Cost effective and timely delivery of urban infrastructure integrated with strategic planning, including: public transport, roads, community facilities and utilities for greenfield and urban infill areas.
- The adoption of best practice design principles to functionally enhance the sustainability and resilience of the built environment, with high quality urban design ensuring creating a sense of place.
- Improved sustainability of buildings, including minimum standards for the energy performance of new and existing buildings, which recognise whole of life costs.
- Continuous reform of land use planning and processes, to encourage supply of diverse housing where it ensures equivalent incentives for detached dwellings and a diversity of medium density housing types that promote design quality and sustainability.
- Ensuring the market operates efficiently to supply housing for all market segments, including the availability of housing stock that meets the needs of very low to moderate income earners.
- Regulatory frameworks that encourage innovation and efficiencies in the housing supply chain, such as modular construction, pre-fabrication and bringing new products to market more cost efficiently.⁵⁴

3.58 The City of Sydney also emphasised the link between connectivity and densification, observing that ‘the type of densification occurring in the City of Sydney, and other urban centres within the Sydney metropolitan areas is unsustainable without sufficient and appropriate public transport, freight and general roads supply’. The City of Sydney noted that ‘transport infrastructure is fundamental in helping to shape the form, density and function of a metropolitan area (and regional areas as well)’; and that ‘transport is a form of integrated network infrastructure and makes little sense when seen as a series of isolated elements or businesses’. It suggested that:

As a priority, the inquiry should consider options for well-planned, efficient public transport systems that support the sustainable development of cities.

⁵⁴ ASBEC, *Submission 111*, p. 7.

Access to a constrained road network must be prioritised for mass transport solutions and the movement of goods and services to support the economy and community.⁵⁵

- 3.59 Sustainable Population Australia (SPA) issued a caution on the limits of densification, stating that while ‘the current town planning response to suburban sprawl is to (a) develop on brownfield sites and (b) increase density in the inner and middle suburbs’, there was ‘a limit to which brownfield sites can address rapid population growth’. Citing the example of the Fisherman’s Bend urban renewal project in Melbourne, SPA noted that the project ‘will take decades from inception to completion, yet it will only absorb 10 months’ worth of Melbourne’s population growth’. SPA was also concerned that much high density development was developer driven, citing research which criticised the ‘current high rise paradigm’:

Reasons include that most new apartments are being built to accommodate specific demographic groups (e.g. too small to house families) and that they are geared towards investors. A downside of this is that new apartments are rarely built to last. Melbourne City Council planner Leanne Hodyl released a 2015 report that said high-rise developments were being built at a rate four times higher than that of some of the world’s highest density cities, and the current Victoria state Planning Minister has admitted that many Melbourne apartments are too small, too dark and badly ventilated. The business model driving their construction is clearly not one intended to enhance urban liveability and quality of life. It is one which aims to force residents to accept the style of housing most profitable to developers.⁵⁶

Polycentricity

- 3.60 Polycentricity, the creation of cities with more than one centre—a city of cities—was another concept proposed as a solution to the pattern of settlement. The importance of polycentricity was emphasised by MacroPlan Dimasi. It observed that:

Sydney has grown rapidly in recent years—together with greater traffic congestion, a lack of employment, and poor levels of social and physical infrastructure in outer suburban areas, this has meant the relative value and

⁵⁵ City of Sydney, *Submission 100*, p. 18.

⁵⁶ Sustainable Population Australia, *Submission 32*, pp. 2–3.

price of housing in inner and middle ring suburbs has increased significantly.⁵⁷

3.61 It noted that ‘true polycentricity’ might ‘help alleviate these pressures’, that a ‘polycentric Sydney presents the opportunity to’:

- Reduce infrastructure expenditure by replacing and integrating substantial elements of public transport with autonomous vehicles, replacing ‘owned’ cars with ‘shared’ cars;
- Increase employment through the growth of microbusinesses, contractors and SMEs which do not require CBD type locations; and
- Increase residential density by providing affordable dwellings in a range of locations which allow access to a range of experiences and employment opportunities.⁵⁸

3.62 The polycentric city would ‘increase affordability by increasing local employment, reducing traffic congestion and commuting time, and increasing residential density’.⁵⁹

3.63 Professor Sue Holliday labelled the concept the ‘city of cities’. She noted that ‘sprawling cities, as Sydney and Melbourne have become, are the most highly unsustainable cities that we have’. Creating a more sustainable urban form required looking at ‘the way people actually use our cities’. She noted that:

For most people in the cities, with the exception of journey to work, they live within a subregion of the city in which they live. They might come into the city for the occasional artistic or cultural event and go to certain bars and things, but basically they live in their region. So there is the idea of actually restructuring public transport around the idea that people need to access their subregion on a regular basis and then have fast linkages between the other cities so that they can access their journey to work more easily as well. That would apply to most people, with the exception of tradies, who need their utes in order to go over the whole city every day.⁶⁰

3.64 Tim Williams, CEO of the Committee for Sydney, also observed this tension between agglomeration and distribution. Looking at what is happening ‘in

⁵⁷ MacroPlan Dimasi, *Submission 151*, Appendix 3, *Polycentric Sydney: Not Yet?*, p. 4.

⁵⁸ MacroPlan Dimasi, *Submission 151*, Appendix 3, *Polycentric Sydney: Not Yet?*, p. 4.

⁵⁹ MacroPlan Dimasi, *Submission 151*, Appendix 3, *Polycentric Sydney: Not Yet?*, p. 5.

⁶⁰ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 20.

this era of greater digital integration’, he noted that what ‘we’ve seen knowledge jobs agglomerate. The reason seems to be that if knowledge is the value, you need to be alongside people with knowledge. So this is feeding on itself.’ In terms of place making, the value was in places where people clustered ‘to discuss ideas ... You need to enable that clustering’.⁶¹ This was in contrast to the dispersed pattern of settlement within our cities. Mr Williams noted that ‘if you look at Sydney – two-thirds of residential development west of Parramatta, but two-thirds of jobs and knowledge jobs east of Parramatta ... we are dispersing residential development just as we probably need to agglomerate it to suit the economy that we are actually going to have, which is a knowledge economy ... It is an actually an agglomerated economy.’⁶² The solution to the questions posed by agglomeration, according to Mr Williams, was polycentricity:

I think there isn’t just one place in a city. There could be lots of places; they are calling them ‘innovation districts’ – mixed-use places with good connectivity. Also, even in regional areas, regional centres are where people will go. It is not a contradiction, in a way. With the NBN, for example, I did a lot of work on a strategy for Coffs Harbour. Coffs strikes me as the kind of place that can create this kind of amenity that people want to be around, but it has a strong fibre network.⁶³

- 3.65 The need for such reform was highlighted by Penrith City Council, which pointed to the disparate jobs densities between Sydney’s inner and out suburbs, and the impact this had on employment opportunities:

Penrith City has a high participation in the workforce but much of Penrith’s workforce has no choice but to travel for work. Penrith’s unemployment rate (3.98%) is lower than Greater Sydney (4.86%), NSW (5.20%) and Australia (5.90%). However, our employment capacity is low, meaning there are less jobs in the area than employed residents and our proximity to other centres of low jobs density (Hawkesbury and Blue Mountains) places further demand on available jobs.

⁶¹ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 44.

⁶² Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 42.

⁶³ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 44.

As of June 2015 there were 100,543 Penrith City residents employed and only 71,933 local jobs available. In the Committee for Sydney's report *Adding to the Dividend, Ending the Divide #3*, areas west of Parramatta are well below average in terms of effective job density. Effective job density is highest in Sydney's CBD and North Sydney, remaining steady in areas leading up to Parramatta which is above average. The effective job density drops rapidly beyond Parramatta, with Penrith reporting one of the lowest figures.⁶⁴

- 3.66 Not everyone agreed with the concept of polycentricity, however. Citing the example of Melbourne, Mr Ben Rimmer, Chief Executive Officer of the City of Melbourne, stated that

... in Melbourne for many years people have tried to encourage activity centres or significant developments—for example, in the Dandenongs or in Craigieburn Broad Meadows or around Werribee—and it has been less successful in Melbourne than it has been in Sydney, really because of the different economic geography. So, in Melbourne what we see is that the growth in jobs and growth in investment is happening more right in the centre.⁶⁵

- 3.67 He noted that 'the incredible advantage that Melbourne has, not necessarily in respect to Sydney but in respect to other cities, is that there is land so close to the centre that is available for development'. He cautioned, however, that achieving the benefits of agglomeration within the CBD would require careful planning and appropriate investment:

... it will only work for development if there is investment and the right kind of strategic planning in getting that to happen in a way that enhances our productivity and that does not cause congestion. That is the tension for Melbourne. There is a lot more upside in growth potential in the city over the next period of time, but we need to plan for it more effectively. We need to have the right investment ahead of the growth and do that very well.⁶⁶

- 3.68 Urban planning needs to incorporate a range of ideals and realities, some of which are in conflict with each other. One of the tensions is the centralising tendencies of agglomeration. Mr Brian Haratsis highlighted the fact that

⁶⁴ Penrith City Council, *Submission 116*, p. 8.

⁶⁵ Mr Ben Rimmer, Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 53.

⁶⁶ Mr Ben Rimmer, Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 53.

‘technology is creating increased centralisation’,⁶⁷ that ‘highly specialised larger scale globally orientated industries, ... will only function within three, four or five kilometres of the CBD, as we currently know it’.⁶⁸ [Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 7] He argued that Australia needed to ‘reset its urban agenda’ as ‘the trajectories of Australian cities are poorly understood’.⁶⁹

Committee conclusions

- 3.69 The evidence presented to the Committee demonstrates that the creation of liveable, accessible and sustainable cities—at any scale—requires holistic vision and integrated development. Cities are complex systems—‘systems of systems’. They require vertical and horizontal coordination of their planning and development.
- 3.70 To achieve successful development, we must envisage cities that perform for their citizens. They must be accessible and liveable, promoting health and quality of life. They must be economically, socially and environmentally sustainable. They must incorporate high quality natural and built environments. They must promote access to employment. They must also target a more compact urban form. Ideally, they should conform to the concept of the ‘30-minute city’. These issues will be dealt with in more detail in Part 2 of the report.
- 3.71 This chapter has highlighted some of the essential ingredients of urban design and spatial planning. These include:
- The need for integrated urban planning which provides for accessibility, liveability, and economic social and environmental sustainability.
 - The impact of agglomeration and the need to address the spatial distribution of population, employment and services through densification.
 - The need for diversity in housing types and the need to fully integrate housing into the planning of space, infrastructure, employment and services.
 - The need for polycentricity.

⁶⁷ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 2.

⁶⁸ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 7.

⁶⁹ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 1.

- 3.72 The Committee is aware of the need for greater sophistication in the way we plan cities. Access and use of a wide range of data is essential to effective planning. Targets need to be set, monitored and reviewed to ensure positive outcomes. Modelling and scenario testing is available at increasing levels of complexity and granularity. It is essential that urban planning take advantage of this. Indeed, this is one aspect where government can enlist the expertise and sophistication of the private sector. The Committee was also impressed with the concept of backcasting—setting targets and goals and working back from those to plan what needs to be done to achieve them.
- 3.73 Agglomeration is a reality of the modern economy. It is an essential aspect of knowledge based industries and a driver of productivity and innovation. The urban and regional form must adapt to agglomeration. Part of this adaptation is densification, making the urban form tighter and more accessible. Densification has the additional benefit of reducing the environmental and spatial footprint of cities and is essential to the economical and efficient delivery of services. Without densification, cities will suffer from increasing sprawl, with the attendant economic, social and environmental costs.
- 3.74 Another aspect of adapting to agglomeration is connectivity. Greater connectivity ensures greater accessibility, meaning the benefits of agglomeration are accessible to more people. Improved connectivity is an essential element of maintaining economic productivity and social well-being.
- 3.75 The growth of cities and increasing populations means that within the urban environment there must be an increasing reliance on mass transit to move people to and from employment and services. There is no realistic alternative to this development. Building more roads for more cars is not a viable solution. Setting aside the environmental cost, eventually there will be no more space to expand roads. Achieving the benefits of agglomeration without the problems of crowding, congestion, and lack of access (physical and financial) demands a more compact urban form and greater connectivity—ideally the 30-minute city.
- 3.76 Finally, there is the development of the polycentric urban form, which allows concentrations of knowledge based industries in a wider range of locations, further increasing their accessibility. However, the polycentric cities and regions can only be achieved through careful planning and high levels of connectivity in terms of both information technology and transport.

In short, we can only achieve sustainable cities and regions by reimagining them, and planning for their future.

Recommendation 3

3.77 The Committee recommends that the Australian Government, in conjunction with State and Territory Governments, pursues a system of urban planning which promotes:

- **accessibility and liveability, promoting health and quality of life**
- **economic, social and environmental sustainability**
- **high quality natural and built environments**
- **access to employment**
- **a more compact urban form**
- **the concept of the 30-minute city.**

This planning must incorporate the reality of agglomeration and the need for connectivity and densification, with a focus on the development of polycentric urban forms. Further, the Committee recommends that the Australian Government, in conjunction with State and Territory Governments, promotes a system of planning that is focussed on targets and goals, underpinned by a long-term broad-scale vision (the national plan of settlement), informed by comprehensive data collection, modelling and scenario testing.

4. Integrating regions

- 4.1 The development of cities relies on the development of regions. The symbiotic relationship between metropolitan areas and the surrounding regions needs to be recognised and managed, to further the interests of both.
- 4.2 This chapter explores the relationship between cities and regions; integrating the development of cities and regions; promoting investment in regions, including through decentralisation and regionalisation; promoting the competitive advantages of regions; and the importance of connectivity to national and regional development.

The relationship between cities and regions

- 4.3 Managing the relationship between cities and regions is a factor in the future success of the nation. The close relationship between cities and regions was emphasised in the evidence presented to the Committee. Planning expert Professor Sue Holliday observed that ‘what happens in our major cities impacts directly on what might happen in the future in our regions’. She argued that ‘they are quite inseparable’.¹
- 4.4 Ms Pru Sanderson, Regional City Executive with Roads Australia, also highlighted the link between cities and regions, noting that the future success of Australia’s major cities was dependent on developing links with the regions. She stated:

¹ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 20.

Of the recommendations that we have for you today, there are a number that are more locally driven by state and local government. They are things like the 20-minute neighbourhoods, enhancing the denser nodes around the city and those types of things. Of the things more relevant to the federal government, the first one's a difficult one: slow the growth of the city, both in population and in size. A successful city doesn't want to slow its growth by being an unsuccessful city, so Melbourne needs for the regions to be ever increasing in their take-up of population. It is already happening, but it needs to be accelerated. The city can't cope.²

- 4.5 Mr Tim Williams, CEO of the Committee for Sydney, made a similar point about Sydney, emphasising the importance of 'seeing Sydney in its more city-regional context'. He stated:

The last thing we wanted to tell you is about the regional link-up. We have our own version of a megaregion on our doorstep, which is that in 30, 40 years' time Newcastle and Wollongong—you imagine if they were reachable by fast public transport in an hour—what would that do? What would I do? The answer is: quite like the London effect in which loads of London's labour and housing comes from outside London because they can get there rather quickly. That does help to not overheat certainly the housing and labour markets.³

- 4.6 Dr Marcus Spiller, Principal and Partner with SGS Economics & Planning Pty Ltd, argued that it was 'unhelpful and distracting to construct a picture of Australia in which the cities are in competition with rural and regional areas for resources, for capital and for talent'. He stated:

... because of technological change and globalisation the value chain in any business has unbundled to an unprecedented extent so that those parts of value creation that are to do with analysis, science, design, creativity, problem solving and so on have become uncoupled from those processes of value production which are to do with the physical manufacture or growing of things and the distribution of things.⁴

- 4.7 Dr Spiller noted that 'the creative and knowledge intensive services require big city agglomeration economies to be world competitive', while 'regional

² Ms Prudence Sanderson, Regional City Executive, Roads Australia, *Committee Hansard*, 21 November 2017, p. 14.

³ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 42.

⁴ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 3.

producers need these city based, knowledge intensive services to be well competitive'. This meant that there was 'a symbiotic relationship between country and city', that 'they are not in competition and policy needs to be framed around this and understand this'. He also observed, however, that 'forced decentralisation of knowledge based services is likely to damage productivity in both city and country were it to be achieved at scale, which I very much doubt that it would be anyway'. He noted that 'when you look at where the population is growing it is very much in the big cities and those areas that are linked to the big cities and regional development strategies should understand this typology and be customised towards it'.⁵

- 4.8 In its recent report, the House Select Committee on Regional Development and Decentralisation emphasised the benefits that regional development can bring to urban liveability, stating that a 'collateral advantage of decentralisation is reducing the congestion and population pressure on capital cities'.⁶ In its report, the Committee also set out a number of principles for regional development that emphasise long term strategic planning, including:

Regional Australia requires a long term, flexible strategy and commitment to meet the needs of a modern, globally connected and changing environment.⁷

The suburban interface

- 4.9 Dr Ruth Spielman, Executive Officer of the National Growth Areas Alliance, highlighted the linkages between urban development and the development of the outer suburbs. She noted that the 'fast-growing outer suburbs play a significant role in our cities', and that 'reliance on CBDs is no longer sustainable'. She told the Committee:

When our cities were smaller it was more sustainable for people to be able to get in and out of city centres, but it is not that way now and so we need to look towards a different pattern than one hub and lots of spokes. The fast-growing outer suburbs are in transition and there are some exciting things emerging, but without a coordinated policy focus and dedicated investment we will not

⁵ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 3.

⁶ House Select Committee on Regional Development and Decentralisation, *Regions at the Ready: Investing in Australia's Future*, June 2018, p. 94.

⁷ House Select Committee on Regional Development and Decentralisation, *Regions at the Ready: Investing in Australia's Future*, June 2018, p. 17.

overcome the issues that exist, nor benefit from the tremendous opportunities.⁸

4.10 Dr Spielman suggested that if the outer suburbs 'are sustainable and liveable, the rest of the city is likely to be too'.⁹

4.11 Mr Aaron Chiles, Manager, Urban Futures, for Wyndham City Council, emphasised the 'issue of urban areas and the urban-regional or the urban-rural interface'. He stated that:

Our urban growth areas need to be the connectors of our future cities, connecting the capacities of our central business areas with the capacities and opportunities of our rural and regional areas. We believe Wyndham and other growth areas around the country on the urban-rural interface must be considered as critical to the future prosperity of Australia as we hold some of the keys to being hubs or nodes in a constellation of jobs, transport, education, freight and industrial movement intersecting regional and urban areas.

It is Wyndham's contention that improved investment in infrastructure and growth areas will be beneficial to rural and regional centres by improving the connectivity of these centres to the wider global economy through highly productive and well-connected urban growth areas on the interface of our rural and regional areas.¹⁰

4.12 Mr Chiles argued for a 'new way of looking at the interface between urban, rural and regional areas ... to maximise the development of Australia's cities to best meet the future needs of our urban, rural and regional areas'. He believed that 'contemporary forms of how people live, work and play must be considered in how governments develop our cities. These new realities will not be well served by CBD-centric infrastructure investment alone'.¹¹

⁸ Dr Ruth Spielman, Executive Officer, National Growth Areas Alliance, *Committee Hansard*, 29 August 2017, p. 30.

⁹ Dr Ruth Spielman, Executive Officer, National Growth Areas Alliance, *Committee Hansard*, 29 August 2017, p. 30.

¹⁰ Mr Aaron Chiles, Manager, Urban Futures, Wyndham City Council, *Committee Hansard*, 20 November 2017, pp. 16–17.

¹¹ Mr Aaron Chiles, Manager, Urban Futures, Wyndham City Council, *Committee Hansard*, 20 November 2017, pp. 16–17.

Matching funding to need

- 4.13 Mr Darren Ray, also from Wyndham City Council, highlighted the need to reconsider funding arrangements to reflect this more fluid and dynamic relationship between cities and regions. He stated:

We would strongly agree with you that the current funding and administrative arrangements between what is a region, what is a city, this funding bucket and that funding bucket are actually not serving the sustainable future development interests of Australia. In our written submission we referenced a journal by Collits called *Re-imagining the region*, which you have no doubt had a look at. It talks about how people are willing nowadays to commute to work and how they live, work and play is very different. It will be even more different in five years' time. So, essentially, the funding and administrative arrangements should be about characteristics, not about false geographic regions and not about where the Yarra River disconnects the federal electorates of Melbourne, which of course we know will soon change. That principle may even change under the AEC's redistribution. But we say it is really all about the connections.¹²

- 4.14 Ms Kirsten Kilpatrick, representing the Committee for Geelong, identified a hierarchy of planning that impeded an integrated approach. She stated that 'the current policy framework for cities in the country is very centred towards metropolitan capital cities, and then regional Australia'. She noted that cities such as 'Geelong, Newcastle, Wollongong and even the Sunshine Coast' were often competing for funding with regional areas despite having 'different drivers and different needs'. She indicated that 'by identifying a new structure and hierarchy of cities within the country we can look at channelling those funds to the different types of cities and the roles that they play in the overall economic performance of the country'. That sort of planning would enable cities such as Geelong and other regional cities to contribute to the sustainable development of Melbourne:

When we talk about Geelong and its relationship to Melbourne—of course, Melbourne is growing at unprecedented growth levels; that is, it's third population boom that it refers to at the moment—it's being able to look at how Geelong and other cities in the state in particular can accommodate some of that metropolitan growth, because of all the attributes that we have in our city,

¹² Mr Darren Ray, Council and Government Relationships Lead, Wyndham City Council, *Committee Hansard*, 20 November 2017, p. 20.

but making sure that we have got the right support structures to be able to make that happen.¹³

Integrating planning

- 4.15 Professor Billie Giles-Corti (RMIT) argued that we often focus on the local urban design, but unless we get the regional planning right it's not going to work as well:

The regional planning includes things like how people are going to get to work through destination accessibility—so is there a good public transport system? That's critical for people living on the fringe who are very disadvantaged in terms of their access. What's the location of employment? What policies could we use to have more employment at local regional centres as opposed to all having to come into the city? Finally, there is demand management around parking. If we continue to make parking low cost and very accessible, people will continue to drive.¹⁴

- 4.16 To meet all these challenges, Professor Giles-Corti emphasised the importance of integrated planning:

What we've argued is that, if we're going to achieve all these things, we really need to have integrated planning across all the different sectors. That obviously includes transport policy and it includes land use and urban design policy, but it also includes our policies around employment and economic development, our housing policies, our social infrastructure policies, public open space policies and public safety.¹⁵

Developing the regions

- 4.17 As indicated above, regional development needs to be integrated with the development of cities. SGS Economics and Planning stated that 'in large

¹³ Ms Kirsten Kilpatrick, Board Member and Chairperson, Winning from Second Subcommittee, Committee for Geelong, *Committee Hansard*, 20 November 2017, p. 9.

¹⁴ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 30.

¹⁵ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 30.

part, the future of regional Australia relies on gaining closer ties with the capital cities'. Indeed, SGS argued that 'the creation of better cities is essential if regional Australia is to prosper and reach its full potential'. It noted that:

With the acceleration of outsourcing, the proliferation of global supply chains, continuing improvements in communication technologies and rapid advances in international services trade, specialisation in cities has continued to escalate. Increasingly, the abstract, desk based or 'thinking' part of the value chain in any productive activity (conceptualisation, design, planning, brokerage, strategic management etc) is becoming uncoupled, in a corporate and geographic sense, from the 'making and distribution' part of the chain (growing, fabrication/processing, transport, storage etc). As a consequence, the regions are sourcing more and more of their crucial business inputs from the cities.¹⁶

4.18 SGS observed that this development had 'played a critical role in shoring up the competitiveness of Australia's regions', but had also 'relentlessly eroded the population "carrying capacity" of non-metropolitan Australia as a whole'. SGS identified 'four broad categories of non-metro region in Australia':

- regions which are strongly linked to the nearest metropolis
- regions beyond the convenient reach of the metros but offering strong lifestyle and tourism opportunities (for example, Port Macquarie/Hastings, Hervey Bay)
- agricultural resource based regions, also beyond the convenient reach of the metros, and
- mineral resource regions.

4.19 Those parts of regional Australia exhibiting significant growth were 'typically those which enjoy strong links to capital cities'. Outside of those areas, the drivers of growth were 'support services to local agricultural and resource production' and population growth was most likely in providing services to the local population.¹⁷

Role of regional centres

4.20 The Centre for Urban Research RMIT highlighted the growth rates and growth potential of a number of regional cities. It noted:

¹⁶ SGS Economics and Planning, *Submission 51*, pp. iii–iv.

¹⁷ SGS Economics and Planning, *Submission 51*, pp. iii–iv.

There has also been urban growth in cities outside of the capital cities what Regional Capitals Australia (2014) define as regional capital cities. They are the fifty cities located outside the state metropolitan area providing access to essential infrastructure, services, business, employment and education to city residents and to residents of surrounding towns and rural areas. The rate of growth for these cities is 1.51% pa over the 10-year period, which is a little above the 1.49% pa population growth experienced across Australia as a whole. This indicates that regional capitals have been important in absorbing a significant proportion of population expansion, including overseas migrants (Essential Economics Pty Ltd 2014).¹⁸

4.21 The Regional Australia Institute made similar observations, stating:

The RAI's *Misconceptions* report explicitly shows that the top 31 regional cities are home for over 4.5 million Australians and have similar economic performance to the 5 metropolitan cities. The analysis shows that on average all cities contribute equally (per person) to national economic growth and productivity. In addition, the total regional city population is the same as for our largest cities, who benefit from substantially higher planning effort.¹⁹

4.22 RAI observed that 'the Australian Government has a role in making 'best practice' planning happen for all Australian cities'.²⁰

Sustainable appropriate development

4.23 Professor Marcus Foth (QUT) and Professor Billie Giles-Corti (RMIT) both expressed concerns that regional centres were following planning paradigms that were developed for large cities. Professor Giles-Corti stated:

What's tragic to me is that we're building new development in regional cities—also urban sprawl. We're actually using the same methods. And I think there is a real opportunity, particularly in some places which are reasonably flat, to do that in a different way. I think the same principles will apply, and actually because they're smaller the opportunities are probably even greater to encourage walking and particularly cycling, which is a more affordable form of transport. It would probably be more difficult to provide the public transport in regional cities, depending on the levels of density.²¹

¹⁸ Centre for Urban Research RMIT, *Submission 35*, p. 3.

¹⁹ Regional Australia Institute, *Submission 63*, p. 2.

²⁰ Regional Australia Institute, *Submission 63*, p. 2.

²¹ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence

- 4.24 Professor Foth argued for nuanced planning regimes, noting that current concepts of planning and growth for regional centres were copies of those for metropolitan centres. He stated:

The crucial part around the current growth trajectories in regional centres is that they are often a carbon copy of larger centres, having a very simplistic quantitative assumption of what would need to happen in order to make these regional centres sustainable economically and commercially. What I believe is lacking there is the qualitative aspect that actually allows us to differentiate what to grow and what not to grow, what to increase and what to decrease.²²

- 4.25 He believed it 'urgently necessary for the federal government to set clear signals around moving away from these very blunt instruments of growth'. Professor Foth observed:

If we continue to have this lack of differentiation, it will also increase mobility but not in the way that we would want. There is the mobility, for instance, of start-up businesses that are supported by local governments like Townsville. Jenny Hill, the Mayor of Townsville, on a panel about regional innovation at the first Queensland Futures Summit here at the Hilton said: 'What's the point of growing these businesses and putting all this effort into economic development and regional prosperity when after a certain size they just leave? They just relocate. They have the aspiration of relocating to Brisbane, Melbourne, Sydney or even overseas to Singapore because then Townsville is seen as not being adequate.' She was pointing at a need to identify first of all ways to look at regionality as an asset, as an advantage for those areas, and also at ways that different businesses and different economic development is sustained by being locally specific, not having an aspiration of growing the next Elon Musk and having start-up hype around Silicon Valley that will just be plummeted in those different locations. It needs to be far more locally specific to the different regional areas.²³

- 4.26 Regional centres should be looking at different aspirations:

We are trialling right now new approaches with regard to what might be possible that sets different aspirations. It sets more qualitative aspirations for local government to invest differently. So, rather than saying we are just five

in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 34.

²² Professor Marcus Foth, Professor of Urban Informatics, QUT Design Lab, Queensland University of Technology, *Committee Hansard*, 29 September 2017, p. 23.

²³ Professor Marcus Foth, Professor of Urban Informatics, QUT Design Lab, Queensland University of Technology, *Committee Hansard*, 29 September 2017, p. 23.

years behind Melbourne, Sydney or Brisbane, we could say we are actually going on a new pathway, and that pathway might also be looking at more risky undertakings. It might be looking at, for instance, KPIs around wellbeing and mental health.²⁴

- 4.27 Looking at the commuter belt—regional centres within commutable distance from metropolitan centres—Professor Jago Dodson (RMIT) indicated that ‘there are a number of regional cities close to main metropolitan areas that have the capacity to take on further population’. He noted however, that while ‘it is relatively easy to direct population to regional areas, because you can manipulate the release of land and so on ... It is much harder to get employment to shift there’.²⁵ Having very fast connectivity ‘might overcome the need for jobs’, by making interurban commuting viable, but strategies were also required to deepen and widen the labour market within regional towns. Professor Dodson observed that:

One of the challenges that people who move to regional cities or towns for a tree change find is that, it might be fine for a few years but then when they start to look for a promotion or a higher level as they move up their career trajectory, they often find it difficult to find those new opportunities in the regional town, because the labour market is just simply not as developed and advanced as it is in the centre of somewhere like Melbourne or the centre of Sydney with a very advanced economy and many high paid, high value jobs. Regional towns just do not offer that depth. An economic strategy around encouraging greater population growth or decanting or decentralising population to those regional towns would have to be very thoughtful about the ways that it can enable and grow the local labour markets, particularly for the higher-value jobs.²⁶

The hub-and-spoke model

- 4.28 Ms Rachael Sweeney, representing Regional Capitals Australia, highlighted the importance of the hub-and-spoke model of regional development. Research done in conjunction with the RAI had shown that ‘where a

²⁴ Professor Marcus Foth, Professor of Urban Informatics, QUT Design Lab, Queensland University of Technology, *Committee Hansard*, 29 September 2017, p. 24.

²⁵ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 12.

²⁶ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 13.

regional city was doing quite well, say, in access to health and education, the hubs associated with that were also doing marginally better':

There was a trend being shown. Where a city had excellent access to certain things—a port or airport, health, tertiary education or financial services—the hubs also did quite well. When a city was doing quite badly or not performing as well across those metrics you could see that the regional spokes associated with that city were not doing as well either.²⁷

- 4.29 Ms Sweeney cited the example of Wagga Wagga 'as almost a perfect model of a hub and spoke':

Wagga is the centre, as you can see, and there is that flower-like model from Lockhart, Coolamon and Junee. You are, basically, looking at people commuting in. The thicker the line, the more people are coming in to access employment in Wagga. So they might be living in Coolamon, Junee or Lockhart, but they're actually moving into the city of Wagga to get access to their daily employment.²⁸

- 4.30 Mrs Justine Linley, Chief Executive Officer of the City of Ballarat, observed a similar pattern around Ballarat, stating that Ballarat's situation was 'about the relationship with our broader region almost in a shuttlecock shape', with 'the ball and the hub and spoke are around central Ballarat with people within a 30- to 40-minute radius around Ballarat but then further out a couple hours towards Horsham and to the South Australian border'.²⁹ Mr Gary van Driel, Chief Operating Officer at Latrobe City Council, stated that 'in relation to the role of regional cities, in a hub-and-spoke model, we're providing services and support not just to the population within the centre but to very large regional circumferences around those roles'.³⁰

- 4.31 Mr Bruce Anson, Chair of Regional Development Australia's Barwon South West committee, argued that regional development was not just about growing centres of population; it was also about 'ensuring that the rural

²⁷ Ms Rachael Sweeney, Secretariat, Regional Capitals Australia, *Committee Hansard*, 21 November 2017, p. 3.

²⁸ Ms Rachael Sweeney, Secretariat, Regional Capitals Australia, *Committee Hansard*, 21 November 2017, p. 3.

²⁹ Mrs Justine Linley, Chief Executive Officer, City of Ballarat, *Committee Hansard*, 21 November 2017, p. 8.

³⁰ Mr Gary van Driel, Chief Operating Officer, Latrobe City Council, *Committee Hansard*, 21 November 2017, p. 1.

areas have access to services' through the 'hub-and-spoke model'. He stated that:

... by having strong regional cities, you actually end up having access to those services in the region. I know surgeons from the Warrnambool hospital operate in Portland, operate in Hamilton, so they travel out and do the surgery. It's good for the patients, good for the hospital and good for the community. I think we need to set population targets, analyse the job opportunities and what our strengths are—for Warrnambool, for south-west Victoria, it's food manufacturing and energy—and then what are the jobs that go with that.³¹

- 4.32 Mr Anson saw the value of population targets as a way of reconfiguring the pattern of settlement and more closely integrating urban and regional development:

I think most certainly, and if we could get the federal regional development department and the state department and have some meaningful discussions around population targets. I see absolutely no reason why we shouldn't be saying: Geelong should be 750,000 people by 2050 or 2060. We're looking at what our potential target could be—and all regional cities are doing this—and we hope that by April to May of next year we will have a position paper that sets out what our population targets are, where we see the job growth opportunities but also what needs to be delivered by federal and state government to facilitate that growth. If we aim to take a million people away from the growth of Melbourne, I think that's a reasonable target. It may be too low, but it's a reasonable target. The thought of Melbourne at eight million—from Warrnambool to the top of the bridge in about 2½ hours—and then you just don't know what happens after that.³²

Investment in regional communities

- 4.33 Investment in the regions is vital to their development, and the evidence presented to the Committee highlights the important role of government in catalysing investment. The Regional Australia Institute (RAI) argued that 'the Australian Government can play a stronger role in facilitating and delivering private investment in regions'. The RAI observed, however, that 'while the Australian government has agreed on principles for innovative

³¹ Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia, *Committee Hansard*, 20 November 2017, pp. 30–1.

³² Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia, *Committee Hansard*, 20 November 2017, pp. 30–1.

financing, including Goal 3 “Optimise the impact of public investment in transport infrastructure through private sector partnerships” ... Current outcomes are scarce on how this works for regional cities’. The RAI stated that ‘for example Townsville’s City Deal has delivered cross governmental collaboration (local, state and federal) but has failed to fully engage private investors as part of the decision making team, unlike UK City Deals which were often led by private investment consortiums’.³³

- 4.34 In its own research, the RAI ‘explicitly identifies the need to engage private businesses and other non-government players (including universities etc.) in developing regional cities’. It’s report, *Blueprint for Investing in City Deals: Are You Ready to Deal?*, ‘lays out key lessons for success from UK experiences of private investment and identifies that for economic growth, cities need to deliver strong political will and leadership, clarify structures for delivery and have capacity for delivery’. It indicated that ‘these three attributes relate to the success of delivering long term regional city growth and regional infrastructure’.³⁴
- 4.35 The RAI also noted that ‘the Australian Government via Austrade has a role in promoting the nation as a destination for international investment’. Additionally, ‘other mechanisms such as the Significant Investment Visa (SIV) allow overseas investors direct access to investment opportunities’. It observed, however, that in practice ‘our investment attraction system is poorly aligned to supporting investment and business location in regional communities’.
- 4.36 The RAI stated that:
- The Australian Government has a role in enhancing the competitive advantages of Australia as a whole, by providing the connectivity, livability, economic and social infrastructure to ensure that as a nation we maintain the competitive advantage of being a preferred investment location (i.e. low sovereign risk). This can be achieved by lowering transaction costs for regions and investors by reducing knowledge asymmetry between regions and investors. Potential initiatives to achieve this smart policy could include; increasing the transparency of current investment opportunities and investors, providing clear and accountability data on competitive advantage of regions,

³³ Regional Australia Institute, *Submission 63*, p. 2.

³⁴ Regional Australia Institute, *Submission 63*, p. 3.

promote the importance of connections between regions and investment portals (e.g. Austrade and state representatives).³⁵

- 4.37 Professor Sue Holliday argued that ‘there is a lot of dynamism in the regions’, and that ‘there are really viable inland and coastal cities that just need some strong commitment in order for them to thrive even more’. But if people were to be encouraged to go to the regions, ‘they’ll want to know not only whether the government is committed to those regional centres but whether the government is understanding what is necessary to make living there worthwhile’:

They will look to the regions for a different lifestyle. When they do, they’ll want to know not only whether the government is committed to those regional centres but whether the government is understanding what is necessary to make living there worthwhile. And that is not just the NBN, although that’s absolutely critical for employment and growing small businesses and larger businesses; they need health facilities and education facilities. They won’t leave the big cities unless they know that they’ve got those kinds of facilities in the regions.³⁶

- 4.38 Professor Holliday stated that:

It is mainly a Commonwealth responsibility to support those particular facilities, so I would argue that it is a Commonwealth role to help establish a vision for the future growth of our cities and regions in a collaborative way, but it’s also a Commonwealth role to support those regional centres that we think have the natural dynamism with health and education facilities.³⁷

- 4.39 She argued that ‘there needs to be a very clear signal by government, state and Commonwealth, that the regions are back on the agenda’, and stated that ‘the best way to get private sector investment anywhere is for the government to give a very clear signal that they’re on the case; that that’s something that matters to them’:

If we want the private sector to invest in the regions, we have to send a signal. One of the signals that we can send is that the regions don’t have to compete ... on a cost benefit analysis with the cities. They’ve got to be able to compete with each other. So a different kind of cost benefit evaluation is necessary because, as long as they have to compete with the cities—as was raised earlier,

³⁵ Regional Australia Institute, *Submission 63*, p. 3.

³⁶ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, pp. 20–1.

³⁷ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, pp. 20–1.

there are many more people in the cities—the cost benefit economic evaluation—and my background is in economics—is bound to come down in favour of the cities, and the regions once again get left behind.³⁸

- 4.40 Professor Holliday concluded by stating that ‘I think we need to (a) have a vision, (b) have a settlement strategy, and (c) know where we want to invest, and then set about supporting those regions with the infrastructure that they need to succeed’.³⁹
- 4.41 Mr Gary van Driel, Chief Operating Officer for Latrobe City Council, highlighted the importance of government as an investment leader in regional areas, stating that ‘for private investors here, the returns are often marginal in the regional centres, and so it’s about the opportunity for government to enhance the opportunity for that return on investment’.⁴⁰
- 4.42 Dr Ruth Spielman, Executive Officer, of the National Growth Areas Alliance, emphasised the importance of catalytic infrastructure to regional development:

There are obviously some university campuses, hospitals, health precincts and so forth, but I agree that those pieces of catalytic infrastructure can make a huge difference, and the value-add of other allied uses locating nearby, the attractiveness to businesses, the research that can go along with that and the jobs and services that can be provided—they are really multifaceted. That is what I was meaning earlier when I was saying that when there is spending on those pieces of infrastructure, whether it be a university or a health precinct or whatever it might be, there needs to be a more strategic approach to where those things are going to make the most difference.⁴¹

The role of universities

- 4.43 The role of universities in the development of regional communities was highlighted in the evidence presented to the Committee. The Regional Universities Network (RUN) observed that:

³⁸ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, pp. 20–1.

³⁹ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, pp. 20–1.

⁴⁰ Mr Gary van Driel, Chief Operating Officer, Latrobe City Council, *Committee Hansard*, 21 November 2017, p. 8.

⁴¹ Dr Ruth Spielman, Executive Officer, National Growth Areas Alliance, *Committee Hansard*, 29 August 2017, p. 32.

Regional universities are one of the largest, most visible assets in their regions. They make a fundamental contribution to Australia through their teaching and learning activities; research and innovation; and regional development and service functions. Regional universities help to educate their communities' future professional workforce and enhance the social and cultural amenity of their regions through the contributions of their students, staff and facilities.⁴²

- 4.44 RUN noted that 'healthy, vibrant regional universities help to make healthy, vibrant regional cities and communities'. It argued that 'support for regional universities will help to promote regional development, attract private investment, new businesses, inward migration and a more diverse and resilient regional economy'. It also observed that 'achieving more balanced growth will help to alleviate some of the pressure on our capital cities and their associated infrastructure'.⁴³ RUN stated that regional universities 'play an important role in helping to address the significant gap in educational attainment that exists between Australia's major cities and its regions'.⁴⁴ They also 'diversify and strengthen their regional economies':

They are a great "value add" industry and encourage the development and economic growth outside capital cities. A report by Cadence Economics for Universities Australia has estimated that for every 1,000 university graduates entering the workforce 120 new jobs are created for people without a university degree. Regional universities therefore boost regional employment more broadly than just through their graduates.⁴⁵

- 4.45 RUN urged government 'to support regional research which will produce start-up companies, new technologies and new processes to improve productivity'. It argued that 'it is only when a university is seen to be at the forefront of development, commonly in niche areas, that the best people are attracted to the regions'. RUN noted that 'currently, investment is focussed on large, well established capital city universities' and stated that 'unless we see a policy shift this will continue, and skilled people will be lost from or will not be attracted to regional universities and regional cities'.⁴⁶

⁴² Regional Universities Network, *Submission 11*, p. 1.

⁴³ Regional Universities Network, *Submission 11*, p. 1.

⁴⁴ Regional Universities Network, *Submission 11*, p. 2.

⁴⁵ Regional Universities Network, *Submission 11*, pp. 2–3.

⁴⁶ Regional Universities Network, *Submission 11*, p. 3.

- 4.46 Professor Caroline McMillen, Vice Chancellor and President of the University of Newcastle, highlighted the important role the University of Newcastle played in its region:

We earn about \$100 million in research income, which places us in the top 10 Australian universities, as I said, and \$30 million to \$35 million of that is in partnership with industries. Many of those are local businesses brought into partnerships with larger industry partners, sometimes global. That is a very straightforward way of moving forwards, but we have also driven the innovation agenda. We have been supported by the state government in particular to set up an innovation network called the I2N. Our reach is through innovation hubs from the Central Coast in the city centre, with Lake Macquarie and partners in Charlestown, a defence, security and aerospace hub at Williamstown together with industry partners, and then up again to Muswellbrook in the Upper Hunter. Those innovation hubs are places with young entrepreneurial co-workers starting out, where we run programs on innovation and entrepreneurship, evening sessions with red wine and cheese, bringing in entrepreneurs to showcase the journey for our students, staff and members of the community. Williamstown, as we can see with the Joint Strike Fighter, is a critical site which will become a hub of industry, innovation and partnership with both the RAAF and defence industries.

We are both initiators and collaborators. Engagement and partnerships are very key. Underpinning all of this is the power of retaining graduates in the region, because building sustainable regional cities and towns that retain both population and talent requires a university to not only open up with its partners those jobs and future workforce opportunities but support the emerging talent in a liveable environment. We work with the city council, again as partners, on the sorts of changes you see here in transport. The revitalisation of the city is key.⁴⁷

- 4.47 She also cited international research which highlighted the important role universities played as catalysts for renewal within former industrial communities. She stated:

... the lessons for us were profound: one of the common elements was that strong universities were present in these regions. They had particular differentiated strengths and operated as very strong anchors for innovation. There had to be visionary civic leadership, some government support for basic research, research facilities with deep specialist knowledge, traditional manufacturing skills—people who knew how to make stuff, which of course

⁴⁷ Professor Caroline McMillen, Vice-Chancellor and President, University of Newcastle, *Committee Hansard*, 2 March 2018, p. 2.

was present in the rustbelts, but now being purposed to new industry sectors—an appealing work and living environment, vibrant centres and cities, and capital investment.⁴⁸

4.48 Ms Patricia Brand, Deputy Vice Chancellor, Services and Resources, at James Cook University (JCU), highlighted the role of JCU in North Queensland:

Since our establishment in 1970 we have expanded into a multi-campus institution, with our main campuses in the tropical cities of Cairns, Singapore and Townsville, and with smaller study centres in Mount Isa, Thursday Island and Mackay. We also have a campus in Brisbane operated by the Russo Higher Education group. We also recognise our special obligation to be relevant to our own region and have forged close linkages into the economy and social fabric of Northern Queensland. We are dedicated to ensuring that our teaching, learning and research is not only of high quality but also delivers practical benefits to the peoples and industries of the region.

We've recently released our economic impact report, updated from 2012, and I'd like to share some of the key statistics with you. Our economic impact is \$827 million per annum. That's a 40 per cent growth in regional economic impact since 2012. The human capital impact of our 2016 cohort of graduates equates to \$1.75 billion. We created 5,450 full-time jobs both directly and indirectly. We're a half-billion-dollar operation with an asset base of over \$1.3 billion. The contribution to household income is \$513 million. An additional \$67 million was generated in expenditure in 2016 from students moving to North Queensland to study at JCU. We have a planned capital investment program over the next 20 years in the order of \$1.9 billion.⁴⁹

4.49 Ms Brand emphasised the significance of the university to the region, and the hurdles it faced in pursuing its role:

What we wanted to present to you was the economic impact of JCU here in the north, which is significant. What we are trying to do here through the redevelopment of our Townsville campus is beneficial to not only JCU but its broader reach and impact on Townsville and the north more broadly. If JCU grows so does the north. We have developers knocking on our door, wanting to participate in these things, so we are not here looking for handouts of money or anything like that, because we are wanting to be self-sustaining on that front and working with third parties to deliver this. Where it gets really

⁴⁸ Professor Caroline McMillen, Vice-Chancellor and President, University of Newcastle, *Committee Hansard*, 2 March 2018, p. 1.

⁴⁹ Ms Patricia Brand, Deputy Vice Chancellor, Services and Resources, James Cook University, *Committee Hansard*, 2 May 2018, p. 1.

difficult, and this is where we need the three levels of government working together and why we thought City Deals was going to be a part of that solution, is that some of the things that we have had in place, policy settings and whatnot, can be quite restricted and can sink some of these projects, like the distributed infrastructure facility that Alan [Mr Alan Carpenter, Director, Discovery Rise Project, JCU] spoke about.⁵⁰

- 4.50 Dr Scott Snyder, Chief Operating Officer at the University of the Sunshine Coast, also highlighted the potential struggles faced by regional universities, both in pursuing institutional goals and strategic growth, and in developing their communities. He told the Committee:

Around three years ago we were successful in a tender to build a new campus in Moreton Bay. Moreton Bay is just north of Brisbane. It has very poor educational statistics. Just for reference, 53 per cent of young adults in Brisbane have a degree. Twenty-four per cent in the best part of Moreton Bay have a degree. So if you drive 15 kays you have a 30 percentage-point drop in the number of people with a degree. That's, in part, due to the difficulties of transport but certainly something that the Moreton Bay council actively aim to address.

Moreton Bay council purchased a paper mill, a 200-hectare site, and went to market to find an education partner. We were selected. The interesting thing for us is that this was the start of a journey ... The aim of the campus is to reach 10,000 students in 10 years. Moreton Bay's local government area is about 420,000 or 450,000 people. So if you put Moreton Bay and Sunshine Coast together you have a catchment that is large enough to sustain an institution like us.

The development doesn't neatly fit into any single portfolio. It's in Dickson so the local member is Mr Dutton. It is right on the border of Longman and Petrie, so those members were also active. We needed to find a way to fund this particular development. The development sits somewhere between federal Treasury, the department of infrastructure, the department of education and the local member's remit. It also requires input from Queensland Treasury, Queensland Treasury Corporation and Moreton Bay Regional Council. We have spent three years now getting to the point where we'll start construction in July.

The interesting thing is that right from the beginning all parties were in favour of doing this. The educational statistics are very obvious. The local

⁵⁰ Ms Patricia Brand, Deputy Vice Chancellor, Services and Resources, James Cook University, *Committee Hansard*, 2 May 2018, p. 2.

government area really can't develop, make the move, from a very blue-collar to a more middle-class white-collar area without a university. It's what the ratepayers want. But the mechanism to be able to have some funding and have some students is not clear: who owns it? In the end, after bouncing around for about a year and a half, the department of infrastructure—I guess under Minister Fletcher's push—embraced our project and, even though we don't neatly fit into a department of infrastructure package, helped us work through the administration.⁵¹

4.51 Dr Snyder stated:

University is still key to the community—in fact, the local campus is more key than it's ever been, because the students mix life and study. They want a local campus within half an hour's travel that they can attend from time to time. They don't really want to learn online—that's for skills upgrade. But the interesting thing for us is that when you go through the data in some detail, it's actually a compelling case.⁵²

Decentralisation/Regionalisation

4.52 Another form of government investment in regional centres is the decentralisation of departments and services. Decentralisation can also be a mechanism for fostering redistribution of employment opportunities from the central urban area to the suburbs.

4.53 Associate Professor Matthew Burke, from the Cities Research institute at Griffith University, was part of the Transport Impacts of Employment Decentralisation in Australian Cities (TIEDAC) project, which explored 'the transport impacts of workers moved from central locations to suburban offices in Brisbane, and modelling possible transport outcomes should such programs be accelerated'.⁵³ Professor Burke noted that 'we see lots of advantages for decentralisation in terms of diversifying the employment base in those outer suburban regions and reducing travel times for people'. However, there was also 'destruction of mode share by public transport and walking, particularly if we don't build better interconnected, proper public

⁵¹ Dr Scott Snyder, Chief Operating Officer, University of the Sunshine Coast, *Committee Hansard*, 3 May 2018, p. 11.

⁵² Dr Scott Snyder, Chief Operating Officer, University of the Sunshine Coast, *Committee Hansard*, 3 May 2018, p. 13.

⁵³ Associate Professor Matthew Burke, *Submission 98*, p. 1.

transport systems in the suburbs, which most of our metropolitan strategies now recommend'.⁵⁴

- 4.54 Professor Burke stated that TIEDAC 'modelled possible decentralisation scenarios where more government workers were moved to look at what the longer term gains and dis-benefits might be':

Under a more optimistic decentralisation model that included significant investment in cross-suburban public transport in a future Brisbane, we found significant travel time reductions across the city, and no meaningful loss of public transport mode share. Cycling rose as more people lived closer to knowledge jobs. Under a more pessimistic model that included all of South East Queensland, with less cross-suburban public transport, travel times stayed steady or fell but more people drove to work. In both models congestion fell in the inner-city, where it is most problematic. Congestion rose in the suburbs though mostly on links that were contra-flow to peak hour traffic directions, maximising use of existing infrastructure. We also tested for alternative spatial arrangements. We found that moving jobs to a set of nodes across the city in different sub-regions was more advantageous in transport terms than placing jobs into one corridor.⁵⁵

- 4.55 The results suggested that:

... significant improvements can be made to our urban structures via employment decentralisation. Developing stronger suburban employment centres and secondary CBDs can help reduce congestion where it is hurting and bring socio-spatial equity back into our cities. But investment in ancillary infrastructure and services, such as relatively modest improvements to cross-suburban bus services, along the lines of Melbourne's SmartBus routes, is needed to support such initiatives.⁵⁶

- 4.56 Professor Burke identified several models of decentralisation that were regarded as successful. In Copenhagen, 'they had their famous five finger plan where they controlled development in the city around five railway lines and they were very clear in trying to create secondary central business districts. In fact, they're still being created.' In Stockholm, 'there was movement of government jobs, but to strategic locations only clustered at the apex of public transport lines'. These cities had achieved in the process

⁵⁴ Associate Professor Matthew Burke, Principal Research fellow, Cities Research institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 3.

⁵⁵ Associate Professor Matthew Burke, *Submission 98*, pp. 5–6.

⁵⁶ Associate Professor Matthew Burke, *Submission 98*, p. 6.

more efficient use of their public transport infrastructure. Professor Burke noted that ‘in Singapore, Stockholm and Copenhagen a lot of the lines are running 55 or 60 per cent of the passengers inbound and 45 or 40 per cent outbound, so the flows are very stable. The same happens on their road networks.’ He observed that the Swedish model ‘is a set of incentives’:

... it is working on land decisions — priority land planning; it is moving government workers to prime the pump; it is thinking about teaching hospitals and other things like that; it’s working with clusters, not just a scattergun approach, and trying to get groups of things that kind of fit together to move together; and it’s working with private sector employers who will choose to move.⁵⁷

- 4.57 Professor Burke noted that amongst Australian cities ‘we have one secondary CBD in Australia, I think, and that’s Parramatta, and that happened because of pump priming by government’. He explained:

So, yes, government departments were moved, but they were allowed to come back over time. For every job we moved, about four jobs went there. It was also about putting a teaching hospital in, which I think needs to be recognised, and also reasonable public transport infrastructure, including upgrades to the lines that feed in from the west and upgrades on the line from Parramatta, and there were some ferries and other things over time. All of that sums up and has helped Parramatta become something pretty valuable in Western Sydney. Without it, three million people would not have access to something like a cluster of office jobs that pay quite well.⁵⁸

- 4.58 Professor Paul Burton, Director of the Cities Research Institute at Griffith University, observed that ‘most urban scholars looking at Australia would suggest that we are underprovided for meaningful subregional centres within cities’. He focused on the example of the Gold Coast, suggesting that ‘cities like the Gold Coast need to diversify their employment base’; and that ‘the fact that there are basically no federal or state government jobs in a city like the Gold Coast is one part of the reason for its lack of a diversified employment base’, with a heavy reliance on tourism and construction.⁵⁹

⁵⁷ Associate Professor Matthew Burke, Principal Research fellow, Cities Research institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 8.

⁵⁸ Associate Professor Matthew Burke, Principal Research fellow, Cities Research institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 8.

⁵⁹ Professor Paul Burton, Director, Cities Research Institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 9.

Professor Burton thought decentralising services ‘to make them more accessible is a good thing’, but regarded ‘decentralising government functions as part of a regional development strategy is a bit more problematic, because often it doesn’t seem to be based on any particular rigorous assessment of the places that are being proposed’. He remained to be convinced ‘that Armidale came out as the most obvious place in the country to locate’ the APVMA, or ‘that somebody looked at the whole country and said, “If we’re going to move this out of Canberra, where is the best place to put it?” and the answer to that exercise was “Armidale”’.⁶⁰

- 4.59 Geelong was seen as an example of successful decentralisation. Mr Bruce Anson, Chair of Regional Development Australia’s Barwon South West committee, noted the contribution of targeted decentralisation of government services to Geelong’s growth and development. He told the Committee:

If we look at the success that Geelong is having at the moment, the move of the TAC, NDIA and a number of others is fundamentally changing the city of Geelong. It starts with the investment of government enterprises and then that is followed up by the private sector with specialists. In Geelong’s case, a lot of it is coming out of the legal fraternity so now, following government investment, the private sector is following up.⁶¹

- 4.60 Mr Timothy Hellsten, from the City of Greater Geelong, suggested that Geelong’s success highlighted ‘the significant value and role of the Australian government in supporting decentralisation of government services, particularly those that are targeted to competitive strengths so like services rather than necessarily a random selection of services’.⁶² He noted that ‘Geelong has sustained a growth rate of around 2.4 to 2.6 per cent’, and that ‘we anticipate that well over two per cent and closer to 2½ per cent is likely to be maintained into the next several decades’. Such rapid growth presented ‘some pretty significant challenges to the city and it is a series of challenges that we cannot manage on our own’, and that there was ‘a significant opportunity for all levels of government to support that

⁶⁰ Professor Paul Burton, Director, Cities Research Institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 10.

⁶¹ Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia, *Committee Hansard*, 20 November 2017, p. 27.

⁶² Mr Timothy Hellsten, Manager, Planning strategy and Urban Growth, City of Greater Geelong, *Committee Hansard*, 20 November 2017, p. 2.

growth'.⁶³ Mrs Rebecca Casson, Chief Executive Officer of the Committee for Geelong, observed that decentralisation was not just about local, regional or national opportunities, but international opportunities:

There is an opportunity for Geelong to lead the world on social insurance in this space. None of these cities that we visited had any of this type of social insurance activity. We say to you that we are ready, on a global scale, to actually activate the clever and creative vision.⁶⁴

4.61 She stated that 'for us, decentralisation is one aspect that the government can help with. But it's then about how do we leverage that opportunity, which is why Comcare is so important.'⁶⁵ The Committee for Geelong saw the relocation of Comcare to the region as a further development of its existing specialisation in the social insurance and disability sector.⁶⁶

4.62 Mr Todd Denham, a Researcher/Consultant with the UN Global Compact Cities Program, suggested that it was important that 'regional cities are actually about developing clusters and agglomerations of activity'. He noted that:

There's some really interesting work to be done in Geelong about the impact of having three similar organisations co-located in the centre of Geelong and how that is more important than, say, a single relocation. If there are going to be programs for the relocation of government services there need to be multiple ones. There needs to be a coordinated, almost 'picking winners' strategy rather than just dispersing agencies across the country.⁶⁷

4.63 Mr Ben Bowring, Advocacy Projects Manager for LeadWest, advocated the importance of tiering decentralisation, of achieving a level of spatial coordination. He stated:

Our written submission talked about the network based nature of a place like Sunshine, which has been identified as a national employment cluster, being

⁶³ Mr Timothy Hellsten, Manager, Planning strategy and Urban Growth, City of Greater Geelong, *Committee Hansard*, 20 November 2017, p. 2.

⁶⁴ Mrs Rebecca Casson, Chief Executive Officer, Committee for Geelong, *Committee Hansard*, 20 November 2017, p. 9.

⁶⁵ Mrs Rebecca Casson, Chief Executive Officer, Committee for Geelong, *Committee Hansard*, 20 November 2017, p. 9.

⁶⁶ Committee for Geelong, *Submission 58*, p. 5.

⁶⁷ Mr Todd Denham, Researcher/Consultant, UN Global Compact Cities Program, *Committee Hansard*, 20 November 2017, p. 40.

of importance in and of itself to Geelong or to Wyndham as a place further out in our region, or even to Horsham or Ballarat or Bendigo, to some certain extent. It is looking at how you can layer out that decentralisation so that, if something is decentralised to Horsham because it has a specialisation in some area—agriculture or science—the government department or the industries that it then connects into are then layered out to the outer edge of the metropolitan area as much as possible. I think at the moment there is a view that, if something goes to a regional area, that service will necessarily have to orbit in and out of the CBD of the city it came from.⁶⁸

Other mechanisms for supporting regional development

- 4.64 Other avenues for achieving regional growth were also explored. Mr Anson saw other opportunities for government to contribute to his region, in Victoria's south west, 'through an opportunity or encouragement' to attract 'permanent workers into our region'. Referring to the local abattoir, he stated:

I think there are 1,100 to 1,400 people on site in Warrnambool, so it is a sizeable business. Our challenge is to get workers into Warrnambool who will work in that industry. The majority are 417s. There are a few 457s. One of the things we are pondering is whether it would be possible for people to move from a 417 to a 457 and to permanent citizenship over a period of three to five years. These people have been working in our community. They are a fabulous addition to our community. If they came as a 417 and transitioned through to a 457 and met their English requirements, could they go for permanent citizenship? We would love them ...⁶⁹

- 4.65 Mr Anson also urged government investment in enabling infrastructure, noting that 'our country was settled by equity of access to service particularly power, water and sewerage'. He indicated that 'a number of industry proposals in south-west Victoria, principally related to the dairy industry—milk powders, milk processing et cetera—need upgrades to sewage treatment facilities, primarily, and in some cases power', and that currently 'companies have to pay for that infrastructure and that is preventing the companies from making those investments'.⁷⁰ He suggested

⁶⁸ Mr Ben Bowring, Advocacy Projects Manager, LeadWest, *Committee Hansard*, 20 November 2018, p. 25.

⁶⁹ Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia, *Committee Hansard*, 20 November 2017, p. 29.

⁷⁰ Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia, *Committee Hansard*, 20 November 2017, p. 29.

that this investment ‘could actually be enabled by local communities’, but that, ‘at the moment, in some cases, state government policy is preventing or making it more difficult for enabling infrastructure to be provided’.⁷¹ He highlighted controls on local government action, such as rate-capping, as an inhibitor of local investment, noting that ‘in one of the examples that I’ve looked at 100 jobs created in our region would cost me \$20 a year for 10 years’.⁷² He observed that ‘we all benefited in the earlier years from provision of water, sewer and power through government agencies’.⁷³ Mr Greg Bursill, Chair of the Geelong Region Committee at the Urban Development Institute of Australia, noted that

The rate base is only so much, but, with state and Commonwealth taxing powers being so much bigger, even small amounts of money coming into these areas could catalyse some of the projects that are probably well known in the local community, but they’re just not sure how to fund it.⁷⁴

- 4.66 Mrs Kylie Warne, Chair of the Barwon Regional Partnership, argued that ‘if we can get that infrastructure base right we are very confident that we will continue to attract national and global private investment’.⁷⁵ She advocated a ‘triple-helix approach, so, looking at partnerships between the private sector and government, but also research institutions’.⁷⁶ She supported place-based solutions, ‘because each region can really carve out what makes it unique’.⁷⁷
- 4.67 Cr Colin Murray, Deputy Chair of Regional Capitals Australia, argued for ‘some massaging of [the] direction of government to try and encourage the population to shift out into the regional capitals’, noting that as we ‘have

⁷¹ Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia, *Committee Hansard*, 20 November 2017, p. 27.

⁷² Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia, *Committee Hansard*, 20 November 2017, p. 33.

⁷³ Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia, *Committee Hansard*, 20 November 2017, p. 29.

⁷⁴ Mr Greg Bursill, Chair, Geelong Region Committee, Urban Development Institute of Australia, *Committee Hansard*, 20 November 2017, p. 31.

⁷⁵ Mrs Kylie Warne, Chair, Barwon Regional Partnership, *Committee Hansard*, 20 November 2017, p. 34.

⁷⁶ Mrs Kylie Warne, Chair, Barwon Regional Partnership, *Committee Hansard*, 20 November 2017, p. 33.

⁷⁷ Mrs Kylie Warne, Chair, Barwon Regional Partnership, *Committee Hansard*, 20 November 2017, p. 31.

encouraged growth in the capital cities, we are getting what we see as an imbalance in the government spend towards the problems of congestion and trying to make big cities work'.⁷⁸

Competitive advantage

- 4.68 There were mixed views in the evidence presented to the Committee on the competitive advantages of regional cities and towns. The competitive advantages of regional areas, particularly in terms of housing costs and lifestyle, can promote decentralisation and regional development. Enhancing connectivity accessibility while retaining regional identity is also critical to that outcome. The Regional Australia Institute highlighted lifestyle as the key advantage of regional communities in attracting population:

No one argues with the mental and productivity benefits associated with less congestion, cultural creativity, greater access to green space; in essence a better lifestyle. Regional cities are currently better positioned to deliver on this through more affordable housing and shorter commuting times. Policy can help to generate better returns from this advantage by supporting cultural diversity and small city planning.⁷⁹

- 4.69 Mrs Justine Linley, Chief Executive Officer of the City of Ballarat, observed that Ballarat was 'able to attract and retain people from all age cohorts into the city, which means the services profile that we're required to provide isn't just for our own population of 105,000 people; it's actually for the broader region of upwards of 400,000 people'. She noted:

At our last census the demographic profile for Ballarat was similar if not identical in shape to a metropolitan Melbourne suburban area, and it's the first time that that's ever occurred. For us that means that we've matured as a city. Bendigo's the same. Geelong is the same.⁸⁰

- 4.70 Professor Marcus Foth, from QUT, argued that it was important to differentiate regional cities from their metropolitan counterparts and not just treat the regions as undeveloped cities. He was concerned that under a strategy of decentralisation 'the risk is that we encourage regional centres

⁷⁸ Cr Colin Murray, Deputy Chair, Regional Capitals Australia, *Committee Hansard*, 21 November 2017, p. 6.

⁷⁹ Regional Australia Institute, *Submission 63*, Attachment 1, *Lighting Up our Great Small Cities: Challenging Misconceptions*, p. 19.

⁸⁰ Mrs Justine Linley, Chief Executive Officer, City of Ballarat, *Committee Hansard*, 21 November 2017, p. 8.

and regional areas to just leapfrog into the urban crisis that a lot of the urban centres face today:

We might then look at cities here in Queensland like Cairns, Mackay, Townsville, Toowoomba and so forth that are saying, 'We need to accelerate our development in order to catch up with Sydney, Melbourne, Brisbane—in fact, with Singapore, Tokyo and Los Angeles.' But if you ask any citizen in Brisbane or in those regional centres—and particularly those in regional areas—whether they would want to live in Los Angeles, they would probably say no, because they live in a regional area for a reason.⁸¹

- 4.71 Decentralisation needed to be about differentiation, 'turning regional Australia around, not as a disadvantage but as an asset, as an advantage, where we actually say regional cities provide lifestyle opportunities and they provide far better abilities to enact policies because they are smaller and they are more agile'.⁸²
- 4.72 Mr John Wynne, National Director of Planning at Urbis Pty Ltd, however, cautioned that 'we have to think about regional centres as like any other place, they have to be balanced communities'. They could not be 'dominated by one particular demographic or characteristic to be truly successful'. He argued that 'lifestyle will get you so far but, at the end of the day, you need the things that make life worth living, and that's what we need to plan for in all places'. He stated that the biggest barrier to people choosing to live in regional cities was 'access to jobs, access to infrastructure, access to amenity and access to connections and social networks'.⁸³
- 4.73 Professor Paul Burton argued that 'before promoting the competitive advantages of particular places, it is important to understand what they are and how attractive they might be to different groups'. He observed that 'the declining population in many regional towns suggests that those with choice are choosing to live elsewhere in order to have better access to jobs, schools, medical and care facilities and cultural services'. He stated that 'simply

⁸¹ Professor Marcus Foth, Professor of Urban Informatics, QUT Design Lab, Queensland University of Technology, *Committee Hansard*, 29 September 2017, p. 19.

⁸² Professor Marcus Foth, Professor of Urban Informatics, QUT Design Lab, Queensland University of Technology, *Committee Hansard*, 29 September 2017, p. 19.

⁸³ Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, pp. 38–9.

invoking a mythical Australian attachment to the bush will not overcome the empirical reality of rural depopulation'.⁸⁴

4.74 Professor Holiday emphasised that high-speed rail would make a huge difference to the competitive advantage of regional centres. People would continue to live in Sydney, 'but there will also be people who say, "I don't like this and I'm very happy to move somewhere else where I can have a better quality of life"'.⁸⁵

4.75 Mr Todd Denham, a Researcher/Consultant with the UN Global Compact Cities Program, argued that without sustainable economic and social development shifting commuters to dormitory suburbs out in the regions was likely to be counterproductive. He stated:

The core point of my research is looking at the growth in commuters, and one of the interesting bits of evidence from recent censuses is that people who are moving to places like the Surf Coast and Castlemaine are generally inner-city workers who are highly educated and very well paid. There is a group of people living in places like Geelong with high levels of human capital who, after five years, are completely sick of travelling every day and can't find a local job. I interviewed a range of commuters and there's a feeling that they're stuck. They've made a decision to leave for the country and they can't get back into metropolitan areas because of the house price differential, and also their families have become embedded in local communities and don't want to move, but there are no jobs.⁸⁶

National connectivity

4.76 The key to integrating the development of cities and regions is greater connectivity. Mr Jonathan Cartledge, Head of Public Affairs at the Green Building Council of Australia, noted that 'the important characteristic there, when you look at regions and hubs in cities, is connectivity and the ability to move efficiently services and goods across the city regardless of where you are.' He believed that 'when we talk about delivering functional cities and the amenity and the connectivity that come with that, I think the transport

⁸⁴ Professor Paul Burton, *Submission 57*, p. 5.

⁸⁵ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 24.

⁸⁶ Mr Todd Denham, Researcher/Consultant, UN Global Compact Cities Program, *Committee Hansard*, 20 November 2017, p. 40.

connections are key to that’.⁸⁷ Speaking from the perspective of a regional centre, Mr Gary van Driel, Chief Operating Officer for Latrobe City Council stated that:

We’ve focused very much around connectivity as a major focus to enhance the developability of the regional centres, particularly around transport connections and linkages back into and between those cities, and also around communications and IT. So connectivity is a significant focus for us.⁸⁸

- 4.77 Professor Peter Newman, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, stressed the role of technology in reshaping the pattern of settlement, using high-speed communications to structure work in any number of ways, while fast rail allowed for the redistribution of population according to the Marchetti constant—the 30 minute commute. He stated: ‘For 35 years I have been a large fan of the role that high-speed rail could take in the settlement shaping of Australia and helping attract population into those centres’.⁸⁹
- 4.78 Professor Sue Holliday saw the potential for greater connectivity to not only promote regional development but to form the basis of a ‘new settlement strategy’. She was ‘a strong advocate of high-speed rail for the national regional development role it can play not only as a way of providing fast links between our major cities and our outlying cities but because, as in other countries, high-speed rail transforms those regional centres’. She noted that it was also ‘the main signal to those regional centres that they are back on the agenda in terms of government’s interest’. She advocated “regionalisation” rather than “decentralisation”, developing the regions rather than simply decanting people into them—creating spaces where people wanted to go. She believed strongly ‘that you should build on your existing towns’:

You have got some really fantastic towns and small cities outside of Sydney and Melbourne that should be built in and of themselves, not as only commuter centres. They should have investment in and of themselves so that people move there not just to commute back into a main city but move there

⁸⁷ Mr Jonathan Cartledge, Head of Public Affairs, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 4.

⁸⁸ Mr Gary van Driel, Chief Operating Officer, Latrobe City Council, *Committee Hansard*, 21 November 2017, p. 1.

⁸⁹ Professor Peter Newton, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, p. 22.

because they have the opportunities, they can build businesses and they can raise their families in those centres. I think there are two roles for these towns between, say, Melbourne and Sydney.⁹⁰

- 4.79 Economic development of the regions was the key—looking at which ‘regions are likely to be able to grow and have a self-sustaining economy, apart from being dormitory’:

If you look around the country at where the economies are, and at what they are producing for Australia’s export economy and the support for our own domestic economy, and when you look at a settlement strategy with that, you think: how can we support that with better transport connectivity? The inland rail decision is a very positive decision for the regions between Melbourne and Brisbane in terms of the inland regions getting access to those two ports. That investment will reap economic benefits for those economies. You call them ‘industrial’ but they might be agricultural, they might be industry, they might be business/commercial.⁹¹

- 4.80 Importantly, that greater connectivity had a significant role to play in relieving growth pressures in cities such as Sydney. She stated:

We may get to eight million people successfully. The Greater Sydney Commission is now looking at three cities—originally, we had about six—which includes the second Sydney airport and the aerotropolis around the second Sydney airport, which is most welcome. Even if you do all of that, we will need to diversify the opportunities for where people in Australia live. How do you get the agglomeration happening in the regional centres? You look at the dynamism happening in some centres—not all—and at what kind of agglomeration economics might work to be supported in those centres, and then give them the signal that government, state and Commonwealth, will support and invest in them. That will be the signal to the private sector to invest. People will go where the jobs are. At the moment, there are not many jobs in the regions that will attract a lot of people leaving the city. You have to make those kinds of simultaneous investments. I believe time between cities is one of the key investment signals. I don’t think you will get regional development happening without something like high-speed rail. No amount of building more roads or doubling up roads will make them faster. We need to reduce the time between places to give the signal, and the investment signal, that the regions are back in business; at the moment, they are not.⁹²

⁹⁰ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 22.

⁹¹ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 25.

⁹² Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 24.

- 4.81 Professor Louise Johnson also advocated the expansion of opportunity to regional centres as a way of reshaping the pattern of settlement, by, firstly, investing ‘in job growth in the expanding service and knowledge sectors locally’, but also by extending ‘the commuting zone, to consciously invest in good quality infrastructure to extend the commuting zone of the very large cities to get people out but also to allow them to commute back in’. She proposed boosting those ‘important transport connections to key regional centres, even by beginning a bullet train between the major cities of eastern Australia’; providing affordable housing in regional centres, and assuring the ‘availability or accessibility of high-level social services via the creation of hubs but also to ensure connectivity via the NBN’. Her final suggestion was attending to ‘community development and social infrastructure’, stating that ‘social infrastructure is really important to both attracting and keeping migrants in regional communities’.⁹³ Professor Johnson observed that in terms of transport connectivity, fast rail to a regional centre was not so different from the daily commute of many city residents:

There’s also the experience of people that I know and have observed in this locality who basically deal with the commute and the time, because it’s no worse than living in the city and the quality of life is far more worthwhile, but who are also living in this community. They are spending their incomes in this community. They are generating service demands. They’re sending their kids to the local schools. They’re patronising the local hospitals and health centres. They are generating real income.⁹⁴

- 4.82 Professor Jago Dodson, Director of the Centre for Urban Research, RMIT University, stated that ‘improving the speed of the transport system, both the regional connections but also the metropolitan connections as well, would be very valuable’. He suggested that having ‘a very good public transport system that meshes together the entire labour market of Sydney in an efficient and fast way ... enables productivity. It is a similar way of thinking of that across the regional scale as well’.⁹⁵ Professor Dodson also highlighted another aspect of connectivity—the significance of face-to-face interactions:

⁹³ Professor Louise Johnson, *Committee Hansard*, 20 November 2017, p. 40.

⁹⁴ Professor Louise Johnson, *Committee Hansard*, 20 November 2017, p. 41.

⁹⁵ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 13.

Part of the growth of the global economy parts of our major cities, like Sydney and Melbourne, has been driven by the need for firms to have that face-to-face connection, that density, that concentration of connectivity. Everyone is connected via mobile phone, but being able to have a coffee with a prospective business partner seems to be a really important dimension of how the economy works in the contemporary era.⁹⁶

- 4.83 Ms Pru Sanderson, Regional City Executive with Roads Australia, emphasised the need for 'high-capacity mass transit to regional cities and localised economies in regional cities'. She also emphasised the need for radical change in the conceptualisation of transport connectivity, stating that 'we also need the government and for us all to have the mantra: "Why would I own a car?"':

The Melbourne Metro project is going to put a lot of people in Melbourne into a space where they'll actually start saying that. A lot of the next generations are saying that already. They're saying, 'Why would I do that?' That is our hallmark of success. Along with that, we can't have that mantra — 'Why would I own a car?' — if there's not the major investment in smart mass transit systems, embracing the future technologies in transit and all that goes with those, and systems that are clean systems. Obviously, electric vehicles are very important in this. The reduction in fossil fuel reliance is essential, as are removing cost barriers and incentives to electric vehicles and getting the charging networks elegantly and properly through our city's infrastructure and not piecemeal.

The final recommendation is the quick transition away from building roads to rebranding those into connectivity corridors — addressing this paradigm that roads are for cars and individually owned transits.⁹⁷

- 4.84 Public transport access was seen as vital to the development of regional areas. Ms Angela Murphy, Director, Planning and Economic, for Horsham Rural City Council, explained that 'public transport is another key priority that Wimmera Southern Mallee is working on ... At the moment we really need passenger rail coming to Horsham and the Wimmera'. This would provide access for 'our older people and our families to business, health and education when they need to come to the city' and 'opportunities for

⁹⁶ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 14.

⁹⁷ Ms Prudence Sanderson, Regional City Executive, Roads Australia, *Committee Hansard*, 21 November 2017, p. 14.

tourism and business to go the other way'.⁹⁸ She noted that 'in Horsham we do have the available residential land to take population growth'. The key to unlocking that potential was 'looking at those road and rail links to improve that connection'.⁹⁹ Ms Murphy observed that 'rail, road and good internet access provide the opportunities, particularly to attract people to come to regions, because they can live, work and play'.¹⁰⁰ She told the Committee:

... we're fortunate enough to have Mount Arapiles, which is internationally known for its rock climbing, in our council area. So we have quite a number of professionals who come to live in our area because of the rock, and some of them actually still work in our capital cities. They can still go to Melbourne, work three days a week and still have this quality of life climbing the rock every weekend. But, again, if we were fortunate to have passenger rail right outside our back door, I think there is further opportunity to do that and take the need around infrastructure in the capital cities. So I think there is the opportunity to look at some things quite differently.¹⁰¹

- 4.85 Mr Aaron Chiles, representing Wyndham City Council, alerted the Committee to the 'Regional Rail Link corridor that exists in Wyndham', noting that 'each of the stations that are already built or planned to be built along that corridor could be a hub that could really integrate those sorts of ideas into it if the planning is done well at an early stage'. These sites provided:

an opportunity for people to gain quick access to places like Geelong or the CBD. The train journey travel times are quite reasonable—under half an hour, for example—but people could work in these locations a few days a week and then also, for example, work in the city and be close to child care and other facilities that they may need to access.¹⁰²

⁹⁸ Ms Angela Murphy, Director, Planning and Economic, Horsham Rural City Council, *Committee Hansard*, 20 November 2017, p. 16.

⁹⁹ Ms Angela Murphy, Director, Planning and Economic, Horsham Rural City Council, *Committee Hansard*, 20 November 2017, p. 16.

¹⁰⁰ Ms Angela Murphy, Director, Planning and Economic, Horsham Rural City Council, *Committee Hansard*, 20 November 2017, p. 23.

¹⁰¹ Ms Angela Murphy, Director, Planning and Economic, Horsham Rural City Council, *Committee Hansard*, 20 November 2017, p. 16.

¹⁰² Mr Aaron Chiles, Manager, Urban Futures, Wyndham City Council, *Committee Hansard*, 20 November 2017, p. 23.

- 4.86 Mr Chiles stated that ‘there are real opportunities in growth areas because they are greenfield settings where there are opportunities to do things afresh to really get high-quality outcomes on the ground that would be more difficult to deliver in existing urban settings’.¹⁰³
- 4.87 Associate Professor Hussein Dia, from Swinburne University of Technology, however, questioned the rationale of using fast rail to broaden the commuter belt. He noted that the ‘the further you move the more services we need to provide, and also there could be social isolation as well if there is not a community’. Simply creating dormitory suburbs in regional centres was not a solution—it was potentially just an expansion of urban sprawl.¹⁰⁴
- 4.88 Mr Todd Denham, a Researcher/Consultant with the UN Global Compact Cities Program, shared these concerns. He thought ‘high-speed rail connections to places like Geelong are more described as metropolitan expansion projects than regional development’. He indicated a need to ‘distinguish between population growth and economic development in regional communities as a result of the increase in commuting’, and suggested that ‘there are some important questions around the relationship between the growth of commuters in regional communities and local employment growth’. He stated:

There is a lot of talk about fast-rail projects linking communities, and paying for them by the redevelopment of land value uplift. I really question what value that is to regional communities, and whether—with a thorough cost-benefit analysis of those kinds of proposals—the large amounts of money that are required to build some of those projects could be better spent elsewhere for regional communities.¹⁰⁵

- 4.89 Mr Denham argued for ‘a realisation that commuting is actually a disconnection of population and economic growth’:

The challenge is not relocating people to regional areas; it’s relocating opportunity. If you look at a state like Victoria, almost half of the jobs in the highest income bracket in the 2011 census ... were in the three inner city local government areas. People I’ve talked to who commute apply for jobs in, say,

¹⁰³ Mr Aaron Chiles, Manager, Urban Futures, Wyndham City Council, *Committee Hansard*, 20 November 2017, p. 23.

¹⁰⁴ Associate Professor Hussein Dia, Department of Civil and Construction Engineering, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, pp. 36–7.

¹⁰⁵ Mr Todd Denham, Researcher/Consultant, UN Global Compact Cities Program, *Committee Hansard*, 20 November 2017, p. 40.

Ballarat, and there are 50 applicants. The problem is about finding ways to grow opportunity in regional cities. It's not relocating people, in my view.¹⁰⁶

- 4.90 Other evidence highlighted the importance of other forms of connectivity. Ms Rachael Sweeney, from Regional Capitals Australia, noted that 'if there are good air freight and air passenger connections, you will get growth in those areas because people will see themselves as being able to live in these areas but still get access to the lifestyle things that you might get in a major capital'.¹⁰⁷ Ms Murphy emphasised the importance of road connections, mobile phone coverage and access to the National Broadband Network (NBN).¹⁰⁸ Mr Tim Williams, CEO of the Committee for Sydney, also highlighted the importance of the NBN to connectivity, not only in its own terms, but in terms of its contribution to the development of transport networks. He noted that 'you can't do electric vehicles and autonomous vehicles without a big fibre backbone'.¹⁰⁹

Committee conclusions

- 4.91 The evidence presented to the Committee has highlighted the links between cities and regions, and the need to coordinate their development through a national plan of settlement. The successful development of each is intrinsically tied up in the successful development of the other. This demands a high level of coordination in planning and governance by all levels of government.
- 4.92 Regional development needs to be seen, first and foremost, as part of a broader pattern of national development, with cities, towns and regions being developed as part of an integrated whole. The 'hub-and-spoke' model of development offers the opportunity to integrate regions with regional capitals, regional capitals with state and territory capitals, and the major capitals with each other, in a hierarchy of integration. It was emphasised

¹⁰⁶ Mr Todd Denham, Researcher/Consultant, UN Global Compact Cities Program, *Committee Hansard*, 20 November 2017, p. 41.

¹⁰⁷ Ms Rachael Sweeney, Secretariat, Regional Capitals Australia, *Committee Hansard*, 21 November 2017, p. 7.

¹⁰⁸ Ms Angela Murphy, Director, Planning and Economic, Horsham Rural City Council, *Committee Hansard*, 20 November 2017, p. 16.

¹⁰⁹ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 45.

that a number of regional centres had genuine growth prospects and that growth in the regional centres had the capacity to catalyse growth in the surrounding regions.

- 4.93 Nonetheless, it is also important that regions be able to differentiate themselves from each other and from major urban centres in the planning process—playing to their strengths rather than copying urban planning norms. The potential for regional development needs to be unlocked while avoiding the pitfalls of metropolitan growth—particularly urban sprawl. While connectivity to metropolitan centres is important to the development of regional centres, they had to be ‘balanced communities’, capable of producing employment and leisure opportunities and access to services in their own right. Regional centres had to be more than just dormitory suburbs.
- 4.94 Government has an important role to play in promoting regional development. It can promote economic development by direct investment in regional areas, catalysing investment by the private sector. This could also involve some relaxation of restrictions around local government investing in infrastructure, through targeted loans or management of its revenue base. It can directly promote regional development with overseas investors.
- 4.95 Government investment in post-secondary education is of particular significance, both as an end in itself and as a means of promoting innovation and wider development. The evidence presented to the Committee indicated that regional universities were central to the development of regional economies.
- 4.96 Decentralisation of government services was also seen as a potential catalyst for growth, but it needed to be done in a sustained and coordinated way that saw synergies between government investment and private sector activity. Properly planned investment and coordinated decentralisation offers the opportunity to develop and exploit the natural advantages of regional communities. Geelong is a good example of this process. Governments should ensure that the relocation of government departments to regional centres was done in a considered and coordinated way, avoiding the *ad hoc* scattering of departments for no reason other than *laissez faire* decentralisation.

Recommendation 4

4.97 The Committee recommends that the Australian Government develop a framework for the development of cities and regions outside the major metropolitan centres, based on the hub-and-spoke concept, within the context of a national planning framework. These Regional Plans would:

- **Explore connectivity within and between regions**
- **Develop options for investment based on a realistic appreciation of regional characteristics**
- **Explore options for local action and investment, including local government leadership in infrastructure and investment**
- **Explore options for strategic decentralisation of government services in a coordinated way**
- **Explore options for developing opportunities for post-secondary education within the region.**

4.98 It is possible that as a way of coordinating regional development the concept of the City Deal could be extended to regions, providing integrated planning and investment at a whole of region level around a regional capital. Regional plans could be formulated through Regional Deals. This concept will be explored further in Chapter 13.

4.99 The Committee notes that connectivity also has a vital role to play in national development. Connectivity is about accessibility to employment, education, and goods and services. Well connected cities and regions means that opportunities can be distributed across a wider population.

4.100 The possibility exists, through high speed rail, to bring distant communities to within close proximity of each other, through access to fast rail or high speed rail. Access to employment, education, services and recreation would be available for a much higher percentage of the population. Where someone lived would not predetermine access to opportunities. This in turn would enable a more dispersed pattern of settlement as new population centres could be developed in temporal proximity to employment and services. This would allow the development of polycentric cities, potentially

creating a pattern of population dispersal without the attendant vices of urban sprawl.

- 4.101 Both in this inquiry, and in its previous inquiry, the Committee was presented with a number of potential opportunities for high speed rail to open up the development of regions around Sydney, Melbourne and Brisbane, making those cities more accessible to the regions for the purposes of employment and access to services, while in turn making the regions more accessible for housing, recreation and employment. The possibilities inherent in high speed rail were highlighted in the Committee's visit to China, where high speed rail is being activity pursued to promote inter-urban connectivity. The Committee travelled the 170km between Beijing and Yujiapu (Tianjin) in just over an hour. Ultimately, with the implementation of successful regional development policies as discussed above, high speed rail would lead to the creation of vibrant and viable regional communities with a substantial range of employment opportunities and lifestyle options. This is a model that must be pursued.
- 4.102 Of course, connectivity within and between regions is not just about high speed rail—roads, air transport, fast rail, shipping (for freight) and the NBN have a vital role to play in improved connectivity and consequent improved productivity. The creation of connectivity corridors, multi-modal transport corridors which can service cities and regions efficiently, should be explored by governments.
- 4.103 Moreover, with proper planning and zoning, the possibility exists for transport infrastructure and urban development to assist in each other's development—each increasing the value of the other in a virtuous cycle. They can potentially pay for each other through value capture (see Chapter 14).

Recommendation 5

- 4.104 **The Committee recommends, that as part of the national plan of settlement, the Australian Government, in conjunction with State and Territory Governments, undertake the development of transport networks which allow for fast transit between cities and regions, and within cities and regions, with a view to developing a more sustainable pattern of settlement based on the principle of accessibility at a local, regional and national level. The Committee further recommends that the development of a fast rail or high speed rail network connecting the principal urban**

centres along the east coast of Australia be given priority, with a view to opening up the surrounding regions to urban development.

- 4.105 An important catalyst for regional development is highlighting the economic and lifestyle advantages of regional communities. The Committee believes it would be useful to publish an index of the cost of housing, cost of living and wages at the scale of local communities, thereby giving people a direct comparison of their income and costs by locality. This index could do a great deal, in conjunction with better regional connectivity, to promote the benefits of living outside the major cities.

Recommendation 6

- 4.106 **The Committee recommends that the Australian Government consider producing an effective cost of living index, including housing, at the scale of local communities to highlight the economic and lifestyle advantages of living in regional communities.**

Part 2. Sustainable urban form

Enhancing the liveability, sustainability, health and economic well-being of Australian communities.

5. Urban sustainability

Introduction

- 5.1 As discussed in Part 1 of the report, Australia must take a number of steps in order to facilitate a more socially and environmentally sustainable urban form. These include:
- reorienting development from low density greenfield expansion towards urban infill and regeneration to achieve more compact, precinct or transit oriented urban form;
 - fostering employment and services closer to where people live; and
 - accommodating demographic change.
- 5.2 The Committee has already noted that holistic urban development planning involves all three levels of government, involves all key policy areas, integrates infrastructure decisions with land-use considerations and fosters optimal population densities. Stakeholders have suggested that Australian Government leadership is needed to facilitate best practice approaches to holistic planning.
- 5.3 Part 2 of the report (Chapters 5-10) looks at issues of urban sustainability and urban form in more detail. These chapters will examine urban connectivity, sustainable buildings, housing affordability, smart cities and global best practice.

- 5.4 This chapter considers the contribution of community infrastructure to the economic and social development of communities, including incorporating demographic change—the ageing of the population—in the development of cities. It will also examine the importance of urban services—energy, water and waste—to socially and environmentally sustainable communities. Lastly, it will touch on the impacts of climate change and the need to manage them in the urban environment.

Importance of community infrastructure and utilities

- 5.5 Affordable housing and adequate transport links alone cannot ensure the long-term liveability of Australian communities. Community infrastructure and utilities such as health, education, water, waste and energy are also critical. This infrastructure informs the social and environmental sustainability of communities. As the Southern Downs Regional Council noted, ‘aside from the principle service delivery function, community facilities and open space provide a formative role in social cohesion for new communities’.¹ Penrith City Council argued that ‘community infrastructure is also critical for liveability, health outcomes and job creation’.²
- 5.6 Liveable communities are those with good access to a range of community infrastructure, including education, health, community justice and cultural facilities, as well as green spaces.
- 5.7 Educational facilities, such as universities, make an important social and economic contribution to communities. Regional Capitals Australia said universities provide the education young people need to access employment, and help attract and retain the skilled workers necessary to a successful and diversified economy:

Regional universities... help to train, attract and retain skilled workers required for a successful and diversified economy. Historically, students who study in regional areas are likely to remain in the regions, thus contributing socially and economically to their communities.³

¹ Southern Downs Regional Council, *Submission 21*, p. 8.

² Penrith City Council, *Submission 116*, p. 15.

³ Regional Capitals Australia, *Submission 93*, p. 24.

- 5.8 Health services are also critical to the liveability and social cohesion of communities, particularly new communities.⁴ Regional Development Australia Tasmania said that ‘aged care is becoming increasingly important as the population ages and people have more age related health and service needs’.⁵
- 5.9 Community justice facilities, such as magistrates’ courts, contribute to the social sustainability of regions by enabling faster resolution to serious issues, such as domestic violence.⁶
- 5.10 Mr Anthony Marklund, Principal ESD Engineer at Floth Sustainable Building Consultants, emphasised that ‘a successful place is one that embraces heritage and culture, provides a comfortable and safe place for interacting and welcomes all and excludes none’.⁷ The City of Parramatta Council also highlighted the importance of cultural infrastructure.⁸
- 5.11 The Committee heard that, ‘the benefits of good urban green spaces are diverse and wide ranging’. The Committee for Sydney suggested that the ‘evidence base for infrastructure is well established’:
- ... we know that a well-designed, high-quality, connected public realm system can raise property values, enhance economic vitality and increase the tax base... Of course, economic uplift is not the only benefit of green infrastructure, but it is often overlooked.
- We need to... recognise the value of the green infrastructure of our city which supports the city both in terms of environmental outcomes and liveability.⁹
- 5.12 Affordable, reliable and low impact energy, water and waste services are also critical to the environmental and social sustainability of communities.
- 5.13 Evidence to the inquiry revealed that Australian cities consume more than 60 per cent of the nation’s energy demand (through buildings,

⁴ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 11

⁵ Regional Development Australia Tasmania, *Submission 89*, p. 10.

⁶ City of Whittlesea, *Submission 47*, p. 3.

⁷ Mr Anthony Marklund, Principal ESD Engineer, Floth Sustainable Building Consultants, *Committee Hansard*, 29 September 2018, p. 2.

⁸ Ms Sue Weatherley, Director Strategic Outcome and Development, City of Parramatta Council, *Committee Hansard*, 13 November 2017, p. 13.

⁹ Committee for Sydney, *Submission 88*, pp. 36-7.

manufacturing and transport-related activities).¹⁰ AGL Energy said it believes that ‘the sustainable development of Australia’s cities into the future is inextricably linked to the effective design of Australia’s energy and climate policies’.¹¹

- 5.14 According to Infrastructure Australia the ‘urban water sector provides an essential service to more than 20 million people and 9 million connected properties in our cities and towns’. It suggested that the ‘sector has a strong track record of providing a range of high quality services to support our great way of life and to underpin economic activity’.¹²
- 5.15 Though it is largely hidden from view, waste management is also an important factor in determining the sustainable performance of communities.¹³ Members of the Planning Institute of Australia identified clean and reliable waste infrastructure as critical to the success of a new or expanded regional communities.¹⁴

Need for reform

- 5.16 Rapid population growth, technological advancement and an increasing recognition of the negative impacts of carbon emissions is changing our understanding of how best to provide community infrastructure and utilities. Evidence to the inquiry suggested that community infrastructure is not keeping up with population growth, and that energy, water and waste management is in urgent need of reform.
- 5.17 The next four sections of the report consider shortfalls in the provision of community infrastructure and utilities. The report describes stakeholders’ recommendations for improving investment and management of community infrastructure and utilities. These recommendations highlight the important role the Australian Government can play in leading better planning and provision of key components of liveable communities.

¹⁰ Property Council of Australia, *Submission 12*, p. 3.

¹¹ AGL Energy, *Submission 87*, p. 1.

¹² Infrastructure Australia, *Reforming Urban Water*, 2017, p. 2.

¹³ City of Fremantle, *Submission 16*, p. 5.

¹⁴ Planning Institute of Australia, *Submission 136*, pp. 17-18.

Improving planning and investment in community infrastructure

Untimely and inadequate provision of health, education and green facilities

5.18 Evidence to the inquiry indicated that new urban development is not always accompanied by the expansion of community infrastructure to meet increased demand. The Committee heard that community infrastructure is becoming inadequate in the fringes of capital cities and in regional centres where population growth has been rapid. The Centre for Urban Research, RMIT said, ‘a consequence of this growth is that both capital cities and regional capital cities are experiencing significant shortages of economic and social infrastructure’.¹⁵

5.19 For example, the Grattan Institute claimed that the shortage of community infrastructure in Victorian population growth areas is now such that \$36 billion will need to be invested over the next 30 years to meet shortfalls:

...‘meeting the demand for childcare, school places, recreation and social services remains a major challenge in growth areas’. Indeed, in 2013, the Victorian Auditor General found that in Victoria alone, excluding maintenance and renewal \$36 billion was required in next 30 years to meet shortfalls in infrastructure requirements in growth areas.¹⁶

5.20 The City of Whittlesea, a local government area on Melbourne’s fringe and a member of the National Growth Areas Alliance (NGAA), highlighted the ‘detrimental’ impact that underinvestment in essential services has had on the well-being of its residents.¹⁷ It claimed that rapid population growth has resulted in residents having ‘poor access to social, health and human services’:

Our research demonstrates that the majority of human services agencies in our area are struggling to keep up with demand in large part due to our high population growth. We are currently completing updated research and have already identified obvious service gaps for our area including a lack of mental health services for young people.¹⁸

¹⁵ Centre for Urban Research, RMIT, *Submission 35*, p. 3.

¹⁶ NHMRC Centre for Research Excellence in Healthy Liveable Communities, RMIT University, *Submission 15*, pp. 1-2.

¹⁷ City of Whittlesea, *Submission 47*, p. 1.

¹⁸ City of Whittlesea, *Submission 47*, p. 3.

- 5.21 A lack of community justice services is also affecting residents. The City of Whittlesea does not have 'local magistrates courts and associated justice services meaning that local justice matters are dealt with by courts in other locations that are already at full capacity'. The City of Whittlesea warned that eventually courts in other locations will not be able to keep up with growing demand. This has significant implications for residents:

As the population of Melbourne's north increases, those court locations will not be able to meet the increasing demand. This has a number of significant impacts, particularly for women and children trying to access a justice response to assist them in escaping family violence, who currently have to travel long distances to over-subscribed court locations to deal with urgent issues.¹⁹

Characteristics of successful community infrastructure

- 5.22 Stakeholders emphasised that community infrastructure must be delivered in a timely manner, commensurate with population growth, if it is going to have the desired positive impact on social sustainability and liveability.
- 5.23 The Southern Downs Regional Council suggested that community infrastructure can only play a formative role in social cohesion if it is developed in conjunction with population growth. It warned that this opportunity is lost if this infrastructure is not in place before new residents form rigid social and travel behaviour:

...community facilities and open space provide a formative role in social cohesion for new communities...

This opportunity is lost where early delivery cannot be provided in the first 2-5 years of a new development as people form travel and social behaviours that become difficult to change after this time.²⁰

- 5.24 Other witnesses made similar points. The City of Greater Geelong argued that the 'timely provision of services to support growth is fundamental' to enhancing urban liveability whilst providing for rapid population growth.²¹ Similarly, the Australian Local Government Association said that the timely provision of social infrastructure is important. However, it also stressed the

¹⁹ City of Whittlesea, *Submission 47*, p. 3.

²⁰ Southern Downs Regional Council, *Submission 21*, p. 8.

²¹ City of Greater Geelong, *Submission 38*, p. 1.

importance of ensuring it is adequate to meet the needs of growing and changing communities.²²

- 5.25 Professor Sue Holliday also warned that essential services and infrastructure must be commensurate to expected long-term population growth in order to deliver social sustainability and liveability. She illustrated this point by describing the consequences of inadequate community infrastructure developed between the 60s and early 2000s:

In the health sector, Westmead is receiving 178 per cent more admissions than the capacity for which it was planned; St Vincent's Public Hospital has 155 per cent more emergencies than the capacity for which it was planned. And the new Northern Beaches Hospital, before it's even constructed, is already behind the population growth in their region with 165 per cent more admissions likely than originally planned.²³

- 5.26 Professor Holliday said 'these infrastructures are failing us not because they are not good enough, but because they have not been created to accommodate the next growth phase of the city'. She argued that important community infrastructure is planned and developed for the short term, not 'the 30-50 year time frame' needed to avoid missed opportunity costs.²⁴

Australian Government's role in delivery of community infrastructure

- 5.27 The timely provision of community infrastructure which is commensurate to population growth requires adequate funding and a strategic approach. Inquiry stakeholders argued that, although the Australian Government doesn't directly manage urban development, it has an important role to play in ensuring that:

- urban development planning is holistic; and
- federal funding for community infrastructure targets those communities absorbing the majority of population growth.

- 5.28 It was suggested to the Committee that the Australian Government needs to better direct federal funding for community infrastructure towards those communities absorbing the majority of Australia's population growth.

²² Australian Local Government Association, *Submission 83*, p. 7.

²³ Professor Sue Holliday, *Submission 31*, p. 4.

²⁴ Professor Sue Holliday, *Submission 31*, p. 5.

- 5.29 NGAA said the ‘fast growing outer suburbs are in transition’ and require ‘a coordinated policy focus and investment’ to flourish. It suggested that more systematic, long term provision of federal funding for infrastructure in growth areas is required:

Our current mode of allocation of infrastructure goods bears little relationship to the geographic location of population growth...

Imagine what the fast growing outer suburbs could become and what they could contribute if they got their fair share of assets. Imagine what our cities will be like without it.²⁵

- 5.30 The Queensland Government agreed and advocated for long-term federal funding for community infrastructure:

The quality and adequacy of [essential human] services is determined partly by the adequacy and reliability of Australian Government funding, and the degree of freedom States have to allocate the funding where it will be most useful. Provision of certainty around funding arrangements will improve Queensland’s capacity to plan for and deliver critical regional services.²⁶

- 5.31 NGAA advocated for the reinstatement of the Australian Government’s 2015-16 National Stronger Regions Fund (NSRF). The NSRF was a competitive grants program which provided \$1 billion in financial support for projects facilitating economic growth and improving sustainability in their localities, particularly in disadvantaged regions.²⁷ NGAA said the NSRF was better targeted to growth areas than the Australian Government’s current Building Better Regions Fund (BBRF):

There have been a number of programs over the last decade at the Federal level that have supported community infrastructure. Aside from the Regional and Local Community Infrastructure Program (RLCIP) which had a stream weighted to larger growth Councils, each of the successive programs has focussed more on regional Australia. The current Building Better Regions Fund (BBRF) provides for some parts of outer growth municipalities. But it has seriously eroded what grants are available to the fast growing outer

²⁵ National Growth Areas Alliance, *Submission 4*, p. 2.

²⁶ Queensland Government, *Submission 137*, p. 20.

²⁷ Australian Government, *Guidelines National Stronger Regions Fund: Promoting Economic Development in Australia’s Regions*, 2014, p. 7,
<http://regional.gov.au/regional/programs/files/NSRF_Guidelines_FINAL_OCT_2014_V2.pdf>, retrieved 15 March 2018.

suburbs without anything to replace that. Its predecessor, the National Stronger Regions Fund (NSRF) had somewhat more responsive guidelines for these areas. A return to those guidelines would assist the fast growing outer suburbs.²⁸

- 5.32 Penrith City Council echoed this sentiment.²⁹ It suggested that incorporating the NSRF guidelines into the BBRF would better focus this investment on community infrastructure in growth areas and go some way towards addressing the funding imbalance experienced by those communities:

Community infrastructure is also critical for liveability, health outcomes and job creation. Included are facilities such as regional sporting, recreation and cultural centres. Reinstatement of the Building Better Regions Fund to the criteria applied in the National Stronger Regions Fund (to include all outer metropolitan Local Government areas) would certainly assist. A program which focussed on the fast growing outer suburbs, however, would mean more certainty for these communities and would go some way to redressing the current funding imbalance.³⁰

Changing demographics—the ageing population

- 5.33 According to the Australian Local Government Association (ALGA) ‘population ageing and demographic change present major challenges for Australian cities, towns and regions in the future’:

The result of falling fertility, increasing life expectancy, changing compositions of households and the effect of the ‘baby boomer’ generation moving rapidly through older age groups, has contributed to an increase in the number and proportion of people aged over 75 years.³¹

- 5.34 The Committee heard that ‘approximately 3.6 million Australians are aged 65 years and older, with 2.1 per cent of Australia’s population aged 85 years and older’. Ms Christie Gardiner, a lecturer at the Australian National University said research shows that ‘of the total population of older persons, approximately 2.2 million reside in Australian capital cities’.³²

²⁸ National Growth Areas Alliance, *Submission 4*, p. 12.

²⁹ Penrith City Council, *Submission 116*, p. 12.

³⁰ Penrith City Council, *Submission 116*, p. 15.

³¹ Australian Local Government Association, *Submission 83*, p. 10.

³² Ms Christie Gardiner, *Submission 105*, p. 3.

- 5.35 As the population ages, more Australians are choosing to live alone. Dr Jazz Hee-jeong Choi, Director of the Urban Informatics Research Lab at the Queensland University of Technology said single person households ‘are predicted to consist of 30-40 per cent or more of all households in the majority of developed countries, including Australia, by 2025-30’. She attributed this phenomenon ‘primarily to the growth in ageing population’.³³
- 5.36 Research also indicates that the aging population is likely to be accompanied by increases in the prevalence of age-related health issues, such as dementia.³⁴
- 5.37 Evidence suggested that the consequences of not adapting urban form to support active aging within communities are broad. Poor social, economic and environmental outcomes are likely. Ms Gardiner said that ‘when the needs of older persons can no longer be met by their urban environment, an economic and social burden is produced as a consequence of increased ill-health, dependency on services and decreased productivity’. She noted that urban form can influence older Australians experiences of social isolation, psychological distress and health by impacting their accessibility to services, mobility, independence, and autonomy.³⁵
- 5.38 Dr Lyn Phillipson and Dr Chris Brennan-Horley of the University of Wollongong made a similar point in a joint submission to the inquiry. They reported that the ‘Productivity Commission projects that without strategies to encourage ageing well in the community, health expenditure will rise from 8 to 12 per cent of GDP by 2045, with half of that increase attributable to costs of ageing’. They warned that ‘the economic and moral burden will be too great for our cities and regions to continue under a business as usual scenario’.³⁶
- 5.39 Ms Gardiner agreed, arguing that ‘it is crucial that urban development addresses the rights, needs and varying capacities of older persons in order to truly be sustainable’. Dr Hee-jeong Choi made a similar point. She claimed that ‘overlooking the challenges and opportunities stemming from

³³ Dr Jazz Hee-jeong Choi, *Submission 77*, p. 2.

³⁴ Dr Lyn Phillipson and Dr Chris Brennan-Horley, *Submission 145*, p. 1.

³⁵ Ms Christie Gardiner, *Submission 105*, pp. 7-8.

³⁶ Dr Lyn Phillipson and Dr Chris Brennan-Horley, *Submission 145*, p. 1.

this historic demographic shift is likely to result in major social, cultural, and environmental repercussions in the future'.³⁷

Age-friendly urban form

- 5.40 Ms Gardiner pointed out that 'ensuring all Australian cities are age-friendly is a national interest'. She argued that national 'active ageing policies and age-friendly city strategies' would provide 'consistency across all levels of government' and would 'provide more measurable basis from which to evaluate development progress nationally'. She suggested that 'most initiatives of this nature to date have occurred at the local level, resulting in the duplication of research and depletion resources between cities, the fragmentation of policy objectives and the generation of potentially disparate social, economic and health related outcomes for persons as they age, wherever situated in Australia'.³⁸
- 5.41 Ms Gardiner advocated for a national policy framework 'to establish clear minimum standards for age-friendly urban development, without restricting the dynamism of communities'.³⁹
- 5.42 Dr Phillipson and Dr Brennan-Horley made a similar point, noting that urban development and renewal offers important opportunities to respond to the challenges of an aging population, for example living with dementia:⁴⁰

We argue that Australian national policies around sustainability and urban liveability should commit to planning which is inclusive of aged and dementia friendly design. Ensuring that walkability, community transport, sympathetic density, accessible services and greenspace remain primary considerations will enhance the health and wellbeing for our aging population and people living with dementia within our transitioning cities and regions.⁴¹

- 5.43 Ms Gardiner emphasised that such a national policy framework must be informed by community consultation and reflect international best practice:

Ensuring the participation and inclusion of older persons in the design and use of their communities is required by items 148 and 155 of the New Urban

³⁷ Dr Jazz Hee-jeong Choi, *Submission 77*, pp. 2-3.

³⁸ Ms Christie Gardiner, *Submission 105*, p. 5.

³⁹ Ms Christie Gardiner, *Submission 105*, p. 5.

⁴⁰ Dr Phillipson and Dr Brennan-Horley, *Submission 145*, p. 1.

⁴¹ Dr Phillipson and Dr Brennan-Horley, *Submission 145*, p. 2.

Agenda. This bottom-up participatory approach reflects global standards in policy formation, and is further recommended by the WHO Global Age-Friendly Cities project. Accordingly, in researching the suitability, use and adaptability of urban environments for persons across their entire life course, community consultation and the integration of data which has been disaggregated by age-related factors should be sought.⁴²

- 5.44 Dr Phillipson noted that the United Kingdom has some national policies to support age inclusive urban form, but warned that research is needed to adapt it for the Australian context:

There is a national strategy for housing in an ageing society where they are trying to introduce these principles of lifetime neighbourhoods in particular districts... The investment in the understanding of this in the UK context seems to have started to be picked up, but in terms of very widespread application there is a great need for us to invest in trying to understand how these principles apply in our places, in our context and in our environments, which may be a little different from the UK context.⁴³

- 5.45 Ms Gardiner noted that ‘a comprehensive multi-disciplinary national research project regarding age-friendly urban development in Australia is yet to be funded’.⁴⁴ She highlighted the need to research ‘the economic, social and health benefits and best-practice indicators of age-friendly urban development’.⁴⁵
- 5.46 Ms Gardiner noted that ‘with Australia on the doorstep of a rapidly ageing Asia, becoming a leader in age-friendly urban development enhances export opportunities, including within the aged-care and technology sectors’.⁴⁶

⁴² Ms Christie Gardiner, *Submission 105*, pp. 6-7.

⁴³ Dr Lyn Phillipson, National Health and Medical Research Council-Australian Research Council Dementia Fellow, University of Wollongong and Australian Health Services Research Institute, *Committee Hansard*, 23 March 2018, p. 32.

⁴⁴ Ms Christie Gardiner, *Submission 105*, p. 8.

⁴⁵ Ms Christie Gardiner, *Submission 105*, p. 2.

⁴⁶ Ms Christie Gardiner, *Submission 105*, p. 2.

Reorienting the energy sector

Refocussing on renewable and distributed energy generation

- 5.47 The Committee heard that energy sector reform has a big role to play in improving the environmental and social sustainability of Australian cities. Stakeholders suggested that transitioning to renewable energy sources, distributed generation and improving energy productivity will reduce carbon emissions and minimise communities' impact on the environment. Furthermore, energy sector reform will contribute to the social sustainability of communities by maintaining the reliability and affordability of electricity supply.
- 5.48 The University of Technology Sydney argued that a move to renewable energy is 'essential if Australia is to meet its obligations to the international community under the United Nation's Paris agreement on climate change'.⁴⁷ It also noted that, 'Australia ranks poorly in international terms in energy productivity, and is likely to slip further without attention being paid to this issue'.⁴⁸
- 5.49 The Green Building Council of Australia made a similar point, adding that 'district-based and distributed energy resources' are also critical to meeting Australia's international obligations.⁴⁹ Moreover, the City of Sydney argued that the proliferation of renewable and distributed energy generation and storage technologies will support 'significant jobs and economic growth opportunities'.⁵⁰
- 5.50 AGL Energy suggested that distributed renewable energy generation will be an integral part of the future energy sector in the future:

In addition to one in four households across Australia with installed solar PV, a proliferation of more advanced distributed energy resources [distributed energy resources] (DER) (digital metering, smart inverters, energy storage, energy management systems, household appliance with smart controls etc.) are now entering the consumer market. These distributed technologies offer new opportunities for customers to actively manage their energy use and to

⁴⁷ University of Technology Sydney, *Submission 67*, p. 2.

⁴⁸ University of Technology Sydney, *Submission 67*, p. 3.

⁴⁹ Mr Jonathon Cartledge, Head of Public Affairs, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 8.

⁵⁰ City of Sydney, *Submission 100*, p. 26.

share in value beyond the home – whether by ‘sharing’ energy with peers or participating in programs which support the operation of the network or the wholesale market.⁵¹

- 5.51 The University of Technology Sydney argued that Australia should be seeking to improve energy productivity. It suggested that better energy productivity could enhance Australia’s economic performance by ‘reducing energy costs for business, improving reliability of energy supply and reducing emissions’.⁵² The City of Sydney highlighted the importance of affordable electricity to communities’ social sustainability. It suggested that ‘increasing prices are placing pressure on all energy users - businesses, industry and households and consumers’.⁵³
- 5.52 Many witnesses felt that the current policy and regulatory framework governing Australia’s energy sector is insufficient to drive these outcomes and that reform is urgently needed. For example, the City of Sydney claimed that the rules governing the sector were ‘designed for a different era of one-way supply of low-cost centralised energy generation’:
- The energy rules are well past their use-by and the processes for change are inadequate - an overhaul is required.⁵⁴
- 5.53 The City of Sydney suggested that the energy market does not currently reward distributed energy generators for the reduced load on electricity supply networks. It recommended changing the rules ‘to permit local electricity customers to purchase electricity direct from local generators instead of the national market’, removing ‘public fossil fuel subsidies’ and developing ‘a plan for the exit of high-emissions generation’.⁵⁵
- 5.54 The Australian Sustainable Built Environment Council suggested that energy market reform could support the implementation of cost-effective energy efficiency and distributed energy technologies by removing market barriers and distortions.⁵⁶

⁵¹ AGL Energy, *Submission 87*, p. 4.

⁵² University of Technology Sydney, *Submission 67*, p. 3.

⁵³ City of Sydney, *Submission 100*, p. 25.

⁵⁴ City of Sydney, *Submission 100*, p. 25.

⁵⁵ City of Sydney, *Submission 100*, p. 25.

⁵⁶ Australian Sustainable Built Environment Council, *Submission 111*, p. 9.

- 5.55 The Green Building Council of Australia recommended the removal of market barriers to district-based utilities and called for a ‘fair tariff structure’ which values distributed utility solutions.⁵⁷
- 5.56 AGL Energy suggested that energy policy and regulatory reform can create a supportive environment for distributed, renewable energy generation by ensuring that consumer investment in distributed energy resources is efficient and through regulatory and market frameworks which facilitate (rather than inhibit) the emergence of new products and service markets.⁵⁸
- 5.57 Concerns were raised that the current energy policy and regulation parameters may also be contributing to electricity affordability issues. The City of Sydney claimed that ‘electricity bills are increasing disproportionately above inflation due largely to incentives for networks to build costly infrastructure and wholesale electricity price increases resulting from poorly planned energy policy’.⁵⁹ Townsville Enterprise submitted that electricity price increases in Australian have been well above those of other OECD nations:
- Wholesale electricity prices have increased significantly across the National Electricity Market (NEM) since 2012, with Queensland (168 per cent increase to 2017) and South Australia (178 per cent increase) experiencing particularly rapid price rises. Queensland prices have thus far risen by 30 per cent in 2017.⁶⁰
- 5.58 The Queensland Government’s *Powering Queensland Plan* noted that ‘Australia’s energy markets are facing significant challenges relating to electricity and gas prices, system security, gas availability, and energy and climate policy’. It suggested that if left unaddressed, these challenges ‘may threaten energy security and Australia’s ability to meet its emissions reduction targets’.⁶¹
- 5.59 Moreover, the Committee heard that the poor integration of energy policy with policies designed to address climate change is driving adverse

⁵⁷ Green Building Council of Australia, *Submission 99*, p. 16.

⁵⁸ AGL Energy, *Submission 87*, p. 4.

⁵⁹ City of Sydney, *Submission 100*, p. 25.

⁶⁰ Townsville Enterprise, *Submission 161*, p. 8.

⁶¹ Queensland Government, *Powering Queensland Plan*, p. 1, https://www.dnrm.qld.gov.au/data/assets/pdf_file/0008/1253825/powering-queensland-plan.pdf retrieved 20 March 2018.

outcomes in the energy sector. AGL Energy suggested wholesale energy markets have been impacted by ‘the piecemeal introduction of carbon reduction and renewables policies’ and policy reform is necessary to ‘better integrate wholesale market design with climate change policy’.⁶² It argued that the lack of a long term emissions reduction policy for the energy sector is creating market uncertainty and may be inhibiting investment in modern energy generation technology:

More than 80 per cent of electricity generated in Australia is sourced from the combustion of fossil fuels, the majority of which is provided by coal-fired generation. The transition to a decarbonised and modernised generation sector requires large scale investment, much of which will be less than half way through its asset life at the end of the current [Renewable Energy Target] RET scheme and Government current 26-28 per cent target under the Paris Agreement.

Investment will be best supported by emissions reduction policy that provides macro level certainty as to the timeframe and operating life of incumbent plant and reduced levels of uncertainty as to the market environment within which current investments will operate in post 2030.⁶³

Australian Government leadership key to energy reform

- 5.60 Stakeholders expressed broad support for Australian Government leadership to drive energy sector reform. The University of Technology Sydney described the Australian Government’s role as ‘key’ to achieving reforms:

The Commonwealth has a key role in supporting rule changes in the national electricity market to remove barriers and support investment in demand management, energy efficiency and distributed energy.⁶⁴

- 5.61 The Green Building Council of Australia suggested that the Australian Government’s leadership would help ‘deliver greater value from investments in distributed utilities across our cities, and realise the potential of smart investments in our cities to build resilience across our utility infrastructure’.⁶⁵

⁶² AGL Energy, *Submission 87*, p. 4.

⁶³ AGL Energy, *Submission 87*, p. 5.

⁶⁴ University of Technology Sydney, *Submission 67*, p. 3.

⁶⁵ Green Building Council of Australia, *Submission 99*, p. 16.

- 5.62 The City of Sydney said collaboration between all levels of government is critical to achieving national targets and objectives, ‘however without leadership and commitment from the Australian Government, cities can only do so much’.⁶⁶
- 5.63 AGL Energy emphasised that national energy policy and regulatory reforms should be based on the following principles to ensure security, affordability and sustainability of energy into the future:
- where feasible, using **competitive markets** to deliver and value energy services;
 - establishing policy, regulatory and market frameworks that are **technology neutral**;
 - establishing **appropriate technology standards** that do not contradict broader policy objectives and are based, where possible, on international standards...;
 - utilising **price signals** to encourage efficient investment and operational decisions;
 - **allocating risks** to parties that are best able to manage them;
 - introducing **regulation only where necessary** to address a market failure, including to ensure system safety, security and reliability;
 - ensuring an **equal playing field** where different providers of products and services, in markets, must compete openly on their merits;
 - A customer protections framework that ensures all customers have the **basic right to access energy**; and
 - ensure a framework that is **inclusive of all customers** including vulnerable customers the opportunity to participate and benefit from the energy market transformation.⁶⁷
- 5.64 The need to implement energy sector policy and regulatory reform is well acknowledged by the Australian Government. In recent years it has supported a series of inquiries and reports on the future of the sector, including:
- the Electricity Network Transformation Roadmap: Final Report, produced by the Commonwealth Scientific and Industrial Research

⁶⁶ City of Sydney, *Submission 100*, p. 26.

⁶⁷ AGL Energy, *Submission 87*, pp. 4-5.

Organisation in partnership with Energy Networks Australia, and published in April 2017;⁶⁸

- the Independent Review into the Future Security of the National Electricity Market, conducted by an expert panel led by Dr Alan Finkel AO, Chief Scientist, and concluded in June 2017;⁶⁹
- the inquiry into modernising Australia's electricity grid, conducted by the House of Representatives Standing Committee on Environment and Energy, and concluded December 2017.

5.65 In July 2017 the Australian Government, through the Council of Australian Governments (COAG), agreed to implement 49 out of 50 the recommendations made by Dr Finkel and his panel of experts as part of the Independent Review into the Future Security of the National Electricity Market. It also agreed to implementation timelines and noted the significance of the final recommendation—to adopt a clean energy target—which it did not support.⁷⁰

5.66 However, evidence to the inquiry suggested that the lack of a clean energy target or another form of long-term carbon emission reduction policy is contributing to ongoing uncertainty in the energy sector. It is also inhibiting greater investment in renewables and distributed generation technologies.

5.67 Mr Jonathon Cartledge, Head of Public Affairs at the Green Building Council said 'certainty for businesses is critical':

When the COAG Energy Council Stakeholder Roundtable considered this issue, the clear message from across the business community was the need for certainty for planning. At this stage that's fundamental.⁷¹

⁶⁸ Energy Networks Australia and the Commonwealth Scientific and Industrial Research Organisation, Electricity Network Transformation Roadmap: Final Report, <http://www.energynetworks.com.au/sites/default/files/entr_final_report_web.pdf> retrieved 20 March 2018.

⁶⁹ Department of the Environment and Energy, *Independent Review into the Future Security of the National Electricity Market*, <<https://www.energy.gov.au/publications/independent-review-future-security-national-electricity-market-blueprint-future>> retrieved 20 March 2018.

⁷⁰ Concil of Australian Governments Energy Council, '12th Energy Council Meeting Communique', <<http://www.coagenergycouncil.gov.au/publications/12th-energy-council-meeting-communique-includes-11th-meeting-communique>> retrieved 20 March 2018.

⁷¹ Mr Jonathon Cartledge, Head of Public Affairs, Green Building Council of Australia, Committee Hansard, 22 August 2017, p. 8.

- 5.68 The City of Sydney said ‘all sectors of the Australian economy– businesses, energy companies, households– are calling for energy and emissions policy certainty’. It advocated for the establishment of a clear trajectory to a low carbon future:⁷²

As a priority there needs to be a formal alignment of energy and climate policy, whether via change to the National Electricity Objective or some other mechanism to ensure that climate impacts are duly considered on par with other elements.⁷³

- 5.69 AGL Energy said, ‘a nationally coordinated and consistent approach to climate and energy policy is needed to ensure the smooth decarbonisation and modernisation of the electricity sector’:

The energy sector’s transition will span several decades and a long-term vision is required to support that transition.⁷⁴

- 5.70 It also urged the Australian Government to implement the ‘important policy reforms’ recommended by Dr Finkel’s inquiry ‘in a timely and coordinated manner’.⁷⁵

- 5.71 The Queensland Government noted in its *Powering Queensland Plan* that it will continue to ‘advocate for stable and more integrated national climate and energy policies, to ensure the electricity sector can deliver a meaningful contribution to Australia’s emission reduction commitments and to support new clean energy investment’.⁷⁶

Improving urban water management

Urban water sector reform remains incomplete

- 5.72 Evidence to the inquiry demonstrated that the urban water sector has undergone ongoing reform in recent decades, but remains complex. Infrastructure Australia explained that the urban water sector’s institutional

⁷² City of Sydney, *Submission 100*, p. 26.

⁷³ City of Sydney, *Submission 100*, p. 26.

⁷⁴ AGL Energy, *Submission 87*, p. 4.

⁷⁵ AGL Energy, *Submission 87*, p. 6.

⁷⁶ Queensland Government, *Powering Queensland Plan*, p. 6, https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0008/1253825/powering-queensland-plan.pdf retrieved 20 March 2018.

and regulatory structures are the result of successive reform agendas implemented since the 1990s, aimed at improving 'efficiency, transparency and stakeholder engagement':

Two rounds of major national reforms – the 1994 COAG Reform Framework and the National Water Initiative (NWI) in 2004 – established a foundation for reform across states and territories. These changes were driven within each jurisdiction, with the guidance and leadership of the Australian Government and independent agencies such as the National Water Commission (NWC).⁷⁷

- 5.73 However, 'reform efforts in urban water have largely stalled over recent years'.⁷⁸ Ms Kaia Hodge, Project Lead of Long Term Strategy at Sydney Water claimed that the governance and regulatory structure of the urban water sector remains siloed:

Historically, water was set up in a very siloed way. At the start, this came from public health, with one of the greatest achievements in early settlements being the separation of wastewater from drinking-water supplies. This helped to stop the spread of many diseases. The funding and governance structures have similarly been siloed. Each part of the water supply chain – water, wastewater, stormwater, recycled water and waterways management – has a range of players who are responsible, and it tends to have separate regulations governing it, which also leads to a separation of funding structures.⁷⁹

- 5.74 Mr Davies provided an example of the siloed nature of the sector's regulatory bodies inhibiting more holistic water management:

The style of regulatory frameworks also play out in environmental regulation of waterways. We have one regulator, the New South Wales EPA, who is responsible for regulating what wastewater plants discharge to waterways. That regulator is not responsible for regulating all the other discharges to waterways, like stormwater pollution and agricultural or industrial run-off. As a result, despite good intentions, each regulator focuses on reducing the discharges that they regulate. This is particularly problematic for nutrient and sediment pollution of waterways, where point source discharges are stringently regulated and land based contributions maybe unregulated and yet constitute the major contribution of pollutants to waterways. There isn't really a body or a coordinated process that assesses what's best overall for the

⁷⁷ Infrastructure Australia, *Reforming Urban Water*, 2017, p. 5.

⁷⁸ Infrastructure Australia, *Reforming Urban Water*, 2017, p. 5.

⁷⁹ Ms Kaia Hodge, Project Lead, Long Term Strategy, Sydney Water, *Committee Hansard*, 14 November 2017, p. 29.

waterway. If we had that we'd be able to make more cost-effective choices about what mix of measures would deliver the best overall river health outcome, rather than focusing on each individual polluter. We think some national leadership on this would be helpful.⁸⁰

- 5.75 Infrastructure Australia claimed that 'reform efforts to create an efficient, user-focused urban water sector remain incomplete':

More work is required to develop stronger market characteristics in each state and territory. There are clear benefits to creating an urban water sector that is well-regulated, open to private sector participation and that provides incentives for innovation, meeting customers' needs and planning efficiently to meet future challenges.⁸¹

- 5.76 Ms Hodge echoed this sentiment. She argued that the urban water sector is not set up to achieve more holistic urban water management, which is now well recognised as best practice:

These days, the focus has turned to the whole of the water cycle. We can clean dirty water and reuse it. This reduces how much water we need to take from the environment in the first place, and we return water to waterways in a way that protects waterway health in terms of both the quality and the flows. This new focus is known as integrated water cycle management, and it's generally considered best practice today, but our siloed industry structure is not set up to deliver water services in an integrated way.⁸²

- 5.77 The Water Service Association of Australia (WSAA) said, 'Australia's urban water sector faces significant unresolved challenges to its operation and long-term financial viability'. It highlighted the 'scale of the future challenges facing the urban water sector, such as climate change and extreme events, urban growth, aging assets and liveability of our cities and regions'.⁸³ Likewise, Infrastructure Australia claimed that 'there remains great enthusiasm and latent capacity within the urban water sector to drive improvements'. It suggested that some 'jurisdictions and service providers are undertaking unilateral efforts to progress reforms' and argued that:

⁸⁰ Mr Phillip Davies, Head of Regulatory Economics, Sydney Water, *Committee Hansard*, 14 November 2017, p. 30.

⁸¹ Infrastructure Australia, *Reforming Urban Water*, 2017, p. 5.

⁸² Ms Kaia Hodge, Project Lead, Long Term Strategy, Sydney Water, *Committee Hansard*, 14 November 2017, p. 29.

⁸³ Water Services Association of Australia, *Submission 53*, p. 8.

The benefits of these improvements should be available across the country. Only a new national commitment to reform will be capable of delivering reforms of the breadth and scale required.⁸⁴

5.78 Ms Hodge noted that ‘the aspirations we have for our cities are challenging and complex’. A business as usual approach will not be sufficient to achieve these aspirations:

They involve interdependencies and trade-offs between social, environmental and economic considerations. We need to add to this the uncertainties that climate change brings. The approaches that we have applied to secure our water supplies, protect our environment and provide for our communities' wellbeing will not be sufficient to create the cities that we aspire to in the future.⁸⁵

5.79 Possible reforms suggested by witnesses included:

- the introduction of more flexible, outcome-focussed regulation to support cooperation between different water sector entities and to drive innovation;⁸⁶
- market restructuring to increase competition and the introduction of a more sophisticated pricing model which better reflects the cost of water supply;⁸⁷
- mandating the early involvement of water utilities in urban planning and the consideration of integrated water cycle management to support ‘waterway health, urban cooling, flood prevention, creating green space and system resilience’;⁸⁸

⁸⁴ Infrastructure Australia, *Reforming Urban Water*, 2017, p. 63.

⁸⁵ Ms Kaia Hodge, Project Lead, Long Term Strategy, Sydney Water, *Committee Hansard*, 14 November 2017, p. 31.

⁸⁶ Water Services Association of Australia, *Submission 53*, pp. 3 & 5; Mr Phillip Davies, Head of Regulatory Economics, Sydney Water, *Committee Hansard*, 14 November 2017, p. 30; Infrastructure Australia, *Reforming Urban Water*, 2017, p. 68; Professor Peter Newton, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, *Committee Hansard*, 29 August 2017 p. 21.

⁸⁷ Mr Phillip Davies, Head of Regulatory Economics, Sydney Water, *Committee Hansard*, 14 November 2017, p. 33; Infrastructure Australia, *Reforming Urban Water*, 2017, p. 71.

⁸⁸ Ms Kaia Hodge, Project Lead, Long Term Strategy, Sydney Water, *Committee Hansard*, 14 November 2017, p. 30, 31 & 33; Water Services Association of Australia, *Submission 53*, p. 5.

- issuing national guidance on evaluating the costs and benefits of integrated water cycle management, to support decision making in urban planning processes;⁸⁹
- ongoing Australian Government support for academic research on the interdependencies between urban water and other sectors and strategies to improve integrated water cycle management and water security.⁹⁰

5.80 The importance of embedding consideration of water management into urban planning and development processes was emphasised. The Committee heard that more holistic urban planning, which incorporates integrated water cycle management principles, can create cost efficiencies and deliver more environmentally and socially sustainable outcomes. WSAA said ‘collaboration is critical for the resilience of our cities, building on the interdependencies between industries to strengthen our networks through integrated planning’. It recommended:

- systemic change in policy and regulation to encourage collaboration with other agencies and communities to respond to a broader spectrum of customer needs and expectations
- integration of the urban water cycle, including stormwater and flood management planning into the urban water governance, institutional and physical structures together with a sustainable funding and pricing framework
- integration of water cycle planning with land use planning
- recognition of the role of water in strategic or early planning of cities and regions and inclusion of water businesses in integrated planning.⁹¹

5.81 Ms Hodge said that, ‘...when growth doesn't proceed in a planned rollout way and when our urban planning and water planning are done separately—and even within water planning, with stormwater and wastewater planning—a lot of opportunities for pulling everything together in an efficient way are lost’.⁹²

⁸⁹ Ms Kaia Hodge, Project Lead, Long Term Strategy, Sydney Water, *Committee Hansard*, 14 November 2017, p. 30.

⁹⁰ Ms Kaia Hodge, Project Lead, Long Term Strategy, Sydney Water, *Committee Hansard*, 14 November 2017, p. 31.

⁹¹ Water Services Association of Australia, *Submission 53*, p. 5.

⁹² Ms Kaia Hodge, Project Lead, Long Term Strategy, Sydney Water, *Committee Hansard*, 14 November 2017, p. 33.

Australian Government to drive nationally consistent reform

- 5.82 Infrastructure Australia, WSAA and Sydney Water all advocated for some form of Australian Government leadership to promote consistent water sector reform across state and territory jurisdictions. WSAA considered 'national government leadership... key to unlocking water utility reform':

Urban water is a state responsibility; but it is also a national economic and social challenge. Australia's economic history suggests that national policy leadership, backed by financial incentives for reforming states, is a proven way to drive national good practice and better regulation, across utility markets which are owned, operated and regulated by states.⁹³

- 5.83 It recommended a COAG process to progress urban water sector reform.⁹⁴

- 5.84 Sydney Water also accentuated the importance of Australian Government leadership, suggesting that only the federal government can apply the pressure needed to motivate all states and territories to pursue best practice. Mr Davies said:

...that's where the federal role can be important, because you can provide that overview, some sense of best practice and a sense of what is going on in certain states or abroad where there is a focus on these issues. Then you can stimulate the case for reform within individual states by a bit of peer pressure and a bit of pointing towards what has been done well elsewhere. Then there can be more motivation to help utilities, regulators and government to think about doing things differently.⁹⁵

- 5.85 Infrastructure Australia said that 'given the scale of change required to advance urban water reforms, there is a clear need for a dedicated independent national urban water reform body to provide strong national leadership'. It also advocated for a national urban water reform objectives to align the reform agendas of disparate jurisdictions:

Reform should be guided by a set of clear national objectives agreed by all governments. Clear national objectives can help to frame discussions about urban water reform and provide a basis for all stakeholders in the urban water

⁹³ Water Services Association of Australia, *Submission 53*, p. 8.

⁹⁴ Water Services Association of Australia, *Submission 53*, p. 8.

⁹⁵ Mr Phillip Davies, Head of Regulatory Economics, Sydney Water, *Committee Hansard*, 14 November 2017, p. 32.

sector – across governments, regulators, utilities and communities – to engage with a national reform effort.⁹⁶

- 5.86 It suggested that the Australian Government incentivise state and territory governments to undertake urban water reform by providing additional funding in return for reform:

Any national reform agenda must recognise that the bulk of reform will need to be carried out by each state and territory government. Many of these reforms will be complex and require each jurisdiction's government to build support for change by effectively communicating to users and taxpayers the need for urban water reform, and the benefits it could bring. The Australian Government can and should use its funding position to drive the implementation of wider reforms by providing incentive payments – additional funding above existing projected allocations – in return for delivery of agreed reforms.⁹⁷

Productivity Commission inquiry into National Water Reform

- 5.87 Infrastructure Australia pointed out that the Productivity Commission has just concluded an inquiry into national water reform which examined 'progress towards achieving the objectives and outcomes of the NWI'. A final report was handed to the Australian Government on 19 December 2017 and is expected to be tabled in parliament and responded to later this year.⁹⁸
- 5.88 The Committee was urged to support the Productivity Commission's findings and champion an urban water reform agenda. Mr Davies recommended that the Committee 'take heed' of the current Productivity Commission inquiry and support a reinvigoration of the NWI.⁹⁹ Similarly, recent work by Infrastructure Australia has sought to support the Productivity Commission in 'building the case for reform, and establishing a

⁹⁶ Infrastructure Australia, *Reforming Urban Water*, 2017, p. 7.

⁹⁷ Infrastructure Australia, *Reforming Urban Water*, 2017, p. 7.

⁹⁸ Productivity Commission, *Inquiry into National Water Reform*, <<https://www.pc.gov.au/inquiries/completed/water-reform/draft>>, retrieved 15 March 2018; Infrastructure Australia, *Reforming Urban Water*, 2017, p. 63.

⁹⁹ Mr Phillip Davies, Head of Regulatory Economics, Sydney Water, *Committee Hansard*, 14 November 2017, p. 29.

viable pathway for reform'.¹⁰⁰ WSAA also highlighted the potential benefits of 'good national reform'.¹⁰¹

Minimising waste production and improving management

- 5.89 Stakeholders to the inquiry felt that reducing waste generation and improving waste management is fundamental to the long-term environmental sustainability and resilience of Australian communities. For example, the City of Sydney suggested that improving waste management can help mitigate climate change risk:

There are some fundamental things that cities need to do - waste should be diverted from landfill, recycled and recovered as a valuable resource.¹⁰²

Waste generation is increasing

- 5.90 The Committee heard that rapid population growth coupled with the rise in smart technologies has driven a commensurate increase in waste production. The City of Sydney said, 'rising population growth and new development is increasing energy and water demand, and waste generation is at unprecedented levels'.¹⁰³
- 5.91 Similarly, the Victorian Government said the expansion of Melbourne has contributed to 'increased consumption of resources and more waste and pollution'.¹⁰⁴
- 5.92 The University of Technology Sydney reported that, 'in relation to resource consumption and waste generation, Australia has the dubious distinction of being one of the highest per capita waste generators in the world'.¹⁰⁵

Australian Government's role in waste management reform

- 5.93 Witnesses highlighted opportunities for the Australian Government to reduce waste production and strengthen waste management. Professor Marcus Foth, Professor of Urban Informatics at the Queensland University

¹⁰⁰ Infrastructure Australia, *Reforming Urban Water*, 2017, p. 9.

¹⁰¹ Water Services Association of Australia, *Submission 53*, p. 8.

¹⁰² City of Sydney, *Submission 100*, p. 22.

¹⁰³ City of Sydney, *Submission 100*, p. 22.

¹⁰⁴ Victorian Government, *Submission 148*, p. 7.

¹⁰⁵ University of Technology Sydney, *Submission 67*, p. 3.

of Technology Design Lab recommended that Australia ‘take responsibility for, and leadership in cradle-to-cradle city design’ and establish reduction targets to minimise e-waste generated from a transition to smart city technology:

Australian cities driven by a technocentric approach may invest in smart technology such as Internet of Things (IoT) devices and sensors as well as the required ICT backend infrastructure, data centres and cloud computing capabilities... However, sustainability requires a holistic ecology perspective... many IoT devices are characterised by ‘planned obsolescence,’ for example, they have been purposefully designed to run out of battery after a certain time with no easy ability to recharge or replace batteries, or they have been designed to fail after a period of use with repairs more expensive than the replacement value of the device. In addition to the negative impact that energy use and material replacement cost have on sustainability objectives, there are also specific concerns about the depletion of rare-earth metals as well as the unregulated mining of cobalt, which is used in lithium-ion batteries common in many personal, mobile and IoT devices. After their end-of-life, these devices are difficult to recycle and adequate recycling facilities are often missing, so they further contribute to the growth of e-waste dump sites in places such as China and Ghana.¹⁰⁶

- 5.94 Professor Stuart White, Director of the Institute for Sustainable Futures at the University of Technology Sydney also emphasised the importance of setting targets to guide efforts towards more sustainable cities. He argued that targets must be supported by well-designed implementation plans:

We can't manage what we don't measure... Targets are important, but they need to be clever. They need to be well designed and have a good strategy put in place to work out how to meet them. I would emphasise the importance of them as having something to shoot for, and then some design of a plan to be able to meet them and what that will cost.¹⁰⁷

- 5.95 Urbis Pty Ltd also emphasised the Australian Government’s role in directing Australian cities onto a more sustainable path. It suggested that ‘achieving prosperous, sustainable and resilient cities depends on finding new and better ways to... efficiently manage competing demands on depleted energy and water resources, together with the rising direct and indirect costs

¹⁰⁶ Professor Marcus Foth, *Submission 75*, p. 3.

¹⁰⁷ Professor Stuart White, Director, Institute for Sustainable Futures, University of Technology Sydney, *Committee Hansard*, 14 November 2017, p. 24.

associated with waste management'. It argued that the Australian Government's role is about 'vision, leadership and influence':

The Federal Government is ideally placed to promote overarching national perspectives focussed on addressing the bigger, longer term issues affecting all cities. It is about fostering collaborative actions across States and Territories, creating more unified commitment to addressing the biggest challenges. It's time for them to step into the breach to foster cross-portfolio policy coordination, focussed on better place based outcomes.¹⁰⁸

- 5.96 However it also suggested that 'implementation is left to state and local government, avoiding adding additional layers to already over regulated processes'.¹⁰⁹ The Australian Local Government Association also noted that waste collection and management is traditionally a local government responsibility. It suggested that any waste reduction initiatives will need to 'leverage local government leadership':

Through policies and partnerships with the community and other levels of government, local government has great influence in securing the quality of our urban and regional environments. If we are to realise a sustainable vision for Australia's cities and towns, it will be necessary to leverage local government leadership and capabilities to achieve this goal.¹¹⁰

- 5.97 National policy and regulatory settings, that encourage a holistic and collaborative approach to urban planning and development, could also support new economic opportunities in waste management. WSAA noted that 'Yarra Valley Water recently launched a waste to energy facility' next to a sewage and recycled water treatment plant in Melbourne's north:

The plant, which will be operational in 2017, will provide an environmentally friendly disposal solution to divert 33,000 tonnes of organic waste per year from landfill. Businesses will also have access to an easier and more affordable way of recycling commercial organic waste. Commercial organic waste from local food markets and manufacturers will be processed into biogas via anaerobic digestion.

It is expected that enough energy will be generated to run the facility and the neighbouring treatment plants. Any surplus energy will be exported to the

¹⁰⁸ Urbis Pty Ltd, *Submission 46*, p. 2.

¹⁰⁹ Urbis Pty Ltd, *Submission 46*, p. 2.

¹¹⁰ Australian Local Government Association, *Submission 83*, p. 1.

electricity grid, helping to reduce greenhouse gas emissions, and Yarra Valley Water's reliance on traditional sources of electricity.¹¹¹

- 5.98 The Department of Environment and Energy pointed out that the Australian Government has pursued greater collaboration with the states and territories to reduce waste production and improve waste management:

The Department is responsible for a range of policy and regulatory functions that ensure the safe and effective management of chemicals and waste in a way that protects the environment and human health...

- collaboration with states and territories and industry to develop and implement strategies, guidance and programs to support increased sustainability in national waste management, including through product stewardship approaches;
- development of a national food waste strategy, to deliver on the Government's 2016 election commitment to halve food waste by 2030 (which mirrors the United Nation's Sustainable Development Goal on food waste); and
- delivery of a National Food Waste Summit on 20 November 2017.¹¹²

Climate change

- 5.99 Climate change is degrading the social and environmental sustainability of Australian communities and heightening the need to take a new approach to urban development. According to Professor Barbara Norman, 'cities consume 75 per cent of the world's energy use and produce more than 76 per cent of all carbon', 'thus cities are major contributors to climate change but they are also highly vulnerable to the risks, especially in coastal locations'.¹¹³

- 5.100 Professor Norman suggested that the impact of climate change on cities is likely to include 'more heatwaves, extreme rainfall and intense cyclones, harsher fire weather and more severe storm surge associated with sea level rise'. She warned that this will have consequences for the 'built environment and major infrastructure (transport, energy), [and] will have immediate and

¹¹¹ Waster Services Association of Australia, *Submission 53*, p. 4.

¹¹² Department of Environment and Energy, *Submission 149*, p. 6.

¹¹³ Professor Barbara Norman, *Submission 29 Attachment 1*, p. 2.

damaging effects on urban communities, the urban environment and a city's productivity'.¹¹⁴

- 5.101 According to the State of Australian Cities report (2013), the built-up nature of cities makes them particularly vulnerable to extreme weather:

...“People living in cities, particularly those in Australia's inland cities, can be more susceptible than non-urban dwellers to the effects of heatwaves as a result of the urban heat island (UHI) effect. This is caused by the prevalence in cities of heat-absorbing materials such as dark coloured pavements and roofs, concrete, urban canyons trapping hot air, and a lack of shade and green space in dense urban environments.”¹¹⁵

- 5.102 The Australian Institute of Landscape Architects (AILA) noted that ‘over half of the surfaces within our cities are heat absorbing materials, such as darker coloured roofs, car parks, roadways and footpaths’.¹¹⁶

- 5.103 Indeed the extreme weather associated with climate change is already exposing the vulnerabilities of Australia's urban form; Melbourne and Sydney both report significant issues with urban heat. The Victorian Government said that ‘within the City of Melbourne alone, the urban heat-island effect is projected to result in health costs of \$280 million by 2051’:

Rising temperatures are exacerbated in urban environments through the heat-island effect. The urban heat-island effect is created by the built environment absorbing, trapping and, in some cases, directly emitting heat. This effect can cause urban areas to be up to four degrees Celsius hotter than surrounding non-urban areas.¹¹⁷

- 5.104 Mr Jeffrey Angel, Director of the Total Environment Centre said ‘one of the main environmental causes of death in Sydney is heat, as well as air pollution’.¹¹⁸ This is borne out by evidence from the City of Parramatta which reported that Western Sydney experiences approximately five times

¹¹⁴ Professor Barbara Norman, Submission 29, *Attachment 1*, p. 1.

¹¹⁵ Australian Institute of Landscape Architects, *Submission 158*, p. 2.

¹¹⁶ Australian Institute of Landscape Architects, *Submission 158*, p. 2.

¹¹⁷ Victorian Government, *Submission 148*, p. 7

¹¹⁸ Mr Jeffrey Samuel Angel, Director, Total Environment Centre, *Committee Hansard*, 22 August 2017, p. 30.

the number of days per annum over 35 degrees Celsius than Eastern Sydney.¹¹⁹

- 5.105 Water security and flooding are also issues, particularly for coastal communities. Professor Barbara Norman said ‘warmer and drier climates in southern Australia, particularly the southwest, are impacting water security for some major urban centres leading to investment in desalination plants’.¹²⁰
- 5.106 The University of Technology Sydney warned that the threat of drought, driven by the El Nino cycle and climate change, is real.¹²¹
- 5.107 Planning consultants, The Middle Way submitted that there is ‘an enormous stock of residential and commercial buildings across the country that are poorly adapted to extreme heat or storms, or are located in areas highly prone to flooding’. The Middle Way suggested this is illustrated by the insurance industry’s ‘historically high costs from cyclones, rain squalls, flash flooding and bushfires’.¹²²
- 5.108 Low density urban development on the fringes of Australia communities is also a major source of carbon emissions.¹²³ Indeed, the Committee for Sydney suggested that ‘the single most effective policy objective that the federal government can adopt to transition to a sustainable future for our cities is to arrest urban sprawl’.¹²⁴
- 5.109 The impact of climate change on Australian communities is likely to worsen without a shift to more sustainable modes of urban development. The CSIRO submitted that ‘without large and immediate reductions in global greenhouse gas emissions (mitigation), it is unlikely that the world will avoid ‘dangerous climate change’ defined as an increase in global average temperatures of more than 2° C above pre-industrial levels’.¹²⁵

¹¹⁹ Mr Greg Dyer, Chief Executive Officer, General Management, City of Parramatta Council, *Committee Hansard*, 13 November 2017, p. 11.

¹²⁰ Professor Barbara Norman, *Submission 29 Attachment 1*, p. 2.

¹²¹ University of Technology Sydney, *Submission 67*, p. 3.

¹²² The Middle Way Pty Ltd, *Submission 80*, p. 4.

¹²³ Professor Peter Newton, *Submission 70*, p. 3.

¹²⁴ Committee for Sydney, *Submission 88*, p. 26.

¹²⁵ CSIRO, *Submission 121*, p. 5.

- 5.110 Moreover, the Northern Alliance for Greenhouse Action pointed out that developing a more sustainable urban form is critical to meeting Australia's international obligations:

Cities have a critical role to play in reducing greenhouse gas emissions across a range of sectors and sources. The International Energy Agency states that transforming the way cities use and generate energy alone has the potential to deliver 70 per cent of the total emissions reductions needed to stay on track for the 2°C limit set under the Paris Agreement.¹²⁶

Climate sensitive communities

- 5.111 National policies aimed at improving Australian communities' resilience to climate change should:

- prevent urban expansion in areas vulnerable to the effects of climate change;
- support local governments to adapt existing urban form; and
- establish a clear trajectory to zero emissions.

- 5.112 Stakeholders argued that national settlement planning is needed to ensure that new urban development occurs in a manner which is sensitive to climate change. Professor Barbara Norman warned that Australia needs to be 'very mindful' of where it accommodates its growing population. She noted that internationally, countries have settlement plans which map 'where the [climate change] hotspots are, where the current urban growth is, where the future urban growth will be, where the current risks are and where the projected risks are'. She asserted that not having a national settlement plan at this point in time 'is really a very significant gap, almost irresponsible':

We should not place future urban growth in areas exposed to high levels of extreme risk in terms of weather events that we have now and, of course, from the impacts of climate change now and in the future. I yet to see a map in Australia... I think that is a national responsibility.¹²⁷

- 5.113 Evidence to the inquiry also illustrated that local governments require financial assistance to adapt to climate change and improve the resilience of their communities. As the Warren Centre for Advanced Engineering noted,

¹²⁶ Northern Alliance for Greenhouse Action, *Submission 50*, p. 2.

¹²⁷ Professor Barbara Norman, Foundation Chair of Urban and Regional Planning, University of Canberra, *Committee Hansard*, 12 September 2017, p 1.

‘adaptation actions must be local as the impacts of climate change vary from region to region due to the local climate topography, coastal proximity to rising sea level and the built environment’.¹²⁸ However, evidence suggests that local governments may not have the budget to fund adaptation activities. The Planning Institute of Australia noted that ‘climate risks and vulnerability are unevenly distributed and are generally greater for disadvantaged people and communities’.¹²⁹ Moreover, ALGA pointed out, ‘over many years there have been substantial increases in unfunded tasks allocated to councils’ impeding local governments’ ability to deliver core services, let alone strengthen existing infrastructure.¹³⁰

- 5.114 The Queensland University of Technology noted that ‘overwhelming natural disasters such as large floods, cyclones/storms and bushfires do occur’ and ‘following such events the Australian Government can become the insurer of last resort’. It therefore recommended that the Australian Government ‘invest more in the ‘P’ parts of the PPRR model of natural disaster management (Prevention, Preparedness, Response, Recovery)’. It asserted that it is much more economically efficient for the Australian Government to invest in prevention and preparedness than it is to fund response and recovery programs in the aftermath of extreme weather.¹³¹
- 5.115 Mr Strachan and Ms Hall also recommended that the Australian Government ‘develop a Climate Change Adaptation Fund to assist city administrators in adapting to the effects of historical and future climate change impacts’.¹³² The Property Council of Australia suggested that the Australian Government could lead improved resilience through the provision of incentives, ‘to encourage early action on adaption within the built environment such as incentives to retrofit existing buildings’.¹³³

¹²⁸ The Warren Centre for Advanced Engineering, *Exhibit 21*, p. 27.

¹²⁹ Planning Institute of Australia, *Exhibit 22*, p. 31.

¹³⁰ Australian Local Government Association, *Submission 83*, p. 6.

¹³¹ Queensland University of Technology, *Submission 14*, p. 1.

¹³² Mr Jon Strachan and Ms Cathy Hall, *Submission 9*, p. 4.

¹³³ Property Council of Australia, *Submission 12*, p. 4.

National trajectory to zero carbon emissions

- 5.116 The Committee heard that national policy leadership is fundamental to reducing carbon emissions associated with Australia's urban form, and is an important component of mitigating climate change.
- 5.117 According to the Warren Centre for Advanced Engineering there are three main levers to decarbonising Australian communities:
- a shift from fossil fuel to renewables in the electricity sector;
 - increased electrification in sectors including building and transport; and
 - enhanced energy efficiency.¹³⁴
- 5.118 Chapter 6–Urban Connectivity, and Chapter 7–Sustainable Buildings, discuss specific strategies for improving the environmental sustainability of transport and buildings respectively. Transitioning the energy sector to renewables was dealt with earlier in this chapter. This section considers the need for overarching national policy that establishes a clear trajectory to a zero carbon future.¹³⁵
- 5.119 CSIRO noted that reducing carbon emissions will require 'the building of new cities and retrofitting of existing cities... to consider near-zero lifetime greenhouse gas emissions as an operational parameter'.¹³⁶ However, a number of stakeholders argued that the Australian Government's current carbon reduction target of a 26-28 per cent reduction on the 2005 emissions levels by 2030 is insufficient to achieve this.¹³⁷
- 5.120 According to the City for Sydney, 'the current suite of Australian Government policy mechanisms to deliver low-cost emissions reductions are not fit-for-purpose', 'do not create incentives for efficient reductions in emissions and cannot be effectively scaled up to meet future commitments'.¹³⁸ Likewise the Northern Alliance for Greenhouse Action (NAGA) argued that 'the current target is woefully inadequate and should

¹³⁴ The Warren Centre for Advanced Engineering, *Exhibit 21*, p. 10.

¹³⁵ City of Sydney, *Submission 100*, p. 23.

¹³⁶ Commonwealth Scientific and Industrial Research Organisation, *Submission 121*, p. 5.

¹³⁷ Department of the Environment and Energy, *Australia's 2030 Climate Target*, <
<http://www.environment.gov.au/climate-change/publications/factsheet-australias-2030-climate-change-target>> viewed 10 April 2018.

¹³⁸ City of Sydney, *Submission 100*, p. 23.

be immediately strengthened to reflect our responsibilities and obligations as part of the Paris Agreement’:

For Australia, to fairly contribute to the target of restricting warming to below 2°C and strive for 1.5°C total emissions need to be limited to around 8-11 billion tonnes between 2013-2050. On current emissions levels this entire budget would be exhausted by 2030-2035.¹³⁹

- 5.121 NAGA advocated for the adoption of more ambitious short term carbon reduction targets and a long term deadline for zero net emissions. It suggested that reductions of approximately ‘40 per cent below a 2000 baseline by 2025, and a target of 65-75 per cent below the 2000 baseline by 2035’ are realistic and equitable short term targets. It noted that this should be supplemented by total decarbonisation by 2050:

As well as adopting a shorter-term target, an explicit date for decarbonisation will allow for long term direction in climate policy and guide investment decisions. Decarbonisation would see Australia reach zero net emissions, and would require ambitious energy efficiency, low carbon technology, electrification and fuel switching, as well as reduced non energy emissions in agriculture and industry.¹⁴⁰

- 5.122 The City for Sydney also argued that ‘it is essential that the Australian Government also shows leadership and commitment so that all Australian Cities become net-zero carbon emissions cities by 2050’. It recognised that ‘different policy mechanisms will work for different sectors’ but urged the Australian Government to adopt a suite of policy mechanisms which ‘include a price on carbon for electricity generation, tighter baselines for the safeguard mechanism consistent with Australia’s targets, and use of minimum standards for appliances, vehicles, fuels and buildings’.¹⁴¹ The City for Sydney suggested that ‘investment certainty and efficient reductions in Australia’s emissions can only be delivered through a long-term target’.¹⁴²
- 5.123 The Department of Environment and Energy pointed out that the Australian Government does have ‘policies and programs that contribute to a reduction of Australia’s greenhouse gas emissions and strengthen our resilience to a

¹³⁹ Northern Alliance for Greenhouse Action, *Submission 50*, p. 1.

¹⁴⁰ Northern Alliance for Greenhouse Action, *Submission 50*, p. 2.

¹⁴¹ City of Sydney, *Submission 100*, p. 23.

¹⁴² City for Sydney, *Submission 100*, p. 22.

changing climate', for example: the Renewable Energy Target, the Australian Renewable Energy Agency and the Clean Energy Finance Corporation¹⁴³

Greenspaces and environmental protection

- 5.124 The right mix of green spaces and natural assets is critical to managing urban heat and creating liveable cities. Stakeholders suggested national policy is needed to monitor and preserve this mix.
- 5.125 The City of Fremantle noted that 'while density is an essential ingredient in creating sustainable and liveable cities... density needs to be accompanied by a major provision of high quality green spaces'. It claimed that 'global best practice is that 20–30 per cent of the total land size should be devoted to public open space, not the 10 per cent that is standard in most new developments'. It also highlighted the importance of providing a diverse range of greenspaces including sporting fields, bushland and parks to accommodate different lifestyles.¹⁴⁴
- 5.126 The NSW Government argued that 'best practice strategic planning and urban development can ensure sufficient open space and natural environments are incorporated into our cities'. It noted that green spaces 'produce many benefits such a cleaner air and water, reduced 'heat island' effects and protection from the elements'.¹⁴⁵
- 5.127 AILA asserted that 'the planning, design and construction of our urban environs, including the application of green roofs and walls, street trees and tree planting, greener open-space design, rain gardens and reflective roofs and pavements, can all contribute to improving the comfort, quality and health of the city and its residents':

Every 1°C temperature reduction that can be achieved through the better design of cities can equate to five per cent energy saving through reduced cooling loads. Reduced cooling loads will have significant social, economic and environmental impact on the long term sustainability of Australian cities. Alternatively, without changing the way we manage the growth of our cities, a Flinders University-led study has found that a 1°C temperature increase

¹⁴³ Department of Environment and Energy, *Submission 149*, p. 3.

¹⁴⁴ City of Fremantle, *Submission 16*, p. 4.

¹⁴⁵ NSW Government, *Submission 125*, p. 21.

boosts cooling loads by 1.5million kWh per year, generating 1000 tonnes in carbon dioxide emissions.¹⁴⁶

- 5.128 AILA advocated for a national green infrastructure strategy and a national living cities fund 'to support the implementation of green infrastructure projects across Australia':

This would require a percentage of all Australian Government expenditure on 'grey infrastructure' projects (e.g. roads) to be placed in an investment fund for allocation to state and local government green infrastructure projects.¹⁴⁷

- 5.129 It also recommended 'the creation of an Australian Government policy on the value of open spaces that quantifies and qualifies the development of better, higher quality and greener open spaces in cities that focuses on the health and wellbeing of our communities'.¹⁴⁸

Committee conclusions

- 5.130 The Committee appreciates the important role community infrastructure and utilities play in fostering the long term social and environmental sustainability of communities. Green spaces, cultural spaces, health and community justice facilities support the well-being of residents and promote community cohesion and liveability. Educational institutions expand the employment opportunities available to Australians and support a more diverse and prosperous economy. Affordable, reliable and environmentally friendly utilities are fundamental to all aspects of community life and underpin community resilience.
- 5.131 It is also clear to the Committee that Australia's urban development has reached a critical juncture. Business as usual approaches to community infrastructure provision no longer represent best practice and are ill-equipped to deliver prosperous and liveable communities.
- 5.132 Evidence to the inquiry indicates that population growth is outstripping investment in community infrastructure such as health, education and community justice facilities. Technological advancement is revolutionising energy generation, and increasing waste production. The benefits of more

¹⁴⁶ Australian Institute of Landscape Architects, *Submission 158*, p. 3.

¹⁴⁷ Australian Institute of Landscape Architects, *Submission 158*, pp. 5-6.

¹⁴⁸ Australian Institute of Landscape Architects, *Submission 158*, p. 6.

holistic, integrated water cycle management are better understood and recognition of the need to reduce carbon emissions has gained momentum.

- 5.133 Most concerning of all, it appears that urban development planning is not comprehensive and does not leverage the benefits of strategic investment in community infrastructure and utilities.
- 5.134 Stakeholders have argued that Australian Government leadership is needed to drive reform across these areas. The Committee agrees. As a highly urbanised population and economy, the liveability of Australia's communities is too important to leave to chance.
- 5.135 The next four sections outline the Committee's recommendations to set urban development on a more sustainable trajectory.

Community infrastructure

- 5.136 The two major issues with the delivery of green spaces, health, education and community justice facilities are the provision for community infrastructure and appropriate densities in urban planning, and the adequacy and timeliness of infrastructure investment in population growth areas.
- 5.137 The Committee recognises the importance of holistic planning with three key characteristics; it involves all three levels of government and key policy areas, it integrates infrastructure investment with land-use planning, and it supports optimal densities. These issues are discussed at length in Chapters 2 and 3 of the report, where the Committee recommends the development of long-term, comprehensive settlement planning. The Committee considers that, through this process, the Australian Government can establish clear expectations for state and local governments' settlement planning, including requiring urban planning to:
- be a collaborative process involving state and local government, key policy areas and utilities such as energy, water and waste;
 - provide for community and transport infrastructure and consider adjacent land uses; and
 - drive optimal population densities in a manner which supports liveability.
- 5.138 Although planning is important, it is meaningless without the investment needed to deliver community infrastructure. Moreover, it is evident to the Committee that the communities shouldering the lion's share of Australia's rapid population growth believe that federal funding for infrastructure has

not kept pace and their liveability is suffering as a result. The Committee agrees, and would like to see Australian Government funding reoriented to support these growth areas, largely located on the suburban fringe of capital cities.

- 5.139 However, investment in suburban fringe areas needs to be balanced with investment in regional centres, which are strategically placed to absorb some of Australia's rapidly expanding population. The Committee concludes that regional centres offer many advantages to citizens and businesses and that intelligent investment in community infrastructure can increase the attractiveness of these locations for settlement, relieving some of the population pressures on communities along cities' urban fringes. This may involve reorienting the NSRF as stakeholders suggest, or the establishment of a new community infrastructure fund.

Recommendation 7

- 5.140 **The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement, aligns existing regional infrastructure programs to the objectives of these plans to support investment in:**

- **communities experiencing rapid and sustained population growth; and**
- **regional centres which are strategically placed to expand with catalytic investment in community infrastructure.**

- 5.141 National policy guidance is also needed to ensure urban regeneration, infill and expansion reflects best practice in age inclusive design. Urban redevelopment offers a significant opportunity to improve the social sustainability of Australia's urban form. The Committee concludes that nationally consistent policies which establish minimum standards for age-friendly urban development are required.

Recommendation 8

- 5.142 **The Committee recommends that the Australian Government work with the States and Territories to ensure that nationally consistent age-inclusive standards for urban development are put in place, informed by:**

- **community consultation; and**
- **reviews of international and Australian best practice.**

Urban water management

- 5.143 Evidence submitted to the inquiry clearly demonstrated that the complexity of urban water regulatory and policy frameworks and the siloed nature of institutions is preventing best practice integrated water cycle management.
- 5.144 The Committee considers that there is a clear case for reform and that it heard many sensible recommendations in relation to water management. However, given the Committee's relatively narrow engagement with the water sector throughout the inquiry, and the Productivity Commissions' recent in-depth review of National Water Reform, the Committee will not make a specific recommendation on urban water management.
- 5.145 However, the Committee notes that smarter urban water management has the potential to drive significant sustainability gains and improved liveability in Australian communities. The Committee urges the Australian Government to seriously consider the findings of the Productivity Commission. Engaging with water utilities early on in urban development planning processes will be critical to achieving optimal outcomes and should be supported by policy and regulatory reform.

Waste management

- 5.146 The Committee is concerned to hear that waste production is increasing and that Australia now ranks highly in terms of waste generation per capita. Reducing waste production and improving waste management is critical to the long-term sustainability of Australian communities and an important aspect of being a responsible global citizen. The Committee considers that the Australian Government has particular responsibility to improve outcomes in waste management. This will balance the Government's commitment to a transition to smart cities with the broader deployment of IoT technologies; many of which have short lifespans and use rare resources.
- 5.147 The Committee recommends the establishment of nationally consistent measurable targets to reduce waste to landfill, and the incorporation of a waste indicator into the National Cities Performance Framework. The Committee also recommends that the Australian Government provide grant

funding to catalyse new innovative businesses focussed on waste recycling or utilisation, such as the Yarra Valley Water waste to energy facility.

Recommendation 9

5.148 The Committee recommends that the Australian Government, in partnership with the States and Territories, establish nationally consistent measureable targets to reduce waste to landfill, incorporates waste indicators into the National Cities Performance Framework, and establishes a grant program to offer once-off financial support to catalyse new businesses focussed on waste recycling or utilisation.

Climate change

5.149 National policy guidance is needed to ensure urban development incorporates environmentally friendly design. Urban redevelopment offers a significant opportunity to improve the environmental sustainability of Australia's urban form. The Committee believes that nationally consistent policies which establish minimum standards for a clear trajectory to continued carbon emission reductions, and which provide for adequate green spaces, will help ensure this opportunity is utilised.

Recommendation 10

5.150 The Committee recommends that the Australian Government work with the States and Territories to establish nationally consistent guidelines for urban green space and establish a clear trajectory to continued carbon emissions reductions.

6. Urban connectivity

- 6.1 Good urban connectivity creates cities that are sustainable, liveable and accessible—economically, socially and environmentally. Connectivity shapes urban form, which in turn, affects sustainability, liveability and accessibility.
- 6.2 This chapter will consider aspects of sustainability in urban transport systems and the interrelationship between transport connectivity and urban form. It will then consider three key concepts which are essential to both sustainability and the urban form—the '30-minute city', the role of public transport and the role of active transport (walking and cycling).
- 6.3 Technological innovation and their impacts—such as ridesharing, carsharing, electric vehicles, autonomous vehicles and the Internet of Things—will be considered, alongside the need for governments to embrace innovation to promote connectivity and accessibility.
- 6.4 The final section of the chapter will examine the importance of freight connectivity in the urban environment and the need to effectively integrate freight storage and movement into and around the urban environment.

Sustainable urban transport systems

- 6.5 The lack of sustainability of current transport systems has been highlighted in the evidence presented to the Committee. The Committee for Sydney and Action for Public Transport NSW both emphasised the problems inherent in our reliance on car-based road transport. The Committee for Sydney cited US research which demonstrated 'how low urban density goes hand in hand

with increased road supply. Essentially, urban sprawl is encouraged by such programs when the need is to service urban concentration'.¹ Action for Public Transport NSW observed that 'densities are dramatically reduced when large amounts of urban land are given over to bigger and wider roads, big box shopping centres and car parking'. It stated:

This trend has yet to be arrested. Sydney is in fact in the grip of an orgy of roadbuilding, with funding from the Commonwealth. Its liveability and quality of life is being eroded by the increasing burden of heavy traffic flows.²

- 6.6 In its submission, Uber suggested that the problem of private car use was in fact getting worse. It stated:

There are over 13.5 million cars in Australia today. Private car ownership has grown over 12 percent in the past five years, while population has grown less than 8 percent. Around eight in ten Australians travel to work by car, with the average weekly commuting time for full time workers in Australia's largest cities increasing by almost 20 percent from 2002 to 2011.³

- 6.7 Associate Professor Hussein Dia observed that 'the traditional approaches we have taken over the past 50 years have met with really limited success':

The solution that was prescribed to most governments was to build out of congestion by providing more roads for motorised transport without giving equal preference and priority to other modes of transport like public transport, active transport and even some of the policies that allow for densification rather than urban sprawl. All of these have led to some of the problems we are witnessing today.⁴

- 6.8 Associate Professor Dia argued that 'we really need to have a fundamental shift in the way we provide transport':

Rather than focusing on the physical movement of people and goods, I think in the future we need to focus more on how we provide access to services at places, economic opportunity and so forth, regardless of the mode of

¹ Committee for Sydney, *Submission 88*, p. 18.

² Action for Public Transport NSW, *Submission 76*, p. 3.

³ Uber, *Submission 56*, p. 6.

⁴ Associate Professor Hussein Dia, Department of Civil and Construction Engineering, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, p. 35.

transport. The mode of transport can come in at a later stage, but first we need to see what the access needs are for societies and cities and move from there.⁵

6.9 Ms Romilly Madew, Chief Executive Officer of the Green Building Council of Australia, highlighted the alternative of densification around public transport (see Chapter 3).⁶

6.10 Private car use also created significant environmental problems. The EDOs of Australia highlighted this environmental cost:

The need to integrate ecological sustainability in infrastructure decisions has only become more urgent with the rapid, ongoing rise in greenhouse gas emissions from the transport sector—both as a proportion of Australia’s carbon footprint (17% nationally, 19% in NSW) and in absolute emissions. Transport emissions have grown 52% since 1990 and the Government predicts growth will continue.⁷

6.11 The EDOs of Australia argued that ‘reducing emissions and adapting to unavoidable climate change are two sides of the same coin’:

Reducing emissions now makes adaptation easier and less costly, as impacts will be less severe, causing fewer shocks to human and ecological systems.⁸

6.12 Associate Professor Dia emphasised ‘that any prospects for decarbonising our cities will depend to a large extent on realising the opportunities for a reduction in transport energy use’.⁹

6.13 Mr Ashley Brinson, Executive Director, of The Warren Centre for Advanced Engineering, highlighted the impact of vehicle pollution on cardiovascular health, telling the Committee:

I’m not an expert in medicine, but, like many of my engineering colleagues, I’m increasingly concerned about the advancement of our knowledge of the role of nitrogen oxides, NO_x, and associated ozone and fine particulate matter, especially PM_{2.5}, on human cardiorespiratory health. In the months since we submitted our paper, a number of governments have made announcements. In

⁵ Associate Professor Hussein Dia, Department of Civil and Construction Engineering, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, p. 35.

⁶ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 4.

⁷ EDOs of Australia, *Submission 91*, p. 8.

⁸ EDOs of Australia, *Submission 91*, p. 15.

⁹ Associate Professor Hussein Dia, *Submission 82*, p. 2.

July, the UK announced that they would phase out sales of petroleum-driven vehicles by 2040 and, by 2050, all cars on British roads will be zero-emission vehicles. That's about re-engineering a fleet of 2.7 million vehicles—the sixth largest number of vehicles on the planet. Scotland will phase out in 2030. In the previous months, France put forward the date of 2040; India 2030 for sales; Norway 2025; Austria, Denmark, Ireland, Japan, the Netherlands, Portugal, South Korea and Spain have made announcements; eight US states have made plans; and China has said that they're studying the matter, potentially aligning their domestic automotive industry with their own domestic emissions plans.

The health effects were noted in *The Lancet*, a highly independent British gold-standard medical journal. On 19 October 2017 it released its findings that indicate massive underestimation of the impact of air quality on human health. Internationally, many governments, especially city governments, are considering the effects of air quality on urban populations, especially in densely populated cities, at ground-level neighbourhoods where automobile tailpipe emissions affect the population. We are increasingly aware that the neighbourhoods most affected are socially and economically disadvantaged neighbourhoods. These health effects are in addition to the carbon dioxide global warming case to decarbonise transport.¹⁰

6.14 The Queensland University of Technology stated that 'the transport infrastructure within and connecting our cities—a major determinant of resilience and liveability, requires an overhaul that goes beyond incremental adaptation over the next decades'. It argued that 'a clear signal from the Australian Government is required to lead Australia into this transition and to provide guidelines on the vision of the future connected and resilient Australian city'.¹¹

6.15 The Centre for Urban Research at RMIT said:

Transport and infrastructure provision in Australian cities has for too long failed to keep up with the imperatives of reducing carbon dependence and private transport use, and improving urban biodiversity. The Australian Government has a key role to play in setting a national agenda for an overall shift in the structure of Australian cities toward active and public transport as

¹⁰ Mr Ashley Brinson, Executive Director, The Warren Centre for Advanced Engineering, *Committee Hansard*, 13 November, 2017, p. 23.

¹¹ Queensland University of Technology, *Submission 14*, p. 1.

the dominant mode of transport, and mainstreaming the provision of green infrastructure into all aspects of city planning and development.¹²

- 6.16 The Australian Academy of Technology and Engineering (ATSE) identified a range of factors in sustainable urban mobility. It stated that sustainable urban mobility was about the 'movement of people and goods within a region that delivers environmental, economic and social sustainability'. It ensured that noise and air pollution were minimised, improved energy efficiency, promoted economic development, and was 'affordable to users and taxpayers'. ATSE argued that planning for sustainable urban mobility should prioritise modal shift 'from driving to public transport, cycling, or walking, in order to reduce road congestion, and should prioritise people rather than a particular mode of transport'. A sustainable urban transportation system would optimise health and wellbeing, promoting 'increased physical activity, reduced respiratory illness from decreased transport-related air pollution, and reduced mental and physical health problems associated with transport noise'. It would 'prioritise active transport, such as walking and cycling, over motorised transport'. ATSE proposed greater investment 'in technologies that address traffic congestion, greenhouse gas emissions, health and public safety concerns and social inequality, including driverless vehicles, alternative fuels, high-speed internet, Internet of Things, and big data'. It argued that 'future transport will be autonomous, battery-powered, and shared', and that 'governments should take steps in this direction as soon as possible, including a holistic approach to urban planning that incorporates transport, environment, land use, and health and wellbeing'.¹³
- 6.17 Roads Australia asserted that 'the age of prioritising cars in city centres is over'. It believed that 'pedestrian-friendly city centres that offer comfortable walking environments, with active street frontages and safe cycle networks that weave across a connected network, are the cities of the future'; and suggested that 'the urban canopy is beginning to return as people place importance on experience and natural surroundings to improve their wellbeing'. It urged governments to 'challenge cities to develop visions that transform urban mobility and deliver carbon-cutting goals'.¹⁴

¹² Centre for Urban Research RMIT, *Submission 35*, p. 5.

¹³ Australian Academy of Technology and Engineering, *Submission 17*, pp. 3–4.

¹⁴ Roads Australia, *Submission 92*, pp. 3–4.

- 6.18 The Department of the Prime Minister and Cabinet noted that the Australian Government is aiming ‘to improve accessibility and productivity in cities by supporting transport solutions that efficiently connect people with jobs and services, and goods with market’.¹⁵ Nonetheless, Associate Professor Dia observed that ‘the reform of urban mobility remains one of the major challenges confronting policy makers’:

Today, and despite decades of investment in transport infrastructure, mobility and access to economic opportunity is still hindered by high levels of congestion, long travel distances and unreliable travel times. These issues will become more pressing in the future with more people expected to live in urban areas.¹⁶

Transport and urban form

- 6.19 Addressing sustainable transport is first and foremost a question of addressing urban form. The Committee heard that more strategic investment in infrastructure, particularly transport infrastructure, is fundamental to creating the development of a more sustainable urban form; but that increased connectivity and accessibility are just the beginning of urban sustainability.
- 6.20 The Australian Sustainable Built Environment Council observed that ‘the design of our cities can make a significant contribution to the health and wellbeing of Australians by encouraging active transport, liveable streets and high quality open spaces’.¹⁷ Associate Professor Hussein Dia, highlighted the ‘strong link’ that exists ‘between transport supply and demand, and urban form’. He stated that:

Mixed-land use developments reduce the need for travel and promote active transport. Quality transport connections between functional places and facilities improve access and increases functionality of each place, leading to a reduction in the distances and number of trips between origins and destinations. This can be achieved through creative planning and urban designs, combined with innovative infrastructure and transport engineering designs. For example, compact configurations complemented with transport-

¹⁵ Department of the Prime Minister and Cabinet, *Submission 95*, p. 6.

¹⁶ Associate Professor Hussein Dia, *Submission 82*, p. 1.

¹⁷ Australian Sustainable Built Environment Council, *Submission 111*, p. 1.

oriented developments reduce private cars while still making it viable for cities to invest in different modes of public transport.¹⁸

6.21 Associate Professor Dia observed that ‘one of the key themes running throughout recent initiatives for reforming urban mobility is a recognition that past (and still current) practices in urban and transport planning are fundamental causes of the transport problems we face today’. He noted that ‘the policies and practices that were adopted in the past are now having widespread negative effects on urban form, liveability, health and economic productivity’. He argued that it was ‘important to commit to the premise that urban transport policies and practices can be transformed in a sustainable and socially equitable direction for the benefit of future generations’, but that achieving this required a ‘conceptual leap and renewed thinking of how we address the contemporary challenges facing urban mobility and accessibility in our cities’.¹⁹

6.22 Associate Professor Dia observed that ‘cities that have been successful in implementing sustainable transport solutions have adopted simple but radical approaches to meeting the travel needs of their citizens’:

Rather than focusing on the infrastructure required to facilitate the movement of private vehicles, the emphasis was shifted towards the movement of people and goods, regardless of the mode of transport. And instead of focusing on operational strategies that promote longer travel and through movements of traffic, the focus was shifted towards providing access and accessibility to all groups of society.²⁰

6.23 The key point was promoting accessibility, where the ‘ultimate goal of city development is to enhance access to jobs, places, services and goods’. The focus was ‘shifting from “transport” to “mobility”, and more emphasis is given to “accessibility”’.²¹

6.24 The University of Melbourne also argued that ‘urban form is shaped by accessibility’, and argued for ‘investment in urban mass transport’ to shape ‘healthy centres and peripheries while counteracting the increase in car dependency, segregation and the undesirable consequences of laissez-faire

¹⁸ Associate Professor Hussein Dia, *Submission 82*, p. 12.

¹⁹ Associate Professor Hussein Dia, *Submission 82*, p. 1.

²⁰ Associate Professor Hussein Dia, *Submission 82*, p. 4.

²¹ Associate Professor Hussein Dia, *Submission 82*, p. 4.

urban growth'. It urged 'the Australian Government to adopt a proactive approach to this important modal shift', stating that 'clear goals for infrastructure investment and planning policy are needed to achieve an Australia-wide shift from private cars to active, public and shared modes that reduce energy consumption and overall motorised distances travelled'.²² The University of Melbourne identified the need for a more sophisticated approach to urban connectivity and land-use planning to shape urban form:

With transport emissions making up a large portion of the carbon footprint of cities in Australia, sustainable urban development must include a focus on transport network planning, balancing land uses with associated travel distance. Use of measures of the spatial diversity in land uses within particular planning scales and areas would allow for a more sophisticated understanding of the purpose and distribution of concepts of 'mixed-use'. These land-use mix 'entropy' measures can then be applied in urban intensification strategies and green-field development planning (see, for example, the University's development of a Transport Walkability Index for Melbourne). Re-evaluating how we understand the interactions between land uses in existing, future, and evolving urban areas is crucially important to directing cities to more sustainable urban forms.²³

- 6.25 RMIT linked the 'the shortage of public transport and the lack of social infrastructure on the urban fringe of cities' to the prevailing urban form — low density housing in greenfield area. It argued that 'dwelling density is therefore a critical factor to deliver healthy liveable communities':

... it underpins the delivery of three other 'D's (i.e., distance to transit, diversity and destination accessibility) and is related to another 'D' (i.e., neighbourhood design). For example, without a minimum threshold of population density, public transport and local shops and services are not viable, nor is there sufficient population to create vibrant local communities.²⁴

- 6.26 The links between urban form, accessibility and health were highlighted by the Committee for Sydney. It noted that:

... the spatial differential across Sydney is also having health consequences. Areas in the West with low density development, poorly connected to public transport have dramatically less access to walkable environments. This means that they lack the environments which global research is showing are crucial

²² University of Melbourne, *Submission 106*, p. 6.

²³ University of Melbourne, *Submission 106*, p. 7.

²⁴ RMIT, *Submission 15*, p. 2.

to the future knowledge economy as places where knowledge workers agglomerate. Walkable precincts are now seen as more successful economically and where key 'innovation districts' are located in our cities.²⁵

6.27 It also highlighted the link between urban form accessibility and employment:

In Australian cities this divide takes the form of the 'Compact City' and the 'Sprawl City'. The former, for example the area within 10kms of the Sydney CBD, is a thick and broad labour market with high effective job density (EJD) and high value knowledge jobs, better public transport connectivity and the high urban amenity that comes from employment and residential density. The latter has a lower EJD, lower residential development and less accessible urban amenities with long journeys required by car from home to work and indeed leisure opportunities. Both by international standards are residentially unaffordable with even a home in Oran Park 60 kms from Sydney's CBD costing 12 times average salary for the South-West Sydney region though far more affordable than the areas closest to knowledge jobs in Sydney's East.²⁶

6.28 The Centre for Urban Research at RMIT stated that 'transport and infrastructure provision in Australian cities has for too long failed to keep up with the imperatives of reducing carbon dependence and private transport use, and improving urban biodiversity'. It argued that:

The Australian Government has a key role to play in setting a national agenda for an overall shift in the structure of Australian cities toward active and public transport as the dominant mode of transport, and mainstreaming the provision of green infrastructure into all aspects of city planning and development. A national strategy for green spaces and urban forests must set federal targets for urban greening. A national strategy for land value capture must be developed to guide local government in particular to appropriately leverage public infrastructure funds from rising land values. In concert with the strategies suggested above for controlling growth in land values and dampening speculation, this can be more sensitive to the potentially inequitable outcomes from urban greening programs.²⁷

6.29 Associate Professor Dia argued that 'achieving low carbon mobility requires prioritisation in the choices of infrastructure investments, and that 'it is not sufficient to pursue policies that 'balance' investments between different

²⁵ Committee for Sydney, *Submission 88*, p. 13.

²⁶ Committee for Sydney, *Submission 88*, pp. 4–5.

²⁷ Centre for Urban Research RMIT, *Submission 35*, p. 5.

modes of transport'. He stated that 'the current imbalance in funding and investments between private and public modes of transport needs to be corrected', and that 'more initial funding should be allocated to developing and expanding non-motorised and high-capacity public transport infrastructure'.²⁸

- 6.30 The City of Fremantle believed that 'the heart of the future of liveable cities is in making them "cities of short distances"' — that 'a short trip to the shops, a short stroll to the local park, a short commute to work, a walk to drop the kids off to child care are all key ingredients for more liveable cities'. It observed that Perth, however, was 'a city of long distances exacerbated by low suburban densities and a lack of mixed uses in our communities':

Many people in Perth spend around an hour a day commuting as (according to the RAC) Perth is the city that has the lowest proportion of residents living within 10 km. of their workplace of any Australian city. With uneven public transport access, it means many depend on their cars, which is the antithesis of a liveable city. Having no choice but to drive children to school or the shops is not environmentally friendly but does present a hook on which public mindsets can be changed.²⁹

- 6.31 The City of Fremantle also identified the need to closely link planning for density with housing policy (see Chapter 8), stating that 'a "Cities of short distances" needed to be socially sustainable, which means (among other things) that governments (federal and state) have to play the lead role guaranteeing housing affordability':

People need to be able to afford to live near their work or near a railway station.

Dignified and affordable housing has to be seen as a human right guaranteed by government, no less than education or clean water. There is some activity in this area but it is more directed towards second order measures to tackle housing affordability. Without a substantial investment in new social housing stock (not just recycling existing assets) there is simply no possibility of achieving housing affordability within a city of short distances.³⁰

- 6.32 Associate Professor Dia reiterated the link between infrastructure and land-use planning (see Chapter 3), stating:

²⁸ Associate Professor Hussein Dia, *Submission 82*, p. 12.

²⁹ City of Fremantle, *Submission 16*, p. 2.

³⁰ City of Fremantle, *Submission 16*, p. 2.

The connection between land-use and transport needs to be re-built and strengthened to achieve sustainable urban mobility. An integrated approach to land use and transport shifts the focus of planning from placement of structures and designation of land use to that of enabling the realisation of people's needs and everyday functions in the most efficient and sustainable manner. Within this approach, the key challenge is therefore not merely to overcome the separate handling of transport and land-use planning. Rather, it is to foster an integration of multi-modal mobility within a holistic and sustainable land-use system. The use of Land-Use Transport Integration (LUTI) models which combine transport planning and land-use planning into the one tool will increasingly become important for planning future cities.³¹

30 Minute cities

- 6.33 An increasingly important concept informing urban planning is that of the 30-minute city, 'where residents can access employment, education, services and recreational facilities within 30 minutes of home, regardless of where they live'.³² The concept is based on Marchetti's constant, which theorises a daily travel budget within which people are happy to travel, but beyond which 'it becomes a stress on people and it becomes counterproductive'.³³
- 6.34 Lake Macquarie City Council observed that 'the concept of the 30-minute city suggests an optimal density for a sustainable city: it must be large enough to provide employment and public services; small and well-served enough to allow people to access day to day activities within a reasonable timeframe'.³⁴ The NSW Government also acknowledged the impact of the concept on urban form, highlighting its incorporation into planning for the Greater Sydney region:

The re-direction of the existing trajectory of Greater Sydney towards the metropolis of three cities will allow land use, transport and other infrastructure to be planned around the three cities, responding to the needs to residents in all parts of Greater Sydney. This approach is consistent with a move to a '30 minute city', which will allow an increasing number of residents

³¹ Associate Professor Hussein Dia, *Submission 82*, p. 12.

³² Department of the Prime Minister and Cabinet, *Submission 95*, p. 6.

³³ Associate Professor Hussein Dia, Department of Civil and Construction Engineering, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, p. 36.

³⁴ Lake Macquarie City Council, *Submission 43*, p. 3.

to be able to live within 30 minutes by public transport to their nearest city and the services and jobs that they provide.³⁵

- 6.35 The Committee for Sydney observed that ‘a 30 Minute City is not yet a reality for all Sydneysiders’. It believed that ‘the 30 minute city symbolises the shift we need to see in transportation policy and planning mindset away from mobility (moving as many people and goods as possible as fast as we can) and towards accessibility (getting where you want to go). It noted, however, that ‘much of our current thinking about transport planning emphasises the reverse’.³⁶ The ideal of the 30 minute city required an ‘increase effective job density’:

Effective Job Density is measure of the number of jobs accessible to a worker relative to the time taken to get to these jobs, adjusted by the current mode split of those workers in their travel to employment. In short—how many jobs can a worker access from their home by public transport or private vehicle? It is a commonly used proxy measure of the agglomeration economy—and how ‘connected’ into the benefits of the city a person is, as people who live in areas of higher effective job density can access more jobs and the consequent benefits of agglomeration.³⁷

- 6.36 The Australasian Railway Association supported ‘the concept of ‘30 minute’ cities, particularly in regard to daily workforce commutes’, but also noted that ‘to maximise an individual’s social benefits and ensure quality of life will require further investment to improve public transport services, complimented with demand management’.³⁸

Role of public transport

- 6.37 A key factor in reshaping the urban environment is prioritising public transport. Roads Australia stated that ‘public transport alleviates congestion and provides a carbon efficient mechanism to move people beyond reasonable walking and cycling distances’. It also ‘brings people and markets together, and facilitates social inclusion’. Roads Australia believed that ‘the role of Government to minimise the impact of the daily commute

³⁵ NSW Government, *Submission 125*, p. 12.

³⁶ Committee for Sydney, *Submission 88*, p. 40.

³⁷ Committee for Sydney, *Submission 88*, p. 40.

³⁸ Australasian Railway Association, *Submission 49*, p. 5.

and provide reliable and consistent access to public transport services is key to enhancing liveability'. It argued that:

Prioritising national investment in high capacity mass transit systems, and facilitating connectivity to and between regional, rural and metropolitan activity centres, offers vital support to the sustainable eco-system of cities across Australia.³⁹

- 6.38 The City of Fremantle stated that 'a sustainable urban form is largely dependent upon (or at least greatly assisted by) upfront investment in public transport and cycling infrastructure'. It argued that ideally the investment would be made 'before the first residents move in, thereby ensuring that 'the best habits are embedded early on'. It noted that:

In Australia it is often the reverse: wait for patronage numbers to rise to justify the public transport investment or cycling numbers to rise to justify bike lanes and infrastructure. The experience from Europe turns this thinking on its head; again in Stevenage New Town cycle ways are a separate system built from the very start of a new neighbourhood.⁴⁰

- 6.39 The City of Fremantle believed that there was 'a role for federal government to support efforts to change transport behaviour by providing better transport options (not just for private vehicles)'. It proposed 'capital investment in new services, but also improving existing services and increasing capacity / frequency to meet demands in more dense and sustainable cities'. It also believed that the Commonwealth could 'influence the issues of transit through targeting infrastructure funding to encourage states in developing and implementing a cohesive transit system and direct money away from road building at both state and federal levels'.⁴¹

- 6.40 The Australasian Railway Association (ARA) noted that 'rail provides the backbone of public transport systems in Australian cities', and observed that the 'continued improvement of rail in our cities through technology, infrastructure investment and expansion will increase the service and capacity offering and position rail as a viable alternative to the car'. The ARA stated:

In 2015, private vehicles accounted for 87 per cent of Australia's total passenger transport task in urban areas. Continuing to clog our roads and

³⁹ Roads Australia, *Submission 92*, p. 2.

⁴⁰ City of Fremantle, *Submission 16*, p. 3.

⁴¹ City of Fremantle, *Submission 16*, p. 6.

cities with vehicles will impact Australia's economic productivity and gross domestic product (GDP). The Bureau of Transport, Infrastructure and Regional Economics continue to calculate the cost and impact of road congestion. In 2015, time stuck in traffic in Australian cities cost the Australian economy \$16.5 billion in lost personal and business time, extra vehicle operating costs and additional transport emissions. Business as usual projections put the cost of congestion at \$30 billion in lost productivity by 2030. Public transport, in particular rail is part of the solution. One passenger train takes 525 cars off the road, and a freight train takes 110 trucks off the road. Research shows that building more roads does not reduce congestion, and therefore there is no economic (or social) justification for this approach. In fact increased road traffic can often be a cause of induced demand as opposed to population growth.⁴²

- 6.41 The ARA suggested that 'passenger rail provides extensive access opportunities for people with all levels of ability or inability', and that 'integration of all modes of transport so that a seamless transport journey is available and helps position public transport as a viable alternative to the car'. It argued that 'transport modes must work collaboratively to maximise the service offered to customers':

There is a need to ensure that the passenger rail sector is effectively integrated with other modes of public transport (buses, ferries), paratransit (taxis, car sharing) and active transport (walking, cycling). Only in this way will passenger rail and other complementary modes of transport provide a seamless, complete mobility package that will drive mode shift from cars to public transport over the longer term.⁴³

- 6.42 The ARA noted that 'public transport has broader benefits beyond reducing road congestion', stating:

Public transport has broader benefits beyond reducing road congestion. It is proven that public transport is cheaper, safer, and more environmentally responsible and enables older Australians, people with a disability and those in lower socioeconomic situations, to access basic services and reduce their isolation. Australians who travel by public transport are proven to be more active and healthier. Deloitte Access Economics calculated for the ARA that the social benefit for each new rail journey averages \$5.70 per individual.⁴⁴

⁴² Australasian Railway Association, *Submission 49*, p. 4.

⁴³ Australasian Railway Association, *Submission 49*, p. 7.

⁴⁴ Australasian Railway Association, *Submission 49*, p. 4.

- 6.43 The Committee for Sydney argued that maximising productivity in cities, while ‘promoting spatial and intergenerational inclusion’, could only be achieved ‘by a strategy of modal shift towards public transport/mass transit’.

This is not because we have an ideological preference of one mode over another. It is because as the economy is now shifting decisively to being an urban one based on the benefits of agglomeration economies in the knowledge era, the new challenge becomes to enable large numbers of workers to access such agglomerations without bringing the city to a halt via congestion. When the economy was dispersed transport programs which supported that dispersal—road programs—were most relevant. Now the economy is more concentrated and urban, we need a shift towards modes which service agglomeration. Further, while we believe that this shift is important now to make the city we have work better it is clear to us that the Sydney not of our current 5 million but that of 8 million by 2056 at the latest simply cannot be sustainable on a ‘business as usual for Sydney’ basis.⁴⁵

- 6.44 The Committee for Sydney emphasised that ‘modal shift is required to make our cities more productive, liveable, healthier and equitable for more people notwithstanding the other environmental benefits such a shift brings, including lower emissions’; and that ‘the low-density city is a low productivity city as well as being a low social-mobility city’. It argued that ‘the modern knowledge economy is an agglomeration economy not a dispersed one such as we saw in the manufacturing era’:

This means we need a mass transport network that gets more and more workers to the places where large numbers of knowledge workers are agglomerating. The road network cannot achieve this outcome, and the attempt to do so exacerbates congestion and actually disperses residential development further. Public transport tightens a city up and road programs loosen them. We need to tighten this city up so that as we grow bigger we become a better city. That also means greening this city—not least because a city that grows greener as it grows bigger will command support for growth from a sometimes oppositional community.⁴⁶

- 6.45 Professor Sue Holliday urged a pattern of urban sub-regions, ‘strengthening the employment nodes outside of the CBD, and enhancing a sub-regional transport network, with fast links between sub regional centres, the city will

⁴⁵ Committee for Sydney, *Submission 88*, pp. 17–18.

⁴⁶ Committee for Sydney, *Submission 88*, p. 36.

be able to grow in a more sustainable way'.⁴⁷ The key was the development of fast rail services linking centres outside the CBD:

In my view we need to think of a metro system as a circular loop connecting people and jobs and providing interchanges to link them to other transit links in the system. This kind of thinking could offer Sydneysiders a real 'big city' metro running without timetable every 4 minutes or so.

We have a great opportunity here to move the focus of growth and connectivity west. We can of course have a circular inner metro going through Rozelle as originally conceived and linking the Olympic Park, and Bankstown. It would service those job hubs and distribute people to and from other parts of the system. But for the next stage of Sydney's development, we should extend that concept through Chatswood, Macquarie Park, Epping and to Parramatta fulfilling the ambition to link Parramatta to the 'global arc'.⁴⁸

- 6.46 The NSW Government highlighted the Sydney Metro City & Southwest rail link as an example of urban connectivity. It would 'enable a higher intensity of land use and greater opportunities for transit oriented development' and 'facilitate more intense use of the surrounding precincts'. The NSW Government noted that 'higher density residential areas can improve housing affordability through greater supply, coupled with better access to services and employment, and more liveable, vibrant communities'. It concluded that 'successful development of international cities is a "virtuous cycle", where higher living standards draw global talent, attract global businesses and investment, and boost international trade opportunities'.⁴⁹

Active transport

- 6.47 Active transport—walking and cycling—is another important aspect of connectivity and accessibility in the urban environment. Promoting active living is a key aspect of promoting personal health, and the urban environment underpins—or undermines— people's ability to use active transport as part of their regular routines.
- 6.48 Professor Anna Timperio, Research Fellow at the Institute for Physical Activity and Nutrition, Deakin University, and Member of the Physical

⁴⁷ Professor Sue Holliday, *Submission 31*, p. 2.

⁴⁸ Professor Sue Holliday, *Submission 31*, Utzon Lecture 2015, p. 12.

⁴⁹ NSW Government, *Submission 125*, p. 15.

Activity Committee and Future Leader Fellow with the National Heart Foundation of Australia, explained:

The Heart Foundation's key recommendation to the committee is for the implementation of national urban design policies that enable active living for Australians of all ages and abilities in cities and towns. Currently, 44 per cent of Australian adults and 80 per cent of Australian children don't do enough physical activity to meet government recommendations and walking and cycling to school is not the norm. The link between physical inactivity and increased cardiovascular disease and other chronic health conditions is well established, and prevention efforts through active living or building physical activity into daily life is essential to reducing the burden of disease in Australia. Increasing rates of walking and cycling through pedestrian- and cycle-friendly design is an important part of this and can also have other important sustainability benefits via decreased reliance on motorised transport.

There's widespread recognition that the built environment plays an important role in encouraging or discouraging active living across all age groups. The Heart Foundation has a long history of working with the planning industry to develop evidence based resources to guide policy and practice for developing livable places and spaces that support active living. The Healthy Active by Design resource is an excellent recent example of this.⁵⁰

6.49 The National Heart Foundation argued that 'active living and built environments that support physical activity play a key role in the broader economic and social goals for our nation'. It stated that:

- Fit and active workers are more productive, take fewer sick days and make a positive contribution to our economic wellbeing.
- Walking, cycling and public transport are affordable and sustainable solutions to traffic congestion.
- Cleaner air, reduced carbon emissions and sustainable living.
- Active neighbourhoods and cities are more liveable, with higher levels of social capital and community cohesion and lower levels of crime.
- Active neighbourhoods and cities enable older Australians to live more independently with reduced risk from disabling falls and costly chronic diseases and stay socially connected.⁵¹

⁵⁰ Professor Anna Timperio, Research Fellow, Institute for Physical Activity and Nutrition, Deakin University; and Member, Physical Activity Committee and Future Leader Fellow, National Heart Foundation of Australia, *Committee Hansard*, 21 November 2017, p. 28.

⁵¹ The National Heart Foundation, *Submission 113*, p. 5.

6.50 It also argued that ‘urban environments that support active living tick many of the boxes for quality of life’, such as:

... less congestion, a transport network that is served by active and public transport modes, easy access to workplaces and services, green and open public spaces, local access to healthy food, reduced car dependency, reduced crime, higher social capital and improved air quality.⁵²

6.51 The National Heart Foundation also observed that ‘the principles for active and sustainable urban environments are applicable in the development of regional centres and planning of regional communities’. It urged that the ‘Healthy Active by Design principles should be incorporated into the development and planning of regional communities so that they can enjoy the health and social benefits of built environments that support active living’. It stated:

Getting the right structures in place from the start is important to create town and neighbourhood centres that prioritise walking, cycling and public transport, provide adequate public open space and create mixed-used neighbourhoods that are pedestrian and bicycle friendly and reduce car dependency. It is more cost-effective to build active infrastructure from the start than having to retrofit existing communities.⁵³

6.52 The importance of incorporating active travel into urban design was highlighted by Mr Stephen Hodge, Government Relations Manager for the Australian Cycling Promotion Foundation, who observed that more people would cycle for transport ‘if the conditions were safer’:

People’s lack of separation and being forced to ride on busy roads with large amounts of high-speed traffic are key factors that are stopping them riding. We’ve seen that participation in cycling in areas of Sydney that have put in separate bikeways is about double the rate of greater metro Sydney. Probably one of the best results out of that is the number of kids that are now riding to school where there are these cycleways.⁵⁴

6.53 Associate Professor Matthew Burke made a similar point, stating:

We also all but wiped out cycling as a transport option by the turn of the Millennium. Our mode shares for cycling fell to some of the lowest in the

⁵² The National Heart Foundation, *Submission 113*, p. 6.

⁵³ The National Heart Foundation, *Submission 113*, p. 8.

⁵⁴ Mr Stephen Hodge, Government Relations Manager, Australian Cycling Promotion Foundation, *Committee Hansard*, 21 November 2017, p. 29.

world at around only 1% though we have seen sharp rises in the inner-cities lately where we have started to invest in cycling infrastructure and demand buildings install end-of-trip facilities for cyclists.⁵⁵

- 6.54 Mr David Rice, a Committee Member of the Sustainable Transport Coalition of WA, observed that the linear nature of road and rail infrastructure could easily present an obstacle to active travel:

... the transport planners that I've seen ... look at TODs, transit-oriented developments, like beads on a string. You've got a railway line, you have got the station, you have got some area around it and so on. The problem with that is that the string is actually either a railway line or a busy road, and it is difficult to get across. Even in a traditional railway line like the one that runs from Perth to Fremantle, which has been there for decades, can be up to 500-metres wide effectively, because you have to walk across to get to a crossing and back again. If it is in the freeway, the freeway can be effectively two or three kilometres wide—it's only a 100-metre wide reservation, but it's effectively wider.⁵⁶

- 6.55 Another obstacle to active travel was the question of personal safety of vulnerable members of the community. In its submission, LeadWest stated:

Promotion of active living in the region will be greatly assisted by advances in efforts to address perceived community safety. Studies on subpopulations of women, children, older adults and people from cultural and linguistically diverse backgrounds show a stronger positive correlation between real and perceived danger to personal safety and sedentary lifestyles. Active transport and public transport become more attractive options when they are perceived as safe options. Policies and investments in our region that enable safety, security and crime prevention will contribute to achievement of better community health and wellbeing outcomes.⁵⁷

- 6.56 The benefits of active transport, however, justified the investment in active transport infrastructure. LeadWest stated:

Cycling infrastructure can support de-congestion, complement public transport use, and improve community health and wellbeing with long term population health impacts. Population and transport planning should

⁵⁵ Associate Professor Matthew Burke, *Submission 98*, p. 2.

⁵⁶ Mr David Rice, Committee Member, Sustainable Transport Coalition of WA, *Committee Hansard*, 13 April 2018, p. 22.

⁵⁷ LeadWest, *Submission 146*, p. 9.

therefore support connected cycling infrastructure for the western region, including the completion of several significant trails in Melbourne's West.⁵⁸

6.57 Mr Rice also linked cycling to public transport use, observing that 'it's so efficient to be able to cycle to public transport or to be able to cycle to an activity centre or a CBD', and urging that 'catchment areas for active transport become a formal part of assessing any public transport or any activity centre type of development'.⁵⁹

6.58 The Australian Cycling Promotion Foundation highlighted the health benefits of being able to combine regular physical activity with regular travel, stating:

Making active travel and physical activity the norm in communities across the country is a fundamental aspect of this strategy.

87% of participants of the cycle to work scheme we surveyed noticed a health benefit from their more active commute to work. By using the scheme, people are able to make exercise an everyday activity, rather than having to find additional time for it, changing their behaviour and ensuring that exercise becomes part of their daily routine.⁶⁰

6.59 The Green Building Council of Australia (GBCA) cited a report by the Heart Foundation which:

... identified that public transport users in metropolitan Melbourne average 28 minutes walking to and from public transport each day, plus six minutes walking for other purposes. In contrast, car travellers average only six minutes in total. Just 2,000 steps a day can lead to an eight per cent reduction in cardiovascular disease. 4,000 steps a day can lead to an 18 per cent reduction making those extra minutes very valuable.⁶¹

6.60 The Committee for Sydney observed that:

Recent academic research in Australia has modelled the impact of urban planning on health, measuring a compact city model against a sprawled one, to assess the impacts of policy changes by governments in 6 cities around the world. The results are directly applicable to Sydney and the message is clear:

⁵⁸ LeadWest, *Submission 146*, p. 9.

⁵⁹ Mr David Rice, Committee Member, Sustainable Transport Coalition of WA, *Committee Hansard*, 13 April 2018, p. 22.

⁶⁰ Australian Cycling Promotion Foundation, *Submission 120*, p. 8.

⁶¹ Green Building Council of Australia, *Submission 99*, p. 25.

people who live in higher density neighbourhoods tend to walk more, cycle more and use public transport more often. In contrast, suburban sprawl discourages active transport—walking and cycling. The study revealed that a concerted policy effort to encourage compact cities (through major infill densification) results in significant health gains.⁶²

- 6.61 It argued that ‘major land-use changes are needed to promote density and diversity of uses to encourage a modal shift to walking, cycling and public transport’, and that ‘Local and State Government should consider policies that encourage active and public transport as a major health and environment policy, not just a transport or planning one’.⁶³
- 6.62 Roads Australia argued that ‘for all new city infrastructure and property developments, upgrades and renewals, bicycle and pedestrian infrastructure should be mandatory component of the planning approval process and be represented completely in project scope where practicable’. It urged that ‘higher relevance should be given to the enhancement of national public health, road safety and completing community access to an active travel network that integrates with existing city public transport networks’.⁶⁴
- 6.63 Queensland Walks urged that ‘federal funding of transport projects should always include walking links (where appropriate)’.⁶⁵ It argued that ‘fringe benefits for company cars and novated leases encourage wasteful car use, especially when other modes exist’, and suggested that either the tax breaks be removed,’ or these benefits extended to more sustainable and walk-friendly modes of transport, such as public transport and cycling’. It urged the collection of data about walking and the development of a national walking strategy ‘to improve the walking environment everywhere’.⁶⁶
- 6.64 The GBCA noted that it had incorporated active transport into its environmental ratings system, stating:

The Green Star Communities ‘Healthy & Active Living’ credit rewards projects that provide footpaths and bicycle paths, spaces for bicycle parking at train stations and major bus stops. It also rewards projects that feature parks and sporting facilities. The ‘Walkable Access to Amenities’ credit encourages

⁶² Committee for Sydney, *Submission 88*, pp. 30–1.

⁶³ Committee for Sydney, *Submission 88*, p. 31.

⁶⁴ Roads Australia, *Submission 92*, p. 5.

⁶⁵ Queensland Walks, *Submission 144*, p. 1.

⁶⁶ Queensland Walks, *Submission 144*, p. 2.

and recognises projects that have walkable access to diverse number of amenities that reflect the predicted demographic of the projects whilst the 'Sustainable Transport and Movement' credit encourages and recognises integrated responses to transport and movement that encourage a people-focussed hierarchy.⁶⁷

Transport innovation

- 6.65 A range of transport innovations were presented to the committee with the potential to significantly change the way we move about the urban environment. Some, like ridesharing and carsharing, are already with us; others, like electric vehicles and autonomous vehicles, are starting to make their presence felt. Rapid changes in technology—such as the development of the Internet of Things—are already transforming travel and have the potential to achieve much more. The critical question is whether governments are ready to respond to the opportunities and challenges being presented by transport innovation.

Electric vehicles

- 6.66 Electric vehicles have the potential to bring health and environmental benefits, and are starting to change transport policy internationally. Mr Ashley Brinson, Executive Director of The Warren Centre for Advanced Engineering, stated

Internationally, many governments, especially city governments, are considering the effects of air quality on urban populations, especially in densely populated cities, at ground-level neighbourhoods where automobile tailpipe emissions affect the population. We are increasingly aware that the neighbourhoods most affected are socially and economically disadvantaged neighbourhoods. These health effects are in addition to the carbon dioxide global warming case to decarbonise transport.⁶⁸

- 6.67 He noted that since the Warren Centre had made its submission to the inquiry, a number of governments had made announcements regarding the phasing out of petrol driven vehicles.⁶⁹

⁶⁷ Green Building Council of Australia, *Submission 99*, p. 25.

⁶⁸ Mr Ashley Brinson, Executive Director, The Warren Centre for Advanced Engineering, *Committee Hansard*, 13 November, 2017, pp. 23–4.

⁶⁹ Mr Ashley Brinson, Executive Director, The Warren Centre for Advanced Engineering, *Committee Hansard*, 13 November, 2017, pp. 23–4.

- 6.68 Australian Academy of Technology and Engineering (ATSE) urged that, 'to assist in addressing emissions reduction targets, drivers should be actively encouraged to adopt electric vehicles through incentives such as subsidies, lane priorities, and charging stations'. It noted that 'the switch to electric vehicles will be a long process, so strong exhaust emission standards will need to be enforced to ensure environmental sustainability for private motor vehicles'.⁷⁰
- 6.69 The Northern Alliance for Greenhouse Action stated that 'the Federal Government has a critical role to play in growing the industry for electric vehicles and other low emissions vehicles, through a combination of incentives and standards', and highlighted examples of local action in support of electric vehicles in Melbourne. It noted:
- Electric vehicles suffer from a demand-infrastructure conundrum, as there is little incentive for people to buy EVs until there is appropriate supportive infrastructure, while those that may be willing to invest in the infrastructure will hold back until there is enough vehicles on the road to support the investment. Industry analysis suggests that in other jurisdictions where EV uptake is strong, such as Copenhagen and California, success has been underpinned by legislation and government incentives to reduce emissions.⁷¹
- 6.70 The EDOs of Australia noted that 'while Australia is one of the sunniest countries in the world, electric vehicles have very low penetration compared with Northern Europe, the UK and some parts of the United States'. It argued that 'Australia should seize its strategic advantages to plan an electric, renewable-powered transport network'.⁷²
- 6.71 Mr Brinson noted that 'more international standards are being made to allow a more rapid progress up the economy-of-scale curve with the more cars that are made', and that as 'each manufacturer's product becomes more standardised and similar, there's greater competition and there's greater interchangeability and prices will continue to fall'. He believed that in the next decade or so, 'an electric vehicle will be just as cheap as the capital cost of a petroleum-driven vehicle'.⁷³

⁷⁰ Australian Academy of Technology and Engineering, *Submission 17*, p. 3.

⁷¹ Northern Alliance for Greenhouse Action, *Submission 50*, pp. 3–4.

⁷² EDOs of Australia, *Submission 91*, p. 8.

⁷³ Mr Ashley Brinson, Executive Director, The Warren Centre for Advanced Engineering, *Committee Hansard*, 13 November, 2017, pp. 26–7.

- 6.72 The switch to electric vehicles also demanded the development of relevant infrastructure, especially for recharging. The Downer Group observed that:

Smart cities will also support electricity and renewable energy operated cars. “Plug-in” ready cities will facilitate the expansion of a Public Electric Vehicle (EV) infrastructure that ensures the safe, reliable, and efficient integration of EV charging loads with the power grid.⁷⁴

- 6.73 It recommended the creation of ‘city infrastructure benefiting from renewable energy and facilitating continued uptake of electric vehicles’.⁷⁵

Autonomous vehicles

- 6.74 Alongside electric vehicles, autonomous vehicles have the capacity to transform road transport. Roads Australia observed that ‘new forms of shared and automated mobility will offer cities on-demand transport services for inner and outer suburban communities’. It suggested that ‘outer suburban and city fringe growth areas where mass transit services are not as frequent stand to benefit the most’, with ‘infrequent bus services’ being ‘replaced to save cost’. Roads Australia also anticipated that the introduction of automated vehicles would ‘encourage a review of the size, shape and development of city roads to use less road space, use varied materials and re-align the streetscape to accommodate all road users safely’. This would ‘have a profound impact on road design and how roads interact with city spaces’.⁷⁶

- 6.75 ATSE also stressed the potential benefits of autonomous vehicles, stating:

The predicted increase in uptake of electric and driverless vehicles in the coming decades will necessitate a change in road and parking infrastructure. In particular, uptake of driverless vehicles has the potential to reduce car park space requirements in cities, reduce infrastructure requirements, increase road safety, decrease road fatalities, increase mobility, and improve traffic flow. The space freed up from revision of the transport system to incorporate autonomous transport could be devoted to footpaths, bike paths, and increasing green spaces. Adapting to these changes in transport will require

⁷⁴ Downer Group, *Submission 18, Attachment, Smart Cities* (July 2017), p. 9.

⁷⁵ Downer Group, *Submission 18, Attachment, Smart Cities* (July 2017), p. 18.

⁷⁶ Roads Australia, *Submission 92*, p. 5.

integrated land use and transportation planning through coherent and consistent policies.⁷⁷

- 6.76 The Northern Alliance for Greenhouse Action made a similar point, observing that:

With careful planning, this technology has the potential to contribute to the reduction of transport-based emissions through the creation of a more efficient and integrated transport system. In this scenario, autonomous vehicles would require less on-road space and off-street parking as they would be in near constant motion; this, in turn, could free up currently under-resourced land for other uses such as increased housing and open spaces.⁷⁸

- 6.77 It warned, however, that without careful planning and policy development, ‘there is a danger that autonomous vehicles could increase on-road congestion as they compete with public transport’. It suggested that ‘Federal-backed research and guidance could assist Australian city planners in responding effectively and sustainably to this emerging technology’.⁷⁹

- 6.78 Mr Brian Haratsis, Chairman of MacroPlan Dimasi, also warned of the threat of autonomous vehicles to the road system—that unless they were properly integrated into the transport network they would actually increase private vehicle use. He told the Committee:

The whole point of automated vehicles is that we need to integrate them with public transport in Australia from day one. Failure to do that means it will be another freeway-building era. There’s no doubt about it.⁸⁰

- 6.79 Likewise, Professor Sue Holliday stated that ‘autonomous vehicles will only work with a very good transport system. All the literature and pilots that have been done around the world so far indicate that. So, we have to invest in public transport, even if we have autonomous vehicles.’⁸¹

- 6.80 Carsharing company GoGet cited modelling ‘undertaken on behalf of the Queensland Department of Main Roads’ which demonstrated that ‘a future in which autonomous vehicles are privately owned and operated similar to

⁷⁷ Australian Academy of Technology and Engineering, *Submission 17*, p. 4.

⁷⁸ Northern Alliance for Greenhouse Action, *Submission 50*, p. 4.

⁷⁹ Northern Alliance for Greenhouse Action, *Submission 50*, p. 4.

⁸⁰ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 6.

⁸¹ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 24.

vehicles today is likely to be the worst possible outcome', with 'reduced patronage on public transport, while increasing urban sprawl and congestion'. It proposed integrating autonomous vehicles with 'shared mobility and the rise of a "sharing" culture', suggesting that 'the best autonomous roadmap will require the scaling and wide uptake of existing shared mobility options'.⁸²

6.81 Another aspect of automation that needs to be considered is its technological requirements. Mr Tim Williams, Chief Executive Officer of the Committee for Sydney, observed that 'you can't do electric vehicles and autonomous vehicles without a big fibre backbone';⁸³ while Roads Australia highlighted the need for ubiquitous technology to make connected and automated transport systems work. It advised that 'the need to connect, share and automate transport and city services will rely heavily on the exchange of data between individuals, and public and private enterprise'.⁸⁴

6.82 Dr Jed Horner, Policy Manager with Standards Australia, emphasised the importance of developing technology and standards around the use of autonomous vehicles to make them effective. He stated:

The other thing I would mention is, if we look at autonomous vehicles, standardising line markings. So across Australia there's different terminology we use, in terms of the investments we make in infrastructure, and that cascades down even to the markings we have on roads. So it is making sure that, if we're going to onboard autonomous vehicles—and that's happening at a state and federal level, those trials, those testbeds—let's make sure we've got that infrastructure right, and a standards-based approach works in that respect.⁸⁵

6.83 The benefits of automation would not just apply to cars, however. Public transport was set to be transformed as well. The Australasian Railway Association observed that:

To maximise the service offering on existing rail networks, modern technologies and integrated systems such as automated train control, intelligent transport solutions and asset management tools will allow

⁸² GoGet, *Submission 69*, pp. 1–2.

⁸³ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 45.

⁸⁴ Roads Australia, *Submission 92*, p. 4.

⁸⁵ Dr Jed Horner, Policy Manager, Standards Australia, *Committee Hansard*, 22 March 2018, p. 26.

operators to run trains closer together while increasing safety and infrastructure capacity to accommodate patronage growth, current and forecast.⁸⁶

- 6.84 On the other hand, Mr Michael Apps, Executive Director of the Bus Industry Confederation, observed that automation made it possible for buses to compete directly with rail:

Autonomy is going to drive a whole different outcome ... platooning bus seats, or platooning vehicles that operate on a dedicated route but have the capacity to hive off to service individual suburbs or whatever. Inefficient rail lines within cities that are not the major mass trunk systems might be retaken and the reverse might be done; they might be re-bitumened.⁸⁷

Ridesharing

- 6.85 Ridesharing is another innovation transforming urban travel. Roads Australia viewed ride-sharing as 'an efficient first and last mile extension to complement existing public transport networks', and suggested that 'with increased population growth ride-sharing increases capacity of existing infrastructure'.⁸⁸ It proposed that governments 'remove any remaining regulatory barriers to this innovative mobility option early, to enhance the advantages of the shared economy and benefit from increased ability to move people in and around cities sooner'. It also urged creating 'appropriate planning frameworks with key principles to integrate public transport into a new shared mobility network', to 'better network connections in metropolitan and regional cities'. It noted that in the United States, governments 'subsidise ride-hailing and ride-sharing services to key customers to reduce cost and improve customer service'.⁸⁹
- 6.86 Uber is the principle ride-sharing company in urban Australia. It argued that its technology 'has the power to transform the way we think about transport, infrastructure and urban development, and improve urban mobility and the quality of life for people living in cities around the world'.⁹⁰

⁸⁶ Australasian Railway Association, *Submission 49*, p. 7.

⁸⁷ Mr Michael Apps, Executive Director, Bus Industry Confederation, *Committee Hansard*, 24 October 2017, p. 15.

⁸⁸ Roads Australia, *Submission 92*, p. 3.

⁸⁹ Roads Australia, *Submission 92*, p. 4.

⁹⁰ Uber, *Submission 56*, p. 3

It also suggested that ‘ridesharing complements and extends the reach of public transport, and for the first time, makes carpooling a reality at scale, reducing congestion and emissions’. It observed that:

In Australia, over 60 percent of Uber trips start or end in a public transport desert. And almost half of all trips are one-way, implying that for some suburbs, for at least part of the day, public transport is unavailable to cover either the outbound or return leg. In this way, ridesharing complements public transport where reliable service is unavailable. Ridesharing provides a flexible and scalable solution to the ‘last mile’ problem, connecting riders from their door to a transport hub.⁹¹

- 6.87 Uber noted that ‘some governments are already exploring how other models of shared transport can positively impact urban mobility’, citing the example of a New South Wales proposal for an ‘on demand transport trial’. Uber believed that ‘at scale, on demand services like this have the capacity to dramatically increase the efficiency of existing public transport networks’.⁹² Uber also referenced its UberPOOL service, a carpooling service, which ‘makes it easy for people headed in the same direction at the same time to share the journey, getting more people in fewer cars’. It cited an OECD report which ‘predicted that such a model would result in congestion disappearing, a 33 percent reduction in traffic emissions, and that the distance driven by shared cars would be 37 percent less than today, even during peak hours’.⁹³
- 6.88 Uber, believed that the ‘cities of the future will be moved by shared, self-driving technology and will as a result be less congested, less polluted, and more affordable and accessible for everyone’. Benefits of shared, self-driving rides included:
- Significant safety benefits, with 1.3 million people dying each year as a result of car crashes, 94 percent of which are due to human error.
 - Models built by the International Transport Forum (ITF) demonstrate that a city that moves to a shared, self-driving future will require a vehicle fleet less than 10 percent its current size.
 - Self-driving vehicles will be able to operate at higher efficiency than today’s cars, which sit parked 96 percent of the time. Increased utility

⁹¹ Uber, *Submission 56*, p. 9.

⁹² Uber, *Submission 56*, p. 12.

⁹³ Uber, *Submission 56*, p. 11.

rates will lead to a subsequent decrease in the requirement for car parking, which in turn will mean more land to develop into commercial, residential and public spaces.

- Because of the more intense utilisation and more rapid fleet turnover, the adoption of self-driving vehicles will enable faster adoption of electric vehicles. Because of these factors, a Berkeley study estimated that the use of self-driving technology in combination with electric vehicle technology could help reduce emissions per vehicle mile by more than 90 percent.
- Research conducted by University of Texas has indicated that 100 percent adoption of self-driving vehicles could lead to cost savings of \$1.4 trillion per year in avoided car crashes, productivity gains and reduced congestion delays.⁹⁴

Carsharing

6.89 Carsharing is a model of transport where drivers pay for access to vehicles on a subscription basis rather than owning or renting them. The vehicles are provided by the service provider at predetermined locations leased by the service provider. Vehicles are booked, driven, and returned to their original location. GoGet, a carsharing company, characterised carsharing as “the missing link” within our transport system, allowing residents and business to increasingly live car-free’. It stated that:

Reducing car ownership should be an important strategic goal to set as the ownership of a private vehicle is one of the greatest barriers to increased uptake of alternative modes of transport. Because of its convenience and perceived low cost per trip (although in truth much of the actual cost of owning a car is hidden) the private car is often used for trips which would otherwise best be suited to walking, cycling or public transport. As such car ownership is perhaps the greatest inhibitor of a wider modal shift towards more efficient and sustainable transport patterns. In contrast by revealing the true cost of each trip, carsharing effectively acts as an opt-in road pricing scheme and therefore incentivises users to shift trips to public transport and walking/cycling, resulting in a healthier modal split and overall transport system than would otherwise occur.⁹⁵

6.90 GoGet cites examples of cities where carsharing was being incorporated into transport models, such as San Francisco, Vancouver and Port Phillip in Melbourne. Regarding the latter, GoGet stated:

⁹⁴ Uber, *Submission 56*, p. 16.

⁹⁵ GoGet, *Submission 69*, p. 2.

The city of Port Phillip has recently endorsed a new Carsharing Policy for their local area. This policy has been the first of its kind in Australia to fully integrate the council's carsharing policy within the overall long terms strategic goals of the area. This has resulted in a policy which is well considered, but also ambitious by setting an overall target of halting the growth of the residential private car fleet at 2015 levels despite significant expected population growth. Council worked closely with operators including GoGet on the formulation of this policy, to determine what was feasible for both operators and council, as well as the needs of carshare members and the wider community. GoGet supports this policy and believes it is a good example of Australian 'best practice'.⁹⁶

6.91 GoGet urged that carsharing be incorporated into government thinking and planning on transport, recommending that:

... the Commonwealth Government should take the lead in this space and stipulate that future Infrastructure, Transport and Urban Development projects in our cities which receive Federal funding or support, must demonstrate some level of consideration around shared mobility integration. The flow on effect of such a mandate is likely to ensure that even non-commonwealth funded projects, consider shared transport in their planning.⁹⁷

6.92 It also recommended that governments look at carsharing as a way of managing their own vehicle use and the manner in which they incentivised private car use. GoGet encouraged the Commonwealth Government:

... to investigate how they can instead develop policies and regulations to 'level the playing field' and ensure shared transport services are able to effectively compete against private car ownership. Such an approach could examine how existing regulations around policy/taxation items such as Fuel Excise, Company Tax, GST and others are inhibiting the development of this new industry. We also think there is an opportunity for Government to use changes in regulation and tax incentives to encourage the growth and uptake of shared mobility services by individuals and organisations.⁹⁸

6.93 GoGet stated:

The benefit of taking steps to 'future proof' our cities on this front would also, of course, have benefits in the here and now as shared transport, such as

⁹⁶ GoGet, *Submission 69*, p. 6.

⁹⁷ GoGet, *Submission 69*, p. 7.

⁹⁸ GoGet, *Submission 69*, p. 8.

carsharing, has been shown to have direct and important impacts on improving both the efficiency and sustainability of our cities, and on their economic competitiveness.⁹⁹

- 6.94 Associate Professor Hussein Dia emphasised the importance of incorporating ride sharing and car sharing into planning frameworks and policy objectives. He stated:

A package of measures, collectively known as the “avoid, shift and improve” approach, have been proposed over the past 12 years as necessary policy instruments to achieve sustainable transport improvements. This framework was proposed with the aim of (1) avoiding motorised travel when possible; (2) shift travel to more efficient modes; and increase the energy efficiency of vehicles, fuel technologies and maximising the utilisation of existing infrastructure. The framework has recently been extended to include the recent developments in car-sharing and ride-sharing services (Figure 1). Recent evidence suggests that these collaborative mobility-on-demand services have started to influence car ownership models and are reducing the total number of vehicles required to meet people’s demand for travel. In the case of ridesharing, there is also increasing evidence that ‘car-pooling’ types of ridesharing services are increasingly being introduced in cities around the world and resulting in substantial benefits in terms of reductions in the total number of vehicle-kilometres of travel and reducing emissions and pollutions. Together, these policies can help to achieve significant reductions in emissions, while also addressing urban transport issues such as congestion and access to services and employment. The key characteristics of these policies are outlined next.¹⁰⁰

The Internet of Things

- 6.95 Improved urban connectivity does not rely just on particular new technologies or transport modes. Increasingly, according to Downer Group, it will depend on the combination of new technologies and their interaction with each other. Downer Group stated that ‘liveability can be enhanced by encouraging high-quality and innovative energy efficient public transport, including integration between all transport modes and active mobility solutions’. It noted that ‘critical to achieving liveability will be smarter mobility that can be classified into three major areas: sustainable transport,

⁹⁹ GoGet, *Submission 69*, pp. 1–2.

¹⁰⁰ Associate Professor Hussein Dia, *Submission 82*, p. 9

connected transport, inclusive transport'.¹⁰¹ Looking at how citizens would move around in this sustainable, connected and inclusive 'smart city', Downer Group observed that:

A commuter's day begins not with an alarm set for their usual wake up time, but instead they will be woken at the time required for their best journey plan for that day.

Depending on where they live and work, the resident of a smart city will be woken up earlier if their usual route they drive to work is undergoing road works or facing expected delays from a incident on the road. They won't be tuning in to the traffic report, it will be tuning in to them, advising them of best they should travel that day.

If commuters need to allow extra time due to disruptions on their personalised route, then their alarm will automatically go off earlier to allow them more time.

Commuters may also be advised of an alternative route and/or mode of transport to get to work that day.¹⁰²

6.96 Within this scenario, commuters would be given various transport options—bicycle, carpooling, optimum route by car, or optimum route by public transport.¹⁰³

6.97 Downer Group highlighted other advances in smart cities:

Smart cities will also support electricity and renewable energy operated cars. "Plug-in" ready cities will facilitate the expansion of a Public Electric Vehicle (EV) infrastructure that ensures the safe, reliable, and efficient integration of EV charging loads with the power grid.

Additional investment in hydrogen refuelling stations to be incorporated as hydrogen fuel cell vehicles increase in usage over the coming years.

With additional commuters accessing the public transport network on the road, the signalling system would prioritise the city's trams and trains.

Sensors would monitor for bottlenecks or other disruptions and intelligently adjust the signals for traffic lights and level crossings. Autonomous vehicles

¹⁰¹ Downer Group, *Submission 18*, Attachment, *Smart Cities* (July 2017), p. 4.

¹⁰² Downer Group, *Submission 18*, Attachment, *Smart Cities* (July 2017), p. 4.

¹⁰³ Downer Group, *Submission 18*, Attachment, *Smart Cities* (July 2017), p. 4.

use real time traffic information to adapt to the best routes that keeps traffic moving. Automated monitoring will better manage traffic flow across the network in real time.

With smart street lighting, at night LED lights will dim when there are no cars or people on the street. The inbuilt CCTV cameras monitor safety and traffic incidents using Artificial Intelligence.

Networked Building Management Systems (BMS), system will manage cooling, heating, and lighting use when areas are not being utilised, and accommodate utility companies demand side power management by widening temperature set points, during peak demand.

Advanced vehicle monitoring supports asset tracking and predictive maintenance by actively monitoring vehicle measures such as overheating, tire pressure, passenger loads.¹⁰⁴

6.98 Downer Group noted that ‘long term integrated and coordinated planning is the key to planning more sustainable cities’; and argued that ‘we need to look at infrastructure from a holistic perspective, looking at how we can leverage one piece of infrastructure to support others, plan for infrastructure to match population growth and ensure we leverage appropriate technologies’.¹⁰⁵ It made the following recommendations:

1. Increased utilisation of technology in infrastructure and services for improved asset management.
2. Mobility as a service, with multi modal connectivity in transport allowing seamless and fully informed choice by commuters.
3. City infrastructure benefiting from renewable energy and facilitating continued uptake of electric vehicles.
4. Grow public transport infrastructure to support ongoing reduction of traditional car ownership models, with the change to mobility as a service model.¹⁰⁶

¹⁰⁴ Downer Group, *Submission 18, Attachment, Smart Cities* (July 2017), p. 9.

¹⁰⁵ Downer Group, *Submission 18, Attachment, Smart Cities* (July 2017), p. 9.

¹⁰⁶ Downer Group, *Submission 18, Attachment, Smart Cities* (July 2017), p. 18.

- 6.99 The Australasian Railway Association observed that transport operators are already ‘embracing new technologies to improve existing infrastructure resilience and effectiveness and the customer experience’:

Mobile applications that use real time data made publically available by operators are increasingly providing customers as well as station staff with access to real time information on the service and any unplanned disruptions. Better data usage will drive greater productivity in service delivery and assist in identifying and implementing improvement opportunities.

Technology, social media and improved service delivery of travel has had a significant positive impact on patronage and customer experience.

While technologies can assist in optimising the service offered by existing infrastructure, expansion and upgrades to infrastructure is still a vital piece of the puzzle in meeting the needs of our growing population.

Operators continue to improve fuel usage and energy efficiency to decrease operating costs and improve environmental performance. Continued Government support of these programs will ensure sustained improvement in this space.¹⁰⁷

- 6.100 Roads Australia highlighted the importance of data collection and management to transport connectivity, stating:

Connected cloud-based information offers improved value-added services for city customers, however there is a need to define what information can be collected, harvested, used and shared for public benefit.

A consistent set of principles that guide decision-making around the nature of government access to open data sharing and security would offer clear direction as to how the nation wishes to protect its citizens, and enhance their city/urban living experiences.¹⁰⁸

- 6.101 The University of Melbourne highlighted the way that new transport technologies—‘connectedness of modes, shared forms of mobility, mobility-as-a-service’—would be able ‘to contribute to the objectives of sustainable access and mobility by complementing enhanced mass transit for infra-city and inter-city travel’, and argued that ‘infrastructure investment needs to reflect this opportunity’. It stated:

¹⁰⁷ Australasian Railway Association, *Submission 49*, p. 8.

¹⁰⁸ Roads Australia, *Submission 92*, p. 5.

Emerging social technologies in particular have the potential to fill the gap in areas facing a transport infrastructure deficit. They can improve access and mobility immediately and reduce private car use and dependency. Such technologies should cater for shared mobility that is deeply integrated in public transport. The integration should be delivered by mobility-as-a-service technologies, integrating the hierarchy of modes down to the last kilometre, and explicitly including private shared forms of mobility such as ride-, car-, or bike-sharing.

This mobility-as-a-service technology, which increasingly must serve a sharing economy as well, needs to consider micro-cost sharing models, and trust measures. Neither of these are required for traditional transport, and thus are not considered in commercial mobility-as-a-service solutions.¹⁰⁹

- 6.102 The IoT Alliance Australia urged a strong and positive response to emerging technology and systems, stating that governments should ‘aggressively pursue’ funding for new models of transport, ‘including Mobility as a Service, autonomous vehicles and EV charging stations as well as investigate the land-use and behavioural implications that new business models will have on the future of our communities’. It also urged investigating and prioritising those areas likely to have the biggest economic impact, drawing on international experience.¹¹⁰

Promoting and managing innovation

- 6.103 Acknowledging innovation is one thing; actively promoting and adopting it another. The University of Melbourne observed that:

Increasingly, cities in transition are being shaped by emergent technologies that require immediate regulatory planning responses to avoid inefficiencies due to ad-hoc and post-hoc legislation. One example of this is new transport technologies (autonomous, connected and shared), which are already beginning to disrupt twentieth-century models of transport provision and modelling.¹¹¹

- 6.104 The Australasian Railway Association observed, however, that ‘politicians, regulators and procurers need to be mindful when developing legislation, design specifications and standards, that they are not too prescriptive to

¹⁰⁹ University of Melbourne, *Submission 106*, pp. 13–14.

¹¹⁰ IoT Alliance Australia, *Submission 37*, p. 8.

¹¹¹ University of Melbourne, *Submission 106*, p. 8.

inadvertently restrict innovation and the most optimal operational outcomes'. The principle role of government was to support innovation to sustain improvement.¹¹²

- 6.105 Standards Australia emphasised that governments had a clear role in facilitating innovation by setting targets, and seeking standardisation and interoperability of technology. Dr Jed Horner, Policy Manager with Standards Australia, observed that currently there was a tendency in Australia to develop policy on connected issues in isolation, stating:

So we take electric vehicles, which is simultaneously a question about mobility and infrastructure—bracket that off. Then we have another discussion about smart lighting, which is on the horizon, where there are already standards and where we need to have a discussion and move on. And then we have another separate discussion on IOT standardisation—another silo. So, at the end of the day, when other countries are adopting a more coherent approach, we are breaking it off into our clusters and silos. I wonder where that will get us in five years' time. Indeed, we did some of these road maps years ago, but the action has been slower in uptake and execution.¹¹³

- 6.106 Dr Horner highlighted the example of Singapore, which had adopted 'a cohesive approach to building a smart city' through its Smart Nation program.¹¹⁴ Standards Australia suggested that 'detailed standards mapping, which is future-focused and places the unique needs of Australian cities first, can unlock further benefits for the Australian community, improving mobility, ensuring interoperability and supporting social sustainability'. It recommended that the Australian Government 'make strategic investments in the development of a connected cities blueprint, to complement the work already underway through the Cities Framework'. It proposed a staged process, encompassing three activities:

1. Thought leadership involving all sectors and resulting in a sophisticated blueprint of minimum requirements for a connected Australian city;
2. The development of a standards roadmap for Australia, identifying the work that needs to be undertaken in each sector to unlock the benefits of a connected Australian city; and;

¹¹² Australasian Railway Association, *Submission 49*, p. 8.

¹¹³ Dr Jed Horner, Policy Manager, Standards Australia, *Committee Hansard*, 22 March 2018, p. 27.

¹¹⁴ Dr Jed Horner, Policy Manager, Standards Australia, *Committee Hansard*, 22 March 2018, p. 25.

3. Detailed standards development work in strategic priority areas (for example, infrastructure and ICT) to enable learnings from proof of concept trials, for example, to be reflected in the development of standards.¹¹⁵

6.107 Using the example of ride sharing, Associate Professor Dia highlighted the need for policy makers and regulators to effectively engage with innovation:

Policy and decision makers in many cities around the world are still struggling to regulate these new business models which are increasingly playing a crucial role in people's mobility in cities. Yet, these services are still considered illegal in many cities and blunt policy instruments are used to discourage rather than support disruptive modes of transport that have potential to curb private vehicle use. By improving or introducing regulatory policies that support innovations in transport provision, policy makers can increase transport system efficiency, improve the quality of transport services while influencing the shift to more efficient travel modes.¹¹⁶

Committee conclusions

6.108 Transport connectivity is an essential element of the development of cities. It defines the urban form, determines accessibility to employment and services, and has significant economic, environmental, social and health implications. Indeed, the private car, with all its attendant benefits and costs, has defined the urban form for the last 60 years. Creating a more sustainable urban form will involve developing more sustainable forms of connectivity.

6.109 The evidence presented to the Committee indicates that cities require fast, efficient, reliable and accessible public transport networks, integrated with various forms of active travel, in order to be sustainable. The ideal is the 30-minute city, where residents can access employment, education, services and recreational facilities within 30 minutes of home, regardless of where they live. This is consistent with a denser pattern of urban settlement, the development of polycentric cities and the agglomeration of industry and employment (see Chapter 3).

6.110 The need to enhance public transport has been a theme of several parts of this report. High speed rail has been presented as an answer to the need to promote connectivity at a national level and promote a redistribution of population and employment. Similarly, fast and reliable mass transit has the

¹¹⁵ Standards Australia, *Submission 44*, p. 6.

¹¹⁶ Associate Professor Hussein Dia, *Submission 82*, p. 9.

potential to transform the urban environment at a local and city level. Rail is seen by many as a key element of this change, although it was also emphasised that other forms of mass transit, such as light rail and buses, had a vital role. Indeed, it was observed that buses retained an inherent advantage of flexibility that fixed rail modes lacked.

- 6.111 The Committee is of the view that regardless of the transport mode chosen for any given space, it must be part of an integrated network of optimum solutions designed to promote the highest achievable level of connectivity and accessibility. In most localities, a mix of modes will provide the optimum outcome.
- 6.112 It is also important to incorporate active travel into location and transport network design. The social and health benefits of walking and cycling were identified by a range of stakeholders. Walking and cycling have natural synergies with public transport, and these should be exploited to their fullest in the design of public transport networks and related spaces. Once again, integration of different transport modes is seen as the key to success. It was emphasised, however, that the uptake of active transport was dependent on the creation of safe and appropriate spaces. Pedestrian and cycle access within and between precincts needs to be part of the original design, not an afterthought, and safety has to be a paramount consideration. Cycling, in particular, has to cater for a range of user levels. While road access is often essential for commuter cycling, recreational cycling by younger and older age groups is best served by separation from motor traffic. Cycling is best facilitated by high levels of both on- and off-road access.
- 6.113 Technological innovation has played, is playing, and will continue to play a significant role in the development of urban transport connectivity. Ride-sharing and carsharing in conjunction with the development of electric vehicles and autonomous vehicles have the potential to revolutionise car use, making it much more efficient at using space and resources and significantly reducing its environmental impacts. Achieving these benefits will require effective policies and the development of ubiquitous technology in the urban environment.
- 6.114 Autonomous vehicles will be at their optimum efficiency if they are part of a technologically enhanced environment and used as shared transport within an integrated transport network. The nightmare scenario is high levels of personal ownership of vehicles that spend much of their time on the road without transporting anyone anywhere. The ideal is a fleet of shared vehicles transporting people between mass transit nodes more or less on

demand, significantly reducing the need for individual vehicles, the fuel to power them or the places to park them.

6.115 To gain the benefits of technological developments, governments must embrace innovation and actively facilitate it through legislation and regulation.

6.116 Transport connectivity has the power to transform the urban environment. The Committee is of the view that in order for this transformation to take place, governments must:

- Commit to a more sustainable model of urban transport connectivity than currently exists.
- Actively promote investment in the development of a public transport *network* that is capable of meeting the goal of the 30-minute city.
- Actively plan for and promote the integration of active transport within the transport network.
- Embrace innovation.
- Ensure that transport infrastructure planning is consistent with planning for a more sustainable urban form and conforms to integrated planning at local, regional and city levels.

Recommendation 11

6.117 The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement, ensure that governments at all levels:

- Commit to a more sustainable model of urban transport connectivity than currently exists.
- Actively promote investment in the development of a public transport *network* that is capable of meeting the goal of the 30-minute city.
- Actively plan for and promote the integration of active transport within the transport network.
- Embrace innovation.
- Ensure that transport infrastructure planning is consistent with planning for a more sustainable urban form and conforms to integrated planning at local, regional and city levels.

Freight

6.118 The freight task is expected to grow rapidly in coming years, with significant implications for urban planning and development. Ports Australia cited Australian Government figures which show that ‘the total road freight task in all capital cities is forecast to increase by two-thirds between 2008 and 2030, from 40.15 billion tonne kilometres (tkm) to 66.60 billion tkm’. This represented ‘an average growth rate of 2.33 per cent per annum, outstripping the current population growth of around 1.5 per cent per annum’.¹¹⁷ Another perspective on this was placed before the Committee by the Hon Michael Gallacher, Chief Executive Officer of Ports Australia, who stated:

To put that into perspective, Australia's shipping container freight movement is expected to grow by 165 per cent over the same period. Non-containerised freight is projected to grow by 138 per cent over the same period. Currently, the overwhelming majority of containerised freight will be delivered to one of the four major capital city ports—Melbourne, Port Botany, Brisbane and Fremantle—with Sydney and Melbourne accounting for around 70 per cent of containerised freight. In total, the domestic freight task of the nation—that is, moving freight around the country, which includes exports and imports, natural resources, shipping containers, bulky goods such as machinery, imported motor vehicles, agricultural goods and general cargo, to name a few—in 2016 totalled 738 billion tonne kilometres. Fifteen per cent of this was moved by coastal shipping, 56 per cent was moved by rail and 29 per cent was moved by road. Of those figures, rail's contribution over the last 25 years to moving the domestic freight task has grown by 210 per cent; road has grown by 61 per cent; coastal shipping has grown by one per cent.¹¹⁸

6.119 While much of the evidence around transport connectivity focused on passenger movement, the evidence presented to the Committee also highlighted the importance of freight movement to economic wellbeing, and the importance of integrating freight and logistics into urban planning.

6.120 Mr Kerry Corke, a policy consultant with the Australian Logistics Council (ALC) expressed concern that ‘the movement of our freight in our cities is often overlooked’. He argued that it was ‘economically and socially vital that freight be able to be transported around our cities efficiently’, noting that

¹¹⁷ Ports Australia, *Submission 108*, p. 4.

¹¹⁸ The Hon Michael Gallacher, Chief Executive Officer, Ports Australia, *Committee Hansard*, 22 March 2018, p. 16.

‘the essential items most Australians take for granted, such as food, household appliances, clothing, medication and cars, are generally not grown or manufactured close to the cities in which most of us live’.¹¹⁹ Likewise, Associate Professor Russell Thompson, a transport engineering expert at the University of Melbourne stated:

Freight transport in capital cities is of national importance since our capital cities are the engine of our economy and freight is considered to be the economy in motion. Australia’s capital cities are growing fast resulting in increased road freight movements. This is leading to health and safety problems. Low levels of consolidation led by the rise of e-Commerce (eg. B2C and B2B) and logistics sprawl is threatening the efficiency, reliability and sustainability of freight movements in Australia capital cities. The Federal Government needs to become more active in freight related planning in capital cities to address these issues.¹²⁰

6.121 His submission highlighted a range of key issues relating to urban freight where the Australian Government could ‘contribute towards our capital cities becoming more sustainable’:

1. Protecting major freight terminals and key freight areas
2. Planning intermodal terminals and public logistics terminals
3. Planning and managing freight routes
4. Promoting uniform noise & emissions standards for freight vehicles
5. Providing incentives for High Productivity Vehicles and (HPVs) and Low Emission Vehicles (LEVs)
6. Promoting new infrastructure such as Urban Consolidation Centres (UCCs) and shared parcel lockers
7. Providing a clearinghouse for freight data
8. Developing models for evaluating changes in land use policy and transport infrastructure projects.¹²¹

¹¹⁹ Mr Kerry Corke, Policy Consultant, Australian Logistics Council, *Committee Hansard*, 11 August 2017, p. 16.

¹²⁰ Associate Professor Russell Thompson, *Submission 115*, p. 1.

¹²¹ Associate Professor Russell Thompson, *Submission 115*, p. 2.

Urban encroachment

- 6.122 One of the key issues identified in the evidence presented to the Committee was the need to protect freight facilities from urban encroachment. Professor Thompson highlighted the problem and its impacts on the supply chain:

There is a need to ensure that major freight terminals and key freight areas within capital cities are protected and not threatened by encroachment or redevelopment. Freight terminals and key freight areas are vital for ensuring that freight can flow efficiently in and around our capital cities.

Logistics sprawl is occurring in our capital cities where inner areas that were traditionally used for freight and logistics activities are being redeveloped for commercial and residential use. This creates a huge increase in the number of freight trips within our capital cities. There is a trend for warehousing and processing sites to locate on the fringe of cities. This leads to extra trucks trips to and from ports to warehouses in the outer areas to service the growing populations in inner and central city areas.¹²²

- 6.123 The Australian Logistics Council (ALC) also noted that ‘urban encroachment is one of the greatest challenges affecting the longer term operation of freight infrastructure’, and argued that ‘a truly safe and efficient supply chain needs to be able to operate round-the-clock, so that freight movement is able to occur at all times and operators can take advantage of off-peak road traffic volumes’. It observed, however, that ‘current trends in planning policy tend to favour the interests of residential development over freight efficiency’, resulting in ‘lost economic opportunities and, very often, higher costs for freight operators’.¹²³ The ALC highlighted the case of Port Botany, where increasing residential development around the port was creating conflict between the port and residents. ALC was concerned that ‘the political response invariably results in decisions that favour residents over freight operators—despite the fact that the port was there long before the residents were’, and observed that one flow-on effect of this development was the ‘increasing scarcity of industrial land available to unload and redistribute freight’.¹²⁴ The ALC argued that ‘too often, inadequate planning processes produce situations where the full economic potential of a newly-constructed

¹²² Associate Professor Russell Thompson, *Submission 115*, p. 2.

¹²³ Australian Logistics Council, *Submission 52*, p. 1.

¹²⁴ Australian Logistics Council, *Submission 52*, p. 2.

piece of transport infrastructure is placed at risk'.¹²⁵ Mr Kerry Corke, a policy consultant with the Australian Logistics Council, observed the tension between urban densification and freight access. He stated:

The compact city is also an increasing planning refrain, as is the need to bring jobs closer to where people live. But if this is to be a reality, infrastructure such as ports and airports as well as the logistics facilities within employment lands must be able to work with maximum efficiency if those jobs for the future are to be available.¹²⁶

6.124 Mr Corke emphasised that:

For cities to be sustainable, all forms of industry must be able to thrive near population centres if employment opportunities are not to be pushed to the fringes of the city. If you do that, you create commutes. With commutes, you create congestion. So there have to be sensible planning instruments put in place to ensure that there are sufficient buffers between residential zones and transport infrastructure so that efficiency and employment continuity can coexist in harmony with residential amenity. The same applies to transport corridors.¹²⁷

6.125 It was, Mr Corke stated, essential to get this right, because 'between 15,000 and 18,000 jobs, for instance, are intrinsically linked to both Port Botany and Sydney airport'.¹²⁸

6.126 Mr Duncan Sheppard, General Manager, Freight Contractors, for the Australasian Railway Association, also urged governments to beware of the risks of encroachment. He stated:

I think it's also important to point out that from a freight perspective as well care and caution has to be given when it comes to densification around urban freight lines. Whilst there is a valid argument for value capture mechanisms to support the construction of infrastructure and train facilities, significant care has to be given when there is urban encroachment and densification around freight facilities—not just freight lines but also intermodal facilities—that that

¹²⁵ Australian Logistics Council, *Submission 52*, p. 5.

¹²⁶ Mr Kerry Corke, Policy Consultant, Australian Logistics Council, *Committee Hansard*, 11 August 2017, p. 16.

¹²⁷ Mr Kerry Corke, Policy Consultant, Australian Logistics Council, *Committee Hansard*, 11 August 2017, p. 16.

¹²⁸ Mr Kerry Corke, Policy Consultant, Australian Logistics Council, *Committee Hansard*, 11 August 2017, p. 20.

urban densification doesn't impact on the ability of freight facilities to operate 24/7.¹²⁹

Managing freight movement

- 6.127 The need to better manage the movement of freight was also highlighted in the evidence before the Committee. This includes identifying and facilitating more efficient transport of freight through different transport modes, and managing the conflict between freight and passenger transport. Associate Professor Russell Thompson urged a focus in intermodal facilities and a greater emphasis on rail:

A network of intermodal and public logistics terminals needs to be planned to reduce the amount of road freight movement in our capital cities. Currently a large number of container movements between industrial areas and ports are undertaken by truck. Rail can be used to transport containers efficiently in urban areas. There are however, serious issues associated with access to rail networks and terminals as well as planning and managing adjoining facilities. The Federal Government needs to ensure that the benefits of rail freight can be exploited in capital cities to improve sustainability.¹³⁰

- 6.128 He also identified a need for 'public logistics terminals to be established where goods can be consolidated to reduce the amount of empty running and increase load factors'. This could 'dramatically reduce the number of truck movements in our capital cities'. He argued that 'due to the economic importance of major freight routes in capital cities the Federal Government needs to become more involved in ensuring that they are adequately planned and managed'. He stated that 'vital links between key freight areas and terminals require long term planning and investment'. He also observed that there was a significant problem around freight movement and toll roads, stating:

High tolls for trucks are leading to a large number of freight vehicles avoiding toll facilities which is creating significant externalities (costs borne by non-users), including social problems (such as safety and noise) and environmental problems (especially emissions) that are impacting communities in Australia capital cities.

¹²⁹ Mr Duncan Sheppard, General Manager, Freighters Contractors, Australasian Railway Association, *Committee Hansard*, 13 February 2018, p. 9.

¹³⁰ Associate Professor Russell Thompson, *Submission 115*, p. 2.

Most carriers cannot pass toll costs onto shippers or 3rd party brokers and tolls increase the company's overall transport costs. Many carriers have a limited ability to absorb additional toll costs, so they pass these costs onto the shipper or receivers. This adds to the price of goods and affects the competitiveness of our exports.

Toll rates are typically determined by distance (not travel time) and there is little discrimination on the type of freight vehicle and the utilisation of the weight and volume capacity of vehicles. Incorporating these factors would make a stronger link between tolls charged, road maintenance costs and efficiency. There is also a reluctance to explore discounts during off-hours that would encourage more large trucks to use toll roads in Australian capital cities at night.¹³¹

- 6.129 Professor Thomson urged 'more uniform and higher standards relating to the noise and emissions produced by freight vehicles';¹³² and incentives established to promote 'the uptake of innovative and low emission vehicles'.¹³³
- 6.130 Mr Ian Bell, Director of Financial-Architects.Asia, was also a proponent of rail over road for freight movement. He argued that the development of high-speed rail lines would free existing rail lines for freight movement, thereby making movement of freight by rail easier and more cost competitive with road transport. He noted that on the existing rail network freight movement was often restricted by the need to prioritise passenger movement.¹³⁴
- 6.131 The Australian Logistics Council (ALC) argued that 'in a perfect world, the infrastructure used to transport freight would be entirely separate from the infrastructure used for passenger and private transport'. Trucks, buses and cars using the same roads, for example, led to congestion and increased the risk of accidents. The ALC suggested that 'separation of freight and passenger transport infrastructure should be a desirable outcome', and that 'the benefits of separation, for both freight and passenger transport, include travel time savings, increased efficiency and increased safety'.¹³⁵

¹³¹ Associate Professor Russell Thompson, *Submission 115*, p. 3.

¹³² Associate Professor Russell Thompson, *Submission 115*, p. 3.

¹³³ Associate Professor Russell Thompson, *Submission 115*, p. 4.

¹³⁴ Mr Ian Bell, Director, Financial-Architects.Asia, *Committee Hansard*, 22 March 2018, pp. 36–7.

¹³⁵ Australian Logistics Council, *Submission 52*, p. 4.

- 6.132 Ports Australia identified similar issues. Mr Ashween Sinha, Policy Director for Ports Australia noted that congestion in road and rail traffic was hampering the movement of freight. He stated:

The great example with it being at Port of Brisbane, or whether it be Sydney or Melbourne, is obviously there are rail lines connected to the ports, but they're sharing the rail line with commuter traffic, and commuter traffic gets priority. That's why freight does not move very well over rail at the moment in the current settings. There's a push, and I think there's funding allocated for the duplication to the Port Botany rail. That's exactly for that purpose—to allow the reliability of freight movement while not hampering commuter traffic. But that's not the case around the country, especially in regional areas, where you won't even see direct access to a lot of ports.¹³⁶

- 6.133 The Hon Michael Gallacher, Chief Executive Officer of Ports Australia, acknowledged the role of the inland railway in addressing this issue, but highlighted the potential of ships and ports to contribute to the movement of freight on the 'blue highway':¹³⁷

We believe that embracing the use of our nation's coastal routes—or, as we call it, the 'blue highway'—can deliver the following: a cost effective and efficient method of moving freight, particularly non-time-specific freight, around the country; help reduce long-distance truck movements, which commence within our cities, and thereby reduce congestion; reduce unnecessary long-distance truck movements from country and regional roads by moving the heavy vehicle collection point closer to the delivery location; improve health and safety of truck drivers by reducing long-haul distances; improve road safety and travel time by reducing the number of trucks on our city roads; reduce degradation of country and regional roads and associated repair costs by reducing long-haul heavy-vehicle travel along major freight routes; improve environmental outcomes, both noise and air quality, particularly in capital cities and regional towns on major road freight routes; increase job opportunities in regional port cities or nearby communities by increasing job demand through port expansion and diversification; limit the migratory flow from regional centres to our cities through job creation; and

¹³⁶ Mr Ashween Sinha, Policy Director, Ports Australia, *Committee Hansard*, 22 March 2018, p. 18–19.

¹³⁷ The Hon Michael Gallacher, Chief Executive Officer, Ports Australia, *Committee Hansard*, 22 March 2018, p. 19.

help alleviate housing affordability pressures through a more sustainable population growth in our cities, whilst attracting some to regional centres.¹³⁸

6.134 Mr Gallacher observed that currently:

Ports are the gateway for over 98 per cent of Australian's imports and exports, yet no strategic focus or funding is allocated towards improving the maritime network of this country to facilitate further economic growth and ensure sustainability of our cities and regional centres. Clearly, the impact of the nation's increased freight task will hamper the long-term benefit of infrastructure investment if we, as a nation, fail to think alternatively about how we move freight and increase the longevity of the government-sector investment in that road and rail infrastructure.¹³⁹

6.135 The Australasian Railway Association was also interested in the question of freight management and movement, but highlighted the fact that the separation of passengers and freight was not just about dedicated freight corridors, but also about dedicated freight precincts. Mr Duncan Sheppard, General Manager, Freight Contractors, for the Australasian Railway Association, stated:

Wherever possible we advocate for the separation of freight and passenger lines in our cities. But it's one step before that: it's actually identifying, for example, freight precincts. It's ensuring that freight precincts, the generation of freight, are in certain areas and that freight lines only move to freight-generating areas in the longer term, rather than being dispersed across the city. By having specifically zoned areas for freight generation and by having freight corridors and long-term plans to link freight corridors to ports, then you will achieve the outcome of having less integration on the network with freight and passengers.¹⁴⁰

CBD delivery

6.136 The Australian Logistics Council (ALC) highlighted the difficulties of moving freight within the urban environment, particularly in ever more congested CBDs:

¹³⁸ The Hon Michael Gallacher, Chief Executive Officer, Ports Australia, *Committee Hansard*, 22 March 2018, p. 16.

¹³⁹ The Hon Michael Gallacher, Chief Executive Officer, Ports Australia, *Committee Hansard*, 22 March 2018, p. 17.

¹⁴⁰ Mr Duncan Sheppard, General Manager, Freight Contractors, Australasian Railway Association, *Committee Hansard*, 13 February 2018, p. 5.

The growth in CBD traffic congestion—stemming from significant residential and employment growth in inner-city areas—presents significant challenges for freight operators undertaking deliveries in CBD areas.

Increasing competition between passenger and freight vehicles in a congested road network is significantly adding to business costs. This circumstance flows directly from a lack of investment, and from insufficient consideration of freight movement in our current planning schemes.¹⁴¹

- 6.137 Problems included ‘a lack of adequate street loading zones, as well as new residential and commercial buildings with poor (or non-existent) freight delivery facilities are likewise making CBD freight delivery a more cumbersome and costly exercise’. This was exacerbated by ‘the continuing imposition of curfews or outright bans on vehicle movement in parts of our major cities’. It noted that ‘perversely, this is occurring during a period where growth in e-Commerce is fuelling expectations among many consumers of faster delivery timeframes, and lower shipping costs’. The ALC argued that ‘Australian governments must consider how to deal with these issues, to ensure that the needs of freight operators are given proper weight in CBD planning and infrastructure decisions, so that freight operators are not faced with unsustainable cost pressures’.¹⁴² The ALC was concerned that ‘current planning regimes fail to take account of this simple reality, pursuing the ‘path of least resistance’ by ranking the needs of residents above the needs of freight movements when it comes to decision making’.¹⁴³ It recommended that

The Australian Government establish a dedicated Freight Strategy and Planning Division within the Department of Infrastructure and Regional Development. This Division would be staffed with appropriately qualified personnel to provide it with the quality advice necessary to provide national leadership and better policy outcomes in planning.¹⁴⁴

- 6.138 Mr Kerry Corke, a policy consultant with the ALC, also observed that ‘with high density accommodation, the capacity to deliver goods to those residences has not been properly planned. The capacity to gain access to

¹⁴¹ Australian Logistics Council, *Submission 52*, p. 4.

¹⁴² Australian Logistics Council, *Submission 52*, p. 4.

¹⁴³ Australian Logistics Council, *Submission 52*, p. 5.

¹⁴⁴ Australian Logistics Council, *Submission 52*, p. 5.

them is again somewhat problematic.¹⁴⁵ One proposal to reduce freight movements in urban areas was the creation of urban consolidation centres — ‘an area where bulk deliveries can be put into the cage and then delivered into the city’.¹⁴⁶ Professor Thompson also endorsed this proposal, stating:

New logistics infrastructure such as Urban Consolidation Centres (UCCs) and shared parcel lockers need to be provided to ensure that unnecessary freight movements are minimised in capital cities. UCCs and shared parcel lockers provide facilities to exchange goods between vehicles and modes. Such facilities are vital to dampen the rising demand from e-commerce.¹⁴⁷

Understanding freight

- 6.139 Part of managing the freight task is better understanding the movement of freight, especially through the collection and analysis of freight data. Associate Professor Russell Thompson noted that ‘there is currently a lack of analysis and predictive tools for understanding freight demand’ and that ‘this is inhibiting evidence based policy development and project evaluation relating to freight initiatives in Australian capital cities’. He indicated that ‘ongoing programs of data collection are required to improve the performance monitoring of freight within capital cities’. He observed that ‘consistency between States will ensure that trends can be tracked efficiently and successful policies and programs can be translated to other cities’; and argued that the Australian Government ‘should support the development of tools for understanding the effects of new policies and transport infrastructure on freight movement patterns in capital cities’.¹⁴⁸
- 6.140 Mr Ben Damiano, Policy Officer with the Australian Logistics Council, noted that a National Freight Performance Framework had been proposed as part of the Australian Government’s inquiry into national freight and supply chain priorities, being undertaken by the Department of Infrastructure and Regional Development. The proposal would consolidate new and existing data and inform infrastructure investment. He observed that to date a lot of data on transport has been passenger focused. ‘There has been a bit of a lack

¹⁴⁵ Mr Kerry Corke, Policy Consultant, Australian Logistics Council, *Committee Hansard*, 11 August 2017, p. 17.

¹⁴⁶ Mr Kerry Corke, Policy Consultant, Australian Logistics Council, *Committee Hansard*, 11 August 2017, p. 17.

¹⁴⁷ Associate Professor Russell Thompson, *Submission 115*, p. 4.

¹⁴⁸ Associate Professor Russell Thompson, *Submission 115*, p. 4.

of data on freight. I think that is going to change as technology is able to more readily capture where trucks are moving and what they are moving.’¹⁴⁹

Committee conclusions

- 6.141 From the Committee’s perspective, freight connectivity is no less important than passenger connectivity. The efficient movement of freight is essential to the economy and employment. The rapid rise of the freight task with increasing population and economic growth is already presenting challenges for a system of freight transport that is structured around urban sprawl and roads. The consolidation of the urban space, especially around critical transport nodes such as ports and airports, has the potential to bring the movement of freight into direct conflict with residential development. There is already concern about the mix of passenger and freight transport on our roads and railways.
- 6.142 Future planning of the urban environment needs to incorporate freight connectivity in a variety of forms and levels. This is essential for the continuation of economic prosperity (the movement of goods at scale) and individual wellbeing (access to goods at a personal level). The critical issues around freight connectivity are urban encroachment, managing the movement of freight and CBD delivery.
- 6.143 Urban encroachment is leading to existing freight infrastructure coming into conflict with residential development and being forced to operate at less than optimum levels. There clearly needs to be policy development to protect essential freight infrastructure and routes from the effects of urban development. There also needs to be careful planning of new freight facilities to ensure that they are well-distributed in the urban environment, and sited to avoid conflict with other uses. In other words, freight storage and distribution must be an essential part of any scheme of urban land-use and infrastructure planning. Moreover, where residential development comes into conflict with existing freight and transport facilities, or planned freight or transport facilities, the freight and transport facilities should be considered. Care must also be given to the location of freight management facilities—simply shifting intermodal hubs to the outskirts of cities increases carriage time and distance at the expense of efficiency and increased traffic.

¹⁴⁹ Mr Ben Damiano, Policy Officer, Australian Logistics Council, *Committee Hansard*, 11 August 2017, p. 21.

- 6.144 Consideration must also be given to the way freight is moved. Rail freight is currently constrained by the need to coordinate freight and passenger movements on the same lines. Road freight competes for space on congested roads and causes competition between light and heavy vehicles. The Committee is of the view that the ideal would be a complete separation of freight and passenger traffic, and that transport solutions which facilitate this outcome should be sought. Ideally, more freight would travel by rail, freeing up roads for lighter vehicles. This can only happen if the rail network is capable of facilitating the movement of freight in a timely and efficient manner. Part of the solution is the development of dedicated passenger lines, capable of rapid transit (fast rail and high speed rail), freeing up existing rail lines for freight movement. The transfer of freight to rail would also be assisted by a deliberate focus on multi-modal integration. As with passenger transport, there needs to be a focus on freight movement through an integrated multi-modal network rather than just a series of point-to-point movements. Consideration should be given to the development of freight nodes at a regional and local level through the use of Urban Consolidation Centres and shared parcel lockers.
- 6.145 Government should also give consideration to the development of the road freight fleet. The Committee supports providing incentives for fleet modernisation to make trucks safer, quieter and cleaner. The Committee also supports the development and consolidation of freight data through the National Freight Performance Framework.

Recommendation 12

- 6.146 **The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement:**
- **Require all levels of government provide for the accommodation of and access to dedicated freight facilities, that planning at all levels include freight access as a matter of priority, and that in the planning of areas consideration be given to prioritising the needs of existing and approved freight terminals. This should include provision of Urban Consolidation Centres and shared parcel lockers at a regional and local level.**
 - **Give priority to the development of a national freight network, with a view to creating a strong system of multimodal integration based on**

dedicated freight nodes, prioritising the movement of freight by rail, separating freight and passenger movements where possible, and developing dedicated fast-rail and high-speed-rail passenger rail lines to relieve the congestion of existing networks.

Recommendation 13

- 6.147 The Committee recommends that the Australian Government develop incentives, including tax incentives, promoting fleet modernisation to make trucks safer, quieter and cleaner, and proceed with the development of the National Freight Performance Framework.**

7. Sustainable buildings

Introduction

- 7.1 Governments at all levels acknowledge the importance of transitioning Australia's built environment to a more environmentally sustainable future. Across the last two decades, there have been many federal, state and territory initiatives to promote sustainability transitions, including 'international commitments to carbon reduction targets; performance-based regulatory schemes for the built environment; and incentives to support the integration of renewables'.¹
- 7.2 The private sector has also demonstrated its commitment to a more sustainable built environment by implementing building sustainability rating systems such as the Green Building Council of Australia's (GBCA) Green Star Rating and the National Australian Built Environment Rating System (NABERS).²

¹ Australian Centre for Cultural Environmental Research, University of Wollongong and the Faculty of Architecture, Design and Planning, University of Sydney, *Submission 143*, p. 2.

² Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 1.

- 7.3 However Australia's built environment still accounts for almost a quarter of the nation's greenhouse gas emissions and more than half of electricity consumption.³
- 7.4 This chapter examines the current environmental sustainability of Australia's built environment, specifically:
- commercial office buildings; and
 - residential buildings.
- 7.5 This chapter outlines the importance of continuing to enhance the environmental sustainability of Australia's built environment, before considering three strategies to achieve this:
- strengthening the National Construction Code minimum standards for environmental sustainability;
 - establishing a National Plan Towards 2050 Zero Carbon Buildings; and
 - extending mandatory disclosure schemes for buildings' sustainability ratings and rating schemes in general.

Environmental sustainability of existing built environment

- 7.6 According to the Australian Sustainable Built Environment Council (ASBEC), the built environment accounts for almost one quarter of Australia's carbon emissions, 'divided equally between residential and non-residential buildings'.⁴
- 7.7 Energy use by residential buildings is responsible for approximately 51 per cent of carbon emissions from buildings. The remainder arises from commercial buildings such as retail, office buildings and education and health facilities.⁵
- 7.8 Most submitters to the inquiry who provided evidence on the environmental sustainability of Australia's buildings focussed on either commercial office buildings or residential properties. The environmental sustainability of these two asset classes is examined below.

³ Australian Sustainable Built Environment Council, *Submission 111*, p. 8.

⁴ Australian Sustainable Built Environment Council, *Low Carbon , High Performance*, May 2016, p. 26.

⁵ Australian Sustainable Built Environment Council, *Low Carbon , High Performance*, May 2016, pp. 26-28.

Commercial office buildings

- 7.9 Australia is now recognised as a world leader in the design, construction and operation of sustainable commercial office buildings. According to the GBCA, commercial office buildings in Australia routinely rank highly in international real estate ratings:

The 2016 Global Real Estate Sustainability Benchmark (GRESB) - which assessed 759 real estate companies and funds (representing 66,000 assets and \$3.7 trillion in gross asset value) – ranked Australia the world's most sustainable real estate market for the sixth year in a row.⁶

- 7.10 Submitters suggested that three initiatives have been particularly instrumental in driving sustainability gains in commercial office buildings, specifically:

- the Commonwealth Government's Commercial Building Disclosure (CBD) Program;
- the joint Commonwealth-state government National Australian Built Environment Rating System (NABERS);⁷ and
- the Green Building Council of Australia's (GBCA) Green Star Rating Scheme.

Commercial Building Disclosure (CBD) Program

- 7.11 The CBD Program is an initiative of the Council of Australian Governments (COAG). It was established by the *Building Energy Efficiency Disclosure Act 2010* and is managed by the Commonwealth Department of the Environment and Energy.

- 7.12 The CBD Program requires most sellers or lessors of commercial office buildings above 1 000 square meters to acquire a Building Energy Efficiency Certificate (BEEC) before a building is listed on the market for sale, lease or sublease.⁸ BEECs are valid for up to a year and include:

- the building's NABERS energy for offices star rating; [and]

⁶ Green Building Council of Australia, *Submission 99*, p. 22.

⁷ Australian Centre for Cultural Environmental Research, University of Wollongong and the Faculty of Architecture, Design and Planning, University of Sydney, *Submission 143*, p. 8.

⁸ Australian Government, *Commercial Building Disclosure*, < <http://cbd.gov.au/overview-of-the-program/what-is-cbd>>, retrieved 21 January 2018.

- a tenancy lighting assessment of the relevant area of the building.⁹
- 7.13 The NABERS energy rating included in a BEEC typically reflects the energy efficiency of the 'base building', meaning an office building's central services and common areas (for example lifts and bathrooms), excluding tenanted areas. However, if it is difficult to distinguish between base building energy usage and tenancy energy usage, then a whole building rating, which includes tenanted spaces, may form part of the BEEC.¹⁰
- 7.14 The BEEC must be provided to potential buyers or lessees of the building and be included in any advertising material for its sale, lease or sublease. It must also be accessible on the public Building Energy Efficiency Register.¹¹
- 7.15 Disclosing the energy efficiency of a building through the BEEC provides all potential buyers or lessees with information about the building's energy efficiency. This makes it easier for companies to seek more energy efficient office buildings and creates a market incentive for building owners to improve the energy efficiency of their office buildings to make them more attractive to buyers or tenants.¹²
- 7.16 The CBD program is operating in conjunction with NABERS to encourage all parties involved in the purchase or lease of commercial office buildings to consider, and value, energy efficiency.
- 7.17 Mr Anthony Marklund, Principal ESD Engineer at Floth Sustainable Building Consultants, suggested that the CBD Program is 'the reason that the commercial sector in Australia's been so successful' at improving the environmental sustainability of its office buildings.¹³ In a joint submission to the inquiry, the Australian Centre for Cultural Environmental Research at the University of Wollongong and the Faculty of Architecture, Design and

⁹ Australian Government, Commercial Building Disclosure Program, *What is CBD*, < <http://cbd.gov.au/overview-of-the-program/what-is-cbd>> retrieved 23 January 2018.

¹⁰ Australian Government, *NABERS Energy for Offices star ratings*, < <http://cbd.gov.au/get-and-use-a-rating/nabers-energy-for-offices-star-ratings>> retrieved 5 February 2018.

¹¹ Australian Government, Commercial Building Disclosure Program, *What must be disclosed?*, < <http://cbd.gov.au/overview-of-the-program/what-is-cbd>> retrieved 23 January 2018.

¹² Australian Government, Commercial Building Disclosure Program, *Why Does Energy Efficiency Information Have To Be Disclosed?*, < <http://cbd.gov.au/overview-of-the-program/what-is-cbd>> retrieved 23 January 2018.

¹³ Mr Anthony Marklund, Principal ESD Engineer, Floth Sustainable Building Consultants, *Committee Hansard*, Friday, 29 September 2017, p. 13.

Planning at the University of Sydney described environmental sustainability improvements to commercial office buildings driven by the CBD Program:

Over the first four years of its operation, the Compulsory Building Disclosure legislation delivered over \$72 million in energy savings (ACIL Allan 2015). In July 2017, the threshold for disclosure was lowered from 2,000 m² to 1,000m². The NSW Office of Environment and Heritage estimate that this will add up to an additional 1,000 buildings to the scheme, producing an estimated \$50 million in energy savings (OEH 2016).¹⁴

National Australian Built Environment Rating System (NABERS)

7.18 NABERS is managed by the New South Wales Office of Environment on behalf of Commonwealth, state and territory governments. It is a national building rating scheme which assesses the operational performance of Australian commercial offices, shopping centres, hotels and residential buildings and awards a star rating reflecting efficiency. For example, a one star rating signifies a building with considerable scope for improvement, while a six star rating indicates a highly environmentally sustainable building.¹⁵

7.19 Buildings can achieve a NABERS star rating in one or more of four categories:

- energy efficiency;
- water efficiency;
- waste efficiency; or
- indoor environment quality.¹⁶

7.20 Assessors use performance information, such as utilities bills, to determine buildings' energy efficiency, water usage, waste management and the quality of its internal environment.

¹⁴ Australian Centre for Cultural Environmental Research, University of Wollongong and the Faculty of Architecture, Design and Planning, University of Sydney, *Submission 143*, p. 4.

¹⁵ New South Wales Office of Environment and Heritage, *National Australian Built Environment Rating System*, <
<https://nabers.gov.au/public/webpages/ContentStandard.aspx?module=10&template=3&include=Benefits.htm&side=CommitmentAgrTertiary.htm>> , retrieved 21 January 2018.

¹⁶ New South Wales Office of Environment and Heritage, *How NABERS Works*, <
<https://nabers.gov.au/public/webpages/ContentStandard.aspx?module=10&template=3&id=5&include=HowNabersWorks.htm&side=factsheets.htm>> retrieved 7 January 2018.

- 7.21 Under the CBD Program, most commercial office buildings above 1 000m² are required to obtain a NABERS energy efficiency rating before they are sold, leased or subleased.
- 7.22 According to the Australian Centre for Cultural Environmental Research at the University of Wollongong and the Faculty of Architecture, Design and Planning at the University of Sydney, requiring the disclosure of NABERS energy ratings during the sale or lease of commercial office space has driven significant energy efficiency gains:

... [NABERS] has proven particularly catalytic in driving energy transitions in the commercial built environment in Australia. To date, NABERS energy ratings have been used to rate 72 per cent of Australian office space, with rated buildings reporting an average of 8.5 per cent improvement in energy efficiency.¹⁷

- 7.23 They also noted that the operation of the CBD program in conjunction with NABERS has highlighted the financial value of sustainable buildings:

This legislation has factored energy efficiency into the financial decision-making process of commercial office building investors and tenants. Tenants are not only seeking to manage their reputations as good environmental citizens by leasing high-performing office space, but they are also motivated by operational reasons – managing ongoing costs.

In markets operating at close to capacity, such as those in the CBDs of Sydney and Melbourne, NABERS has become a way of knowing a building, and a proxy for the quality of office space. It informs portfolio investment decisions and management strategies of property corporations, and shapes competition for quality tenants. The impetus to perform competitively in ratings terms is feeding market demand for innovative ways to enhance energy performance.¹⁸

Green Star Rating Scheme

- 7.24 The Green Building Council of Australia (GBCA) describes its Green Star Ratings as 'Australia's only national, voluntary and holistic rating system for

¹⁷ Australian Centre for Cultural Environmental Research, University of Wollongong and the Faculty of Architecture, Design and Planning, University of Sydney, *Submission 143*, p. 3.

¹⁸ Australian Centre for Cultural Environmental Research, University of Wollongong and the Faculty of Architecture, Design and Planning, University of Sydney, *Submission 143*, p. 8.

sustainable buildings and communities' developed by Australian industry for the Australian market.¹⁹

7.25 The GBCA's Green Star Ratings are much broader than other building rating schemes, such as NABERS. They assess both environmental and liveability factors at each stage of a building's lifecycle from design and construction through to operational performance. GBCA awards Green Star Ratings in four categories:

- Design and As Built – assessing the environmental sustainability of the design and construction of brand new buildings or major refurbishments;
- Performance – examining the 'operational performance' of buildings;
- Interiors - assessing the environmental sustainability of the interior fitout of a building; and
- Communities - assessing the design and development of sustainable and liveable precincts and neighbourhoods.

7.26 In awarding a Green Star Rating for Design and As Built, Performance or Interiors, GBCA assessors consider both environmental and liveability factors including:

- the energy and water efficiency of a building;
- the environmental impact of the construction materials and emissions associated with the build;
- land use and the ecological impact;
- how management of the buildings supports sustainable outcomes;
- whether the building facilitates occupants use of environmentally friendly transportation; and
- whether innovative practices are being deployed to support sustainability outcomes.²⁰

7.27 In awarding a Communities star rating, GBCA assessors examine how a precinct or community facilitates good governance, liveability, economic prosperity, minimises environment impact and supports innovation. The Communities rating is discussed in further detail in Chapter 11–Global Best Practice.

¹⁹ Green Building Council of Australia, *Submission 99*, p. 3

²⁰ Green Building Council of Australia, *Rating System*, < <http://new.gbca.org.au/green-star/rating-system/> > retrieved 6 February 2018.

- 7.28 The Committee heard evidence that both governments and the private sector are embracing GBCA's Green Star Ratings to establish design parameters for, and to verify the performance of, high quality, environmentally sustainable and liveable buildings.
- 7.29 Parramatta City Council noted that it is mandating minimums of five or six Green Star Ratings as part of the design specifications for its urban renewal projects.²¹ Similarly, the Queensland State Government has set Green Star Rating targets to improve the sustainability of its building portfolio.²²
- 7.30 Floth Sustainable Building Consultants described its use of Green Star Ratings to verify the environmental and liveability credentials of over 45 construction projects, including office buildings, residential units and schools. For example, Floth's Brisbane headquarters:

Notably, our new head offices in Brisbane received the first 6-star Green Star design as built v1.1 certified rating in Australia in 2015... it is the first building to meet the Australian Sustainable Built Environment Council's standard definition of a zero-carbon building. It was recently also awarded the first 6-star NABERS indoor environment rating in Australia and it was the first Australian winner of the World Green Building Council Asia-Pacific leadership in sustainable building design and performance commercial category.²³

- 7.31 According to GBCA, there are over 1 260 Green Star rated projects across Australia, notably:

- 37 per cent of Australia's office space is Green Star certified;
- 5 per cent of the workforce head to a green office each day;
- 40 000 people live in Green Star-rated apartments;
- 1.3 million people visit a Green Star-rated shopping centre each day;
- 170,000 people are moving into Green Star communities – this is double the size of Toowoomba, Australia's 13th largest city.²⁴

²¹ Ms Sue Weatherley, Director Strategic Outcome and Development, City of Parramatta Council, *Committee Hansard*, Parramatta, Monday, 13 November 2017, pp. 14-5.

²² Queensland Government, *Submission 137*, p. 18.

²³ Mr Anthony Marklund, Principal ESD Engineer, Floth Sustainable Building Consultants, *Committee Hansard*, Friday, 29 September 2017, pp. 1-2.

²⁴ Green Building Council of Australia, *Submission 99*, p. 3.

7.32 GBCA submitted that the environmental impact of Green Star rated buildings is significantly lower than that average Australian building:

- Produc[ing] 62 per cent fewer greenhouse gas emissions than average Australian buildings;
- Us[ing] 66 per cent less electricity than average Australian buildings;
- Consum[ing] 51 per cent less potable water than minimum industry standards; and
- Recycle[ing] 96 per cent of their construction and demolition waste.²⁵

7.33 Furthermore, GBCA submitted that a Green Star Rating can deliver financial benefits including:

- lowering building operating costs;
- increasing the value of built assets;
- reducing risk and 'future proof' investments; and
- delivering a competitive edge in a crowded marketplace.²⁶

Residential buildings

7.34 Commonwealth, state and territory and local government regulation and programs have also supported sustainability gains in residential buildings, particularly newly constructed homes.

7.35 Australian Sustainable Built Environment Council (ASBEC) presented analysis based on data from the Office of the Chief Economist which showed that energy efficiency measures targeting residential buildings implemented between 2005 and 2015 have driven a 15 per cent reduction in energy usage, compared to projected energy usage.²⁷ It also noted that improvements have been driven, in large part, by increases to the National Construction Code's (NCC) minimum energy performance standards.²⁸

²⁵ Green Building Council of Australia, *Submission 99*, p. 19.

²⁶ Green Building Council of Australia, *Introducing Green Star*, < <https://gbca-web.s3.amazonaws.com/media/documents/introducing-green-star.pdf> > retrieved 5 February 2018.

²⁷ Australian Sustainable Built Environment Council, *Low Carbon , High Performance*, May 2016, p. 33.

²⁸ Australian Sustainable Built Environment Council, *Low Carbon , High Performance*, May 2016, p. 43.

National Construction Code (NCC)

- 7.36 The NCC is maintained by the Australian Building and Construction Board (a Council of Australian Government standards body) and is administered by state and territory governments. It establishes minimum standards for safety, health, amenity and environmental sustainability in the design and construction of new buildings or the renovation of existing buildings in Australia.
- 7.37 While the NCC's primary focus is building safety, it includes energy efficiency standards for residential properties which incorporate building materials, insulation, window glazing and utilities such as hot water.²⁹
- 7.38 State and territory governments supplement the NCC with their own regulation requiring environmentally sustainable residential buildings, for example the New South Wales Government has implemented a Building Sustainability Index (BASIX).³⁰ Local governments may also have their own development controls accounting for local conditions. However, they primarily rely on Commonwealth and state regulation.³¹

Strategies to improve the sustainability of Australia's built environment

- 7.39 Although the environmental sustainability of Australian commercial office and residential buildings has improved, there is broad recognition amongst stakeholders that further sustainability gains are needed. Witnesses to the inquiry suggested that improving the environmental sustainability of Australia's built environment would:
- complement action to mitigate climate change;³²

²⁹ Australian Government, *National Construction Code*, < <https://www.abcb.gov.au/>> retrieved 23 January 2018; Green Building Council of Australia, *Submission 99*, p. 15.

³⁰ Australian Building and Construction Board, *The Board*, < <https://www.abcb.gov.au/ABCB/The-Board>> retrieved 2 February 2018; New South Wales Department of Planning and Environment, *BASIX*, < <https://www.basix.nsw.gov.au/iframe/>> retrieved 23 January 2018.

³¹ Ms Giselle Benitez, Senior Policy Officer, Strategic Planning and Urban Design, Tweed Shire Council, *Committee Hansard*, 29 September 2017, p. 32.

³² Dr Craig James, Research Program Director, Commonwealth Scientific and Industrial Research Organisation, *Committee Hansard*, 5 September 2017, p. 2.

- support the Australian Government to achieve its greenhouse gas emission reduction target of between 26-28 per cent below 2015 emission levels by the year 2030;³³
- deliver energy cost savings to home owners and businesses and support the Australian Government to achieve its energy productivity target of 40 per cent between 2015 and 2030;³⁴
- support international investment in Australian building stock; and
- avoid future inefficiency costs associated with the built environment.³⁵

7.40 As already noted, recommendations for improving the sustainability of Australia's built environment include:

- strengthening the NCC minimum performance standards for environmental sustainability;
- the establishment of a National Plan Towards 2050 Zero Carbon Buildings; and
- the extension of mandatory disclosure schemes for buildings' sustainability ratings and rating schemes in general, beyond commercial office buildings to other classes of buildings.

7.41 These recommendations are considered in more detail below.

Strengthening the National Construction Code (NCC)

7.42 The Committee heard evidence that the NCC's energy efficiency performance standards for residential buildings should be strengthened to improve the environmental sustainability of Australian homes.³⁶

7.43 ASBEC and the GBCA both suggested that the residential building performance standards required by the NCC are outdated and fall short of best practice:

While energy efficient design and technology continues to improve – with many buildings in Australia now energy neutral or energy positive – the...

³³ Green Building Council of Australia, *Submission 99*, p. 14.

³⁴ Australian Government, Council of Australian Governments Energy Council, *National Energy Productivity Plan 2015-2030*; Australian Sustainable Built Environment Council, *Submission 111*, p. 8.

³⁵ Green Building Council of Australia, *Submission 99*, p. 27.

³⁶ Green Building Council of Australia, *Submission 99*, p. 15; Mr Anthony Marklund, Principal ESD Engineer, Floth Sustainable Building Consultants, *Committee Hansard*, 29 September 2017, p. 8; Property Council of Australia, *Submission 12*, p. 3; EDOs of Australia, *Submission 91*, p. 10.

gap between minimum practice outlined in the NCC and best practice grows wider by the year.³⁷

- 7.44 Concerns were also raised that there is little market incentive for developers or investors in residential properties to go beyond the performance standards required by the NCC. Ms Romilly Madew, Chief Executive Officer of the Green Building Council of Australia explained that home buyers are generally more concerned with affordability than environmental sustainability when selecting a property:

When it comes to housing, it really comes down to location, money, what they're looking for. One of our staff makes a really flippant but lovely remark when he says, 'When someone's looking for a house, they're not worried about the Paris agreement.' It's a flippant remark but, let's be serious, it's possibly true. They're looking for close to a shop, close to a school, whether it has a view and whether they can afford it. The householder wouldn't know what the term 'sustainability' meant.³⁸

- 7.45 Home buyers' relative ambivalence to the environmental sustainability of residential properties provides little motivation for developers to construct homes that exceed the performance requirements of the NCC. Ms Megan Motto, Chief Executive Officer of Consult Australia, pointed out that developers build for sale:

We heard about the split incentive issue that exists in the residential sector, for example, where the builder of the asset is building to sell. So there is no long-term incentive to make that building more sustainable because they're going to sell it and that will become someone else's problem.³⁹

- 7.46 Similarly, CSIRO shared research indicating that, like developers, investors have little incentive to improve the sustainability of their residential assets. This leaves low income renters vulnerable to accommodation which is poorly adapted for climate:

At the moment, there is a 'split incentive' between landlords and their tenants that discourages investment in sustainability retrofits, where those paying the

³⁷ Australian Sustainable Built Environment Council, *Submission 111*, p. 8; Green Building Council of Australia, *Submission 99*, p. 15.

³⁸ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 4.

³⁹ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 13.

utility bills are not the building owners (Gabriel et al. 2010). This has been identified as a particular problem in private rental low income housing, where tenants that are vulnerable to extreme heat events, have limited options for climate adaptation (Barnett et al. 2013).⁴⁰

- 7.47 A number of stakeholders to the inquiry reasoned that, as residential properties are generally built to the requirements of the NCC, raising those minimum performance standards offers a good opportunity to reduce greenhouse gas emissions and contribute to Australian Government's reduction targets. Mr Johnathon Cartledge, Head of Public Affairs at the GBCA suggested that updating the NCC is critical to achieving targets:

...there is still an enormous opportunity, with all the built form that is delivered to the minimum standard, to meet the emissions potential we need. Raising minimum standards through the National Construction Code to do that is critical.⁴¹

- 7.48 ASBEC made a similar point, adding that raising NCC performance standards would also reduce operation cost of buildings:

Lifting minimum standards for energy efficiency in the NCC will ensure that new buildings in Australia do not miss opportunities for emissions reduction, as well as creating opportunities to reduce running costs over the life of buildings.⁴²

- 7.49 The Northern Alliance for Greenhouse Action suggested that 'strong energy efficiency standards' would increase the resilience of buildings in the face of rising temperatures.⁴³

- 7.50 The Property Council of Australia pointed out that the NCC's energy performance standards for commercial buildings will be reviewed and strengthened in 2019 and argued that residential buildings should be examined at the same time. It advocated for the establishment of a trajectory for further increases to the energy efficiency performance standards of the NCC, to send a clear signal to developers.⁴⁴

⁴⁰ Commonwealth Scientific and Industrial Research Organisation, *Submission 121*, p. 8.

⁴¹ Mr Johnathon Cartledge, Head of Public Affairs, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 7.

⁴² Australian Sustainable Built Environment Council, *Submission 111*, p. 8.

⁴³ Northern Alliance for Greenhouse Action, *Submission 50*, p. 3.

⁴⁴ Property Council of Australia, *Submission 12*, p. 3.

- 7.51 GBCA also recommended the introduction of a trajectory for increases to the energy efficiency standards required by the NCC. It suggested that such a long term view would support industry to prepare for changes:

To ensure future updates to the NCC occur regularly, a trajectory should be established for future energy provisions in the NCC. A shared ultimate goal of net zero emissions for the NCC supported by a trajectory of planned updates over time will encourage innovation and regular upskilling of industry, and deliver more high performing buildings.⁴⁵

- 7.52 However, it did note that although the costs of building more sustainable office buildings is largely insignificant, there may be additional cost associated with building more sustainable residential buildings, such as apartments:

If you are talking about now and we're just talking about a normal building in the city, some of the developers will say to us that the only cost that they will have—this is on record—will be the cost of registration... You wouldn't have said that five, if not six, years ago. But, from today, it is just the way that it's built...If you're looking at different asset classes, I think there would be a cost and we have to be realistic about that. If we're looking at apartment buildings, that asset class is not as sophisticated.⁴⁶

- 7.53 The Housing Industry Association (HIA) suggested that industry requires further time to 'catch up' with existing NCC energy efficiency performance standards and contended that the current standards should be maintained:

Energy efficiency standards for residential buildings were introduced into the National Construction Code in 2003 and have been increased twice, along with numerous changes being undertaken in the intervening years to improve the application of these requirements.

The residential building industry needs time to 'catch up' with the constantly changing standards and effectively implement these into their business practices.⁴⁷

⁴⁵ Green Building Council of Australia, *Submission 99*, p. 15.

⁴⁶ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 2.

⁴⁷ Housing Industry Association, *Submission 85*, p. 4.

7.54 Further, it warned that increasing the NCC energy efficiency performance standards would result in marginal sustainability gains, unjustified by associated compliance costs.⁴⁸

7.55 ASBEC also acknowledged that there are uncertainties surrounding the construction industry's compliance to the existing energy efficiency performance standards:

Even though homes are supposed to be built to six-star NatHERS ratings, there's not a lot of evidence to show that they actually are—in fact, I think we've seen from the very broad-ranging conformance and compliance issues across the country that enforcement of the code. At the very basic level, it looks like energy efficiency is not being embedded according to the minimum standards.⁴⁹

7.56 Nonetheless, it recommended that the Australian Government establish strong minimum efficiency standards and a forward trajectory for future increases to the standards:

Set strong mandatory minimum standards: Creation of strong minimum standards for buildings, equipment and appliances, and establishment of a forward trajectory for future standards.⁵⁰

7.57 While the Queensland Government did not express a view on strengthening the environmental sustainability performance requirements of the NCC, it did note concerns regarding what it termed the 'increasingly complex' regulation around residential buildings.⁵¹

National Plan Towards 2050 Zero Carbon Buildings

7.58 Several stakeholders, particularly ASBEC, urged the Australian Government to implement a national plan to achieve a zero carbon emitting built environment by the year 2050:

Establish national plan towards zero carbon buildings by 2050: This includes supporting policy frameworks, governance arrangements with interim and long-term targets, clear responsibility at Ministerial level, coordination across

⁴⁸ Housing Industry Association, *Submission 85*, p. 4.

⁴⁹ Ms Suzanne Toubmourou, Executive Director, Australian Sustainable Built Environment Council, *Committee Hansard*, 14 November 2017, p. 19.

⁵⁰ Australian Sustainable Built Environment Council, *Submission 111*, p. 9.

⁵¹ Queensland Government, *Submission 137*, p. 16.

different government levels and departments and public reporting requirements.⁵²

- 7.59 In presenting the recommendation, ASBEC referred to its *Low Carbon, High Performance* report, produced in 2016, which advocated for a range of policies to reduce carbon emissions from the built environment, including a National Plan Towards 2050 Zero Carbon Emissions.⁵³ The report acknowledged that achieving a carbon neutral built environment will be challenging as ‘impediments are numerous and complex’:

Numerous stakeholders are involved, including multiple levels of government, multiple different government departments, agencies and regulators, and multiple private and community sector stakeholders.⁵⁴

- 7.60 Nonetheless it suggested that a zero emissions built environment is not only possible by 2050, but ‘would deliver almost \$20 million in energy cost savings for households and businesses by 2030’ and contribute more than 10 per cent of the Australian Government’s 2030 carbon emissions reduction target.⁵⁵

- 7.61 ASBEC argued that a national plan is needed to guide the long term, coordinated action that is required to reduce carbon emissions from the built environment:

Achieving a step change in buildings will require a sustained national effort. A National Plan Towards 2050 Zero Carbon Buildings dedicated to buildings will help to drive this effort, and coordinate actions across the country.⁵⁶

- 7.62 It suggested that a national plan would cultivate the ‘stable governance arrangements’ needed to encourage all stakeholders to work towards reducing carbon emissions from the built environment:

... stable and certain governance arrangements can send a strong signal to the community, companies and investors and underpin planning and investment of time, resources and effort to prepare and innovate.⁵⁷

⁵² Quote was taken from the Australian Sustainable Built Environment Council, *Submission 111*, p. 9 but was substantially repeated in submissions from the Property Council of Australia, *Submission 12*, p. 5 and the Green Building Council, *Submission 99*, p. 14.

⁵³ Australian Sustainable Built Environment Council, *Submission 111*, p. 8.

⁵⁴ Australian Sustainable Built Environment Council, *Low Carbon, High Performance*, May 2016, p. 7.

⁵⁵ Australian Sustainable Built Environment Council, *Submission 111*, p. 8.

⁵⁶ Australian Sustainable Built Environment Council, *Low Carbon, High Performance*, May 2016, p. 93.

- 7.63 However, ASBEC did recognise that a National Plan Towards 2050 Zero Carbon Emissions would need to incorporate policies which go beyond the built environment, addressing issues such as the electricity market and energy efficient appliances. This would make it difficult for just one Minister to implement.⁵⁸

Extension of mandatory disclosure and rating schemes

- 7.64 The success of the CBD program in driving sustainability gains in large commercial buildings has led to support for:
- the CBD program to be extended;
 - the introduction of a similar environmental sustainability disclosure scheme, targeting residential buildings; and
 - broader government use of industry building rating schemes.

Extension of the CBD Program

- 7.65 The Australian Centre for Cultural Environmental Research at the University of Wollongong and the Faculty of Architecture, Design and Planning at the University of Sydney suggested that the CBD Program could be leveraged to improve the environmental sustainability of smaller commercial office buildings, as well as the management of larger office buildings.
- 7.66 They recommended increasing the range of commercial office buildings subjected to the program by lowering the participation threshold from commercial office buildings sized 1 000m² and above to those sized 500m² and above:

This may provide incentive for owners of ‘mid-tier’ B, C, and D-grade assets to consider energy consumption as part of their upgrade and maintenance processes. Traction around energy efficiency has historically been difficult across these assets.⁵⁹

⁵⁷ Australian Sustainable Built Environment Council, *Low Carbon, High Performance*, May 2016, p. 91.

⁵⁸ Australian Sustainable Built Environment Council, *Low Carbon, High Performance*, May 2016, p. 91.

⁵⁹ Australian Centre for Cultural Environmental Research, University of Wollongong and the Faculty of Architecture, Design and Planning, University of Sydney, *Submission 143*, p. 7.

- 7.67 They suggested that information resources and ‘appropriate incentive measures’ be provided to support the owners of smaller commercial office buildings to participate in the CBD Program.⁶⁰
- 7.68 The two groups also proposed that the CBD Program be strengthened by mandating the disclosure of NABERS energy ratings for both the base building (common spaces such as bathrooms and lifts) and tenanted spaces, for all commercial office buildings sized 1 000m² and above which are subject to the program:
- Currently... only the base building [common spaces and services, such as lifts or bathrooms] is mandated for compulsory disclosure. Yet tenancies are currently responsible for more than half of a building’s energy consumption.
- 7.69 They contended that extending compulsory disclosure to tenancies would motivate large corporate tenants to ‘demonstrate their commitment’ to energy efficient performance, in the same manner that building owners do, ‘especially where they hold a public and visible sustainability agenda’.⁶¹

Rating disclosure scheme for residential buildings

- 7.70 A range of stakeholders to the inquiry were of the view that an environmental sustainability rating disclosure scheme, similar to the CBD Program, should be introduced to facilitate sustainability gains in residential buildings.
- 7.71 The HIA suggested that introducing an online, voluntary disclosure scheme would promote the improvement of older, less energy efficient residential buildings, constructed before energy efficiency standards were mandated by the NCC. It believed that such a scheme would support owners to identify how best to improve their properties and suggested that the scheme could eventually be transitioned to mandatory disclosure at the point of sale:
- ... home owners must have access to a reliable and cost effective method to determine what improvements can be made. The Commonwealth Government should lead the introduction of a free online voluntary disclosure scheme for residential buildings, with the capacity for the scheme to be

⁶⁰ Australian Centre for Cultural Environmental Research, University of Wollongong and the Faculty of Architecture, Design and Planning, University of Sydney, *Submission 143*, p. 7.

⁶¹ Australian Centre for Cultural Environmental Research, University of Wollongong and the Faculty of Architecture, Design and Planning, University of Sydney, *Submission 143*, p. 7.

expanded in the future to a mandatory disclosure mechanism that is triggered at the point of sale or lease of an existing home.⁶²

7.72 ASBEC supported the implementation of a similar National Framework for Residential Ratings, to 'assess the sustainability of residential buildings, set minimum standards, benchmark building performance, and communicate value'.⁶³ Ms Suzanne Toumbourou, Executive Director at ASBEC argued that such a scheme would support home owners to understand the energy efficiency of their home and identify how to improve performance.⁶⁴

7.73 The Property Council of Australia also urged the Australian Government to develop 'a nationally consistent approach to residential ratings', pointing out that individual jurisdictions are implementing a patchwork of different rating schemes in the absence of a national approach:

In the absence of Commonwealth leadership, jurisdictions have begun developing tools offering ratings and performance metrics for individual elements of the sustainability performance of housing. This increases complexity, confusion and cost for industry and consumers alike.

A single framework, applied consistently across jurisdictions, will result in better sustainability outcomes and encourage continuous improvement.⁶⁵

7.74 Ms Toumbourou noted that Victoria has already piloted a scheme on a voluntary basis:

In Victoria they have piloted the Victorian Residential Efficiency Scorecard, which basically looks to apply a star-rating to a home... The pilot occurred earlier this year and they are exploring how they might take this to market on a voluntary basis over the next year.⁶⁶

7.75 Ms Romilly Madew described a thermal performance rating scheme for residential buildings operating in the Australian Capital Territory. She noted

⁶² Housing Industry Association, *Submission 85*, p. 4.

⁶³ Australian Sustainable Built Environment Council, *Submission 111*, p. 7; Australian Sustainable Built Environment Council, *National Framework for Residential Ratings*, <<http://www.asbec.asn.au/research-items/residential-ratings/>> retrieved 5 February 2018.

⁶⁴ Ms Suzanne Toumbourou, Executive Director, Australian Sustainable Built Environment Council, *Committee Hansard*, 14 November 2017, p. 20.

⁶⁵ Property Council of Australia, *Submission 12*, p. 4.

⁶⁶ Ms Suzanne Toumbourou, Executive Director, Australian Sustainable Built Environment Council, *Committee Hansard*, 14 November 2017, p. 20.

that it has already had some positive effect, although it could be strengthened.⁶⁷

- 7.76 Furthermore, Ms Madew informed the Committee that GBCA is currently developing an online rating tool to educate home buyers about the practical value of environmental sustainability in residential buildings:

... what a householder is looking for is fundamentally different to what the industry is looking for. They're more looking for, 'Can I afford this on energy bills? Does it have a view? Is there comfort? What's the air like? If it's an apartment building, is it managed efficiently? Is it close to a park? How close is it to a school? How close is it to a train station?'...

I believe that in the future we will be creating the type of rating tool that actually listens to the consumer and meets the needs of the consumer. Hopefully we will take them on a journey and they will buy the green apartment because it means something to them...⁶⁸

Government use of industry rating schemes

- 7.77 Stakeholders to the inquiry also advocated for the broader application of industry developed building rating schemes, such as the GBCA's Green Star Ratings. Mr Anthony Marklund suggested that the Australian Government could require Green Star Ratings for its portfolio of buildings as well as for 'buildings that people actually inhabit'.⁶⁹ He suggested that the Australian Government could require stakeholders to achieve Green Star Ratings as part of City Deals:

In terms of what the federal government's role could be in enabling and embedding sustainable building outcomes, it should be to require measurement verification plans as part of city deals, including Green Star ratings, to receive a final payment for the deal.⁷⁰

⁶⁷ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 5.

⁶⁸ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 4.

⁶⁹ Mr Anthony Marklund, Principal ESD Engineer, Floth Sustainable Building Consultants, *Committee Hansard*, 29 September 2017, p. 13.

⁷⁰ Mr Anthony Marklund, Principal ESD Engineer, Floth Sustainable Building Consultants, *Committee Hansard*, 29 September 2017, p. 13.

- 7.78 However, GBCA did acknowledge that building Green Star Rated buildings can be more expensive, although not significantly so:

In order to dispel the myth that Green Star is too expensive, in 2014 the GBCA launched the Green Star Financial Transparency Innovation Challenge, with the aim of increasing the information available to industry and government on the costs and benefits of sustainable building. On average, developers/building owners are achieving Green Star ratings with 3 per cent of their overall project budgets. The data shows that Green Star projects can be delivered for less than one per cent of the overall project budget. On average, projects are spending an additional:

- 1.5% per square metre to achieve a 4 Star Green Star rating;
- 2.7% per square metre to achieve a 5 Star Green Star rating;
- 3.2% per square metre to achieve a 6 Star Green Star rating.⁷¹

Committee conclusions

- 7.79 The Committee believes that enhancing the environmental sustainability of Australia's built environment is critical to maintaining the prosperity, liveability and resilience of settlements of all sizes.
- 7.80 The Committee recognises that substantial sustainability gains have already been made, particularly amongst top tier commercial office buildings which are now well established as examples of global best practice in office design. However, it is firmly of the view that more can be done to facilitate ongoing improvement to the environmental sustainability of Australia's buildings.
- 7.81 To this end, the Committee sees scope for expanding the successful CBD Program to require the participation of smaller commercial office buildings, sized 500 metres squared and above. The Committee acknowledges that participation in this program may be a significant impost on smaller operators and support may be required to ease their transition into the program.
- 7.82 The Committee also supports the expansion of the CBD Program's mandatory disclosure requirements to include information about the energy efficiency of tenanted areas of commercial office buildings above 1000 meters squared, given that this is already occurring in some cases.

⁷¹ Green Building Council of Australia, *Submission 99*, p. 19.

Recommendation 14

7.83 The Committee recommends that the Australian Government:

- **complete a regulatory impact assessment on lowering the participation threshold of the CBD Program;**
- **investigate the feasibility and cost implications of extending the CBD Program's mandatory disclosure requirements to include information about the energy efficiency of tenanted areas of commercial office buildings above 1000 metres squared.**

7.84 The Committee heard from witnesses that a lack of market incentive for sustainability measures means that residential buildings are largely being built according to NCC minimum performance standards. It also received evidence that the construction industry is struggling to demonstrate compliance with these standards. As such, the Committee does not consider it prudent to raise the minimum performance standards contained in the NCC at this time, although it would like to see this in future. Rather, the Committee believes the market should be incentivised to implement sustainability measures beyond the standards of the NCC, through the introduction of a building rating and disclosure scheme, similar to the CBD program.

7.85 Although the Committee received little evidence regarding the environmental sustainability of other classes of building assets, such as community and industrial buildings, it anticipates that Australian Government leadership will be critical to driving sustainability gains.

7.86 The Committee heard two suggestions for driving broader improvement to the environmental sustainability of Australia's built environment:

- the implementation of a National Plan Towards 2050 Zero Carbon Emissions; and
- mandating minimum environmental sustainability ratings as part of funding agreements or design specifications.

7.87 These are both avenues for investigation, but evidence to the inquiry was insufficient to draw a conclusion. The Committee would like to see the Australian Government consider these issues as part of the development of a national settlement plan.

- 7.88 The use of rating tools, such as Green Star, will be discussed further in Chapter 10- Global Best Practice.

8. Improving housing affordability

Introduction

- 8.1 Adequate affordable housing with good amenity is fundamental to the sustainability of Australian communities. As PwC noted, ‘the quality of life for our citizens is deeply defined by the quality of their homes’.¹
- 8.2 There is no universal definition of affordable housing. Professor Jago Dodson, Director of the Centre for Urban Research at RMIT University suggested that a good measure is the percentage of income spent on housing:
- ... a standard that is often used is housing which results in no more than 33 per cent of income being paid in rent or mortgage by households in the bottom two quintiles.²
- 8.3 Adequate amenity is also hard to define. Stakeholders suggested that best practice residential development:
- incorporates a variety of housing types to accommodate residents of different socio-economic circumstances and abilities;

¹ PwC, *Submission 97*, p. 9.

² Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 15

- is high density to support the viability of essential services such as health, education and other community services;
- provides good connectivity to the rest of the city; and
- is located close to employment opportunities.

8.4 Evidence to the inquiry suggested that rapid population growth—decoupled from land release, housing construction and job creation—is jeopardising Australians’ access to appropriate and affordable housing. PwC submitted:

With the rapidly growing population of our major cities, there is an increased pressure on our housing from supply and affordability through to proximity and amenity... And we are continuing to see families and individuals struggling to attain secure housing of high amenity.³

8.5 The Committee heard that Australia’s largest two cities, Sydney and Melbourne, are now experiencing a ‘housing crisis’ threatening their social sustainability and increasing inequality. The University of Technology Sydney claimed:

At present, the housing crisis in Australia’s major cities is entrenching social inequality, making life in our cities increasingly untenable for many citizens. If our cities are to become sustainable systems, they must provide suitable, affordable accommodation for our citizens, and in particular for our most marginalised communities.⁴

8.6 This chapter begins by describing the housing crisis being experienced by Australia’s capital cities and examines its causes. It concludes by considering possible solutions to address affordability issues, including:

- national oversight of housing;
- opportunities to expand and streamline housing supply; and
- strategies to rebalance demand for housing.

Capital cities housing affordability crisis

8.7 The Committee heard that the purchase price of housing has increased in most capital cities and rental costs remain high in some Australian states.

8.8 The Housing Industry Association (HIA) reported house purchase price growth in all capital cities except Perth:

³ PwC, Submission 97, p. 9.

⁴ University of Technology Sydney, *Submission 67*, p. 4.

Sydney dwelling prices are estimated to have increased by 74.9 per cent since bottoming out in May 2012 – detached house prices in the city saw even stronger growth over the same period (+81.4 per cent). Over the year to May 2017, dwelling prices (both houses and units) in Sydney rose by 11.1 per cent...

Melbourne dwellings actually saw the strongest price growth over the past year (+11.5 per cent). There was considerable variation in the market here – detached house prices increased by some 12.8 per cent while unit prices declined by 0.3 per cent over the year to May 2017.

In Brisbane, the market is very mixed. Overall dwelling prices were up by 2.3 per cent over the year to May 2017...

Adelaide prices are struggling to gain traction. Over the year to May 2017, dwelling price growth was 2.9 per cent...

In Perth, dwelling prices continue to fall as the mining investment downturn still waits to find a floor. In the 12 months to May 2017, dwelling prices declined by 3.8 per cent and have lost just over 10 per cent since their peak at the end of 2014.

8.9 According to the Australian Bureau of Statistics the average cost to rent a home hasn't risen significantly since 2013-14:

Households renting from private landlords paid an average of \$381 a week. This has not changed significantly from 2013–14 in real terms.

Households renting from state and territory housing authorities paid an average of \$167 per week, an increase of \$15 per week from 2013–14 in real terms.⁵

8.10 Nonetheless, the mean weekly cost for a private rental home in the Northern Territory, New South Wales and the Australian Capital Territory remains significantly higher than the national average:

Mean weekly housing costs for renters with a private landlord in the Northern Territory (\$535), New South Wales (\$440), and the Australian Capital Territory (\$424) were significantly higher than the national average (\$381) whereas

⁵ Australian Bureau of Statistics, *4130.0 – Housing Occupancy and Costs, 2015-16*, <<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4130.0~2015-16~Main%20Features~Housing%20Costs~5>> retrieved 17 February 2018.

those in Tasmania (\$253), South Australia (\$295), Queensland (\$346), and Victoria (\$359) were significantly lower.⁶

- 8.11 Professor Carolyn Whitzman of the Faculty of Architecture, Building and Planning at the University of Melbourne suggested the cost of renting in cities like Melbourne prevents renters from becoming home owners:

Turning to renters, who are a growing proportion of the population, a little less than 15 per cent or 45,000 private market renter households in Greater Melbourne are earning less than 35 per cent of area median income. An additional one-third or 100,000 renter households in the private market are in between 35 and 80 per cent of area median income. Those 145,000 households are effectively locked out of the home ownership market.⁷

- 8.12 Housing costs have not risen uniformly across Australian cities. Witnesses suggested that a price gradient from expensive inner city locations to the more affordable city fringes has reshaped cities' demographics. Associate Professor Matthew Burke explained:

The rich reclaimed the inner-suburbs and have benefited from traditional pre-war urbanism. They enjoy the more transit-oriented urban forms that exist in these locations, with proximity to the knowledge centres of the CBDs. Households in other social strata have been increasingly displaced to less well-to-do middle ring suburbs and the periphery. Two Australias emerged, one clustered around the cones of wealth in the city centres where opportunities are abundant and land rents high; and, one spread out in the suburban 'heartlands', where knowledge jobs are few, travel costs high, and for whom journeys to the central areas are increasingly long and stressful.⁸

- 8.13 The University of Melbourne claimed that, in Melbourne, there is growing spatial segregation between higher and lower income households:

High housing costs are creating a spatial mismatch between jobs, amenities, and services, as well as the households most in need of accessing these opportunities. This is reflected in the growing segregation of high income

⁶ Australian Bureau of Statistics, *4130.0 – Housing Occupancy and Costs, 2015-16*, <<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/4130.0~2015-16~Main%20Features~Housing%20Costs~5>> retrieved 17 February 2018.

⁷ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 41.

⁸ Associate Professor Matthew Burke, *Submission 98*, p. 2.

earners in the core of Melbourne and dispersion of lower income households around its periphery.⁹

- 8.14 The Committee heard that the shift in demographics is threatening the social sustainability of Australian cities. Professor Dodson pointed out that higher housing costs are excluding key service workers from the inner city where they are needed:

People like key workers, which is a term that is used for public sector workers who are not on high incomes but can be excluded from metropolitan housing markets, particularly the city centres. You would ideally have your nurses, police, fire officers and so on not having to live way out on the fringe but close to where they are needed. It is a challenge that we face in very fast-growing cities.¹⁰

- 8.15 The congregation of lower income households in the city fringes may also be compounding social disadvantage. The National Growth Areas Alliance (NGAA) suggested that, although houses are more affordable on the city fringes, access to critical services and good employment opportunities is poorer, further disadvantaging the lower income households settling there:

Policy has been focussed on CBD's and inner cities on the one hand and the regions on the other... there has been no commensurate policy attention given to the areas housing the majority of population growth – the outer suburbs. This has led to a massive infrastructure deficit, congestion, health and cost of living impacts resulting in increasing inequality.

In a speech in 2015, Lucy Turnbull, then Chair of the Committee for Sydney said that since the Whitlam and Hamer years of government in the 1960s and 1970s, the location of social disadvantage within cities has switched from the inner city to the outer suburbs. She said decision-makers needed to reshape and reimagine Australian suburbs so this concentration of disadvantage could be addressed.

“Sustainability today means tackling the suburbanisation of poverty. Not everyone can live inner-city, so we need to try to create inner-city characteristics in areas on city fringes”, she said.

⁹ University of Melbourne, *Submission 106*, p. 6.

¹⁰ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, pp. 15.

- 8.16 Even the more affordable housing in suburban fringes of Australian cities is too expensive for some lower income households, and those receiving welfare. Professor Whitzman cited research indicating that there is a shortfall of approximately 271 000 homes for the lowest earning quintile of Australian workers:

In 2011 the Australian Housing and Urban Research Institute calculated a shortfall of 271 000 affordable and available homes for the lowest quintile of households across the country.¹¹

- 8.17 Professor Whitzman suggested that there is no affordable housing in Melbourne for Australians on a median income, let alone a low income:

...the current affordable housing crisis is untenable. The median household income in Melbourne, according to 2016 Census data, is \$1,750 a week. Using the standard safe mortgage calculation of three times gross annual household income... would mean an affordable home purchase price for a median income household in Melbourne would be \$273,000. According to background research for a recent metropolitan strategy plan in Melbourne the only substantial clusters of housing for purchase at \$415,000 or less—and that is the lowest quartile of housing price—are in areas well outside the urban growth boundary. Those include Koo Wee Rup, the capital of asparagus farming, which is deep in Gippsland, over 70 kilometres south-east of Melbourne, and Bacchus Marsh, which is the equivalent farming area to the west. You would need to earn well over median income to securely purchase a first home in those areas, which are not serviced by public transport or nearby non-agricultural employment.¹²

- 8.18 Homelessness NSW submitted that on a given weekend, fewer than 30 Sydney properties were affordable for households receiving income support:

Each year Anglicare conducts a rental affordability snapshot for New South Wales. In 2017, on the Snapshot weekend, 13,447 private rentals were advertised for rent in Greater Sydney and the Illawarra. There were only 26 unique properties affordable and appropriate for people living on income support payments without placing them in housing stress and only 625 unique

¹¹ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 41.

¹² Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 41.

properties that were affordable and appropriate for people living on the minimum wage without placing them in housing stress.¹³

- 8.19 As a result, lower income households and those receiving welfare are increasingly vulnerable to homelessness. The Australian Bureau of Statistics defines homelessness as:

... people who are rough sleeping, that is people who are in homeless accommodation, people in boarding houses, and also—and the fastest growing group—people in severely overcrowded dwellings. That is four or more bedrooms short, so 14 or 15 people in a two-bedroom apartment.¹⁴

- 8.20 Mr Digby Hughes, Senior Policy and Research Officer at Homelessness NSW said:

The level of housing affordability is one of the major drivers of homelessness, if not the major driver. As we put in our submission, just on two years ago we interviewed 516 people in the Sydney CBD who were homeless. Of those, every one of them—100 per cent—had an income less than \$400 per week. You cannot find a place to live in Sydney on less than \$400 a week. And that's the maximum. We have people on \$10, \$20 and \$40 per week. We know there's a major problem out there.¹⁵

- 8.21 Mr Hughes noted that poor housing affordability is causing a broader group of Australians to experience homelessness, including older women and families:

We have about 120 members, from the large and small state based Vinnies and Sallies through to small regional ones, and consistently they've been telling us, for the last four of five years, that they're getting two new groups of homeless people coming in, who have been entirely driven by housing unaffordability. They are older single women, who are now well and truly on the radar, and families—a parent or two and children. Again, it's just the lack of a place that they can afford to rent.¹⁶

¹³ Homelessness NSW, *Submission 19*, p. 1.

¹⁴ Mr Digby Hughes, Senior Policy and Research Officer, Homelessness NSW, *Committee Hansard*, 13 November 2017, p. 32.

¹⁵ Mr Digby Hughes, Senior Policy and Research Officer, Homelessness NSW, *Committee Hansard*, 13 November 2017, p. 30.

¹⁶ Mr Digby Hughes, Senior Policy and Research Officer, Homelessness NSW, *Committee Hansard*, 13 November 2017, p. 30

- 8.22 Mr Hughes said the number of rough sleepers in Sydney rose by 28 per cent between 2011 and 2016, and this is likely to be replicated across NSW:

The City of Sydney are doing their street count: the increase—between census time 2011 and census time 2016, it went up 28 per cent in the City of Sydney, rough sleepers only...

So if that's replicated across New South Wales—and we think it could be close to that, just talking to our services—we are looking at 35,000. That would be depressing but it would not surprise us. Every time the City of Sydney does a street count, they also look at the numbers of people who are in the homeless shelters, and the homeless shelters are full. They're sitting at 95 to 100 per cent capacity. There is no room there.¹⁷

- 8.23 The Committee heard that the decline of social and public housing in Australia is also contributing to higher rates of homelessness. Professor Dodson claimed that public housing stock in Australia is so inadequate that only those with 'special needs' are eligible:

In Australia, we have public housing, which has now been so residualised that you have to have very high special needs in order to be eligible for public housing.¹⁸

- 8.24 Professor Dodson suggested that government support of public housing has declined over the last 40 years:

... in Australia have tended to over the past 40 years to be reducing the extent to which we have mechanisms in place to provide affordable and social housing. In particular, our public rental stock has been run down and there has been disinvestment effectively. Most of the money that goes into public housing now goes into maintenance of the existing stock rather than production of new stock.¹⁹

- 8.25 Similarly, Professor Whitzman reported that the market share of public and not-for-profit housing in Victoria is the lowest it has been for decades:

¹⁷ Mr Digby Hughes, Senior Policy and Research Officer, Homelessness NSW, *Committee Hansard*, 13 November 2017, p. 32.

¹⁸ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, pp. 15.

¹⁹ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, pp. 15.

The combined public and non-profit housing market share is now the lowest it has been for decades with 2.5 per cent of the housing stock in Victoria, which is the lowest in the country, and about 10,000 of those units are nearing obsolescence. These are the vulnerable households that are most at risk of homelessness.²⁰

Causes of poor housing affordability

8.26 A range of supply and demand factors may be contributing to the poor affordability of housing in Australian capital cities, namely:

- rapid population growth increasing the demand for housing;
- insufficient and slow land supply for the construction of new housing;
- onerous planning regulation slowing the supply of housing and contributing to price rises; and
- culture and taxation policies supporting demand for housing as an investment asset, rather than as a place to live.

8.27 These factors are considered in greater detail below.

Rapid population growth

8.28 In recent years, rapid population growth has meant that housing supply has not kept up with demand.²¹ Mr Matthew Pollock, National Manager, Economics and Housing, at Master Builders Australia (MBA), suggested that the imbalance has pushed up prices:

We do know that there has been an underinvestment in housing over the last decade, the degree of which is up for contention. I think we say in our report that we believe it is around \$83 billion equal to about 165,000 houses over a 10-year period. So that has certainly pushed up prices.²²

8.29 Expanding demand for housing is likely to continue to put upward pressure on prices with population growth forecast to continue. Professor Whitzman noted that over 1.5 million new homes needed over the next 30 years to accommodate population growth in Sydney and Melbourne alone:

²⁰ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 41.

²¹ Master Builders Australia, *Submission 48*, p. 7.

²² Mr Matthew Pollock, National Manager, Economics and Housing, Master Builders Australia, *Committee Hansard*, 11 August 2017, p. 14.

Metropolitan Melbourne, which is 80 per cent of Victoria's population, is expected to double in population between 2010 and 2050 and the growth has been estimated as requiring 1.6 million additional housing units in 30 years, half of which would logically [need to] be affordable to those earning a median income and below.²³

- 8.30 She noted that not only is more housing needed, but it must include affordable rental housing, social housing and public housing, to meet the needs of the expanding population:

Essentially Melbourne—and this is true of Sydney as well as other capital cities—needs a sustainable stream of about 60,000 units per year of an asset class that does not presently exist in Australia, which is low-income market rental housing, as well as about 6,000 units per year of public and non-profit social housing.²⁴

Inadequate land supply

- 8.31 The Committee heard that insufficient 'shovel ready' land for housing construction is slowing housing supply and contributing to higher purchase and rental prices.²⁵ Mrs Denita Wawn, CEO of MBA, observed the purchase price of land has increased and costs are being passed onto home buyers:

Fundamentally, though, we think the significant driver of the cost of housing at the moment is a lack of supply and the increasing costs of land. It has not been a construction cost increase. It has been a significant land cost increase. That has been identified by the RBA.²⁶

- 8.32 MBA cited research by Nobel Laureate, Robert Shiller which suggested barriers to housing construction, such as inadequate land supply, are the predominant reason for housing price increases:

The research finds barriers to housing construction as the predominant reason for high house prices, but more importantly it also finds that once a city runs out of available building sites (or these available sites are restricted through

²³ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 41.

²⁴ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 41.

²⁵ Master builders Australia, *Submission 48*, pp. 5-7.

²⁶ Mrs Denita Wawn, Chief Executive Officer, Master Builders Australia, *Committee Hansard*, 11 August 2017, p. 14.

regulation) its continued growth must be accommodated by the departure of low income people.²⁷

Onerous planning regulation

- 8.33 Onerous planning regulation may also be slowing housing supply and increasing costs. MBA suggested that planning delays and developer contributions are a major contributor to the cost of new housing:

Traditionally, the cost of developing supporting infrastructure was paid for by Governments. However, these charges are now largely passed onto new perspective home owners [via residential developers through the developer contributions required by local government]. As a result, land prices have grown by a rate almost four times faster than the cost of construction... In turn, growth in the price of land has been the single biggest contributor to the rising costs of new housing developments.

In Sydney it is estimated that government infrastructure charges alone contribute 12 per cent to the cost of a greenfield new housing development and 5 per cent to an infill two bedroom apartment, while the average across Sydney, Melbourne, Brisbane and Perth is 7 per cent and 4 per cent respectively.²⁸

- 8.34 Mr Graham Wolfe, Deputy Managing Director of HIA suggested that local government requirements for landscaping and driveways are adding thousands of dollars onto purchase prices:

The construction of the house can be as simple as building a house and providing, if you like, a gravel driveway. Council are now imposing conditions on the completion of the home. The driveway has to be paved and to be paved with a certain type of material, and there is certain fencing and landscaping and whatever. That can add many thousands of dollars. From a builder's point of view, quite often that needs to be built into the contract price. The contract price then becomes the price about which the consumer, the client, has to go to the bank and say, 'Well, I need some money. Can you fund me this?' People are struggling to get across the line to purchase sometimes on these homes. If we put another \$20,000, for example, on the

²⁷ Master Builders Australia, *Submission 48*, p. 5.

²⁸ Master Builders Australia, *Submission 48*, pp. 11-12.

price, it might take them above an LVR where the bank cannot actually lend them that much money.²⁹

Housing as an asset for investment

- 8.35 On the demand side, submitters suggested that Australians' view of housing as an investment asset class, as opposed to a home, contributes to demand for housing and therefore supports higher prices. Mr Brendan Nelson noted that viewing property as a stable investment to fund retirement is unique to Australia:

If you think about the Australian investment model, the biggest investment is in property and people continue to put all their money into property. It's not the case in other parts of the world. People don't necessarily do that—of course there are small pockets and there are some people who own large amounts—but if I was to go to New York, for example, or London, I wouldn't necessarily have the view that I was going to buy three or four properties and use that to help fund my retirement.³⁰

- 8.36 The Centre for Urban Research at RMIT University suggested that Australian Government taxation policy, such as negative gearing, supports investor activity in housing markets and contributes to affordability issues:

The Australian Government has a crucial role to play in urban housing and land inequality through taxation systems particularly negative gearing and other policy mechanisms that encourage rather than dampen speculation, land banking and rapidly rising house values.³¹

- 8.37 However, HIA noted that the Australian Prudential Regulation Authority (APRA) has already successfully acted to curb investor activity in the housing market:

On the investor side, developments in lending finance have been strongly influenced by the introduction of APRA's 10 per cent 'speed limit' to growth in lending announced at the end of 2014. This has had the effect of reversing growth in loans to investors over this period. Accordingly, the value of lending to investors peaked over the year to July 2015 just short of \$163 billion.

²⁹ Mr Graham Wolfe, Deputy Managing Director, Housing Industry Association, *Committee Hansard*, 11 August 2017, p. 25.

³⁰ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2013, p. 38.

³¹ Centre for Urban Research RMIT University, *Submission 35*, p. 5.

During the year to March 2017, the value of investor lending had fallen to \$149.1 billion – down 8.5 per cent down from its peak.³²

8.38 Professor Whitzman suggested that international investment in Australian housing is also inflating purchase prices:

So we have internationally mobile capital and a large number of people – and it is fantastic – who want to invest in Australian goods because it is a stable place to invest in Australian goods. That is awesome but the problem is that when so much of it goes into housing units it takes already very high land and housing values and shoots them out of the grasp of ordinary Australians.³³

8.39 However, the Australian Government did act to curtail international investment in housing by introducing a 50 per cent cap on foreign ownership in new developments as part of the 2017-18 Budget. The cap is applied through New Dwelling Exemption Certificates, which are granted to property developers and act as preapproval allowing the sale of dwellings in a specified development to foreign purchasers.³⁴

Addressing poor affordability

8.40 There was broad recognition amongst stakeholders that Australian Government leadership is critical to addressing housing affordability issues. A nuanced and multifaceted response was recommended, including:

- national oversight of housing supply and affordability;
- supply side interventions including:
 - reforming planning and development approval processes;
 - prioritising infrastructure projects that increase land supply for housing; and
 - better utilising Commonwealth land.
- demand side interventions including:
 - rebalancing tax relief for investors and first home buyers;
 - increasing certainty for renters;
 - addressing homelessness; and

³² Housing Industry Association, *Submission 85*, p. 6.

³³ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 46.

³⁴ Australian Government, Reducing Pressure on Housing Affordability, *Budget 2017-18*, <http://www.budget.gov.au/2017-18/content/glossies/factsheets/html/HA_16.htm> retrieved 14 January 2018.

- incentivising pensioners to lease vacant rooms.

8.41 These strategies to improve housing affordability are considered in more detail below.

National oversight of housing

8.42 Witnesses advocated for Australian Government oversight of housing to actively manage supply and affordability.

8.43 HIA advocated for the appointment of a federal Minister for Housing with 'specific responsibility for promoting investment in housing delivery, land supply and improving housing affordability'. It claimed that a dedicated Minister would assist in aligning all levels of government to tackle affordability:

The Commonwealth Government has a key leadership role in the coordination and support of the states and territories to deliver land for residential developments in a manner which improves housing affordability. By supporting programs and initiatives that increase the supply of affordable new housing, the Commonwealth government will assist all Australians to find suitable accommodation, whether through increased public housing stock or private rental or owner occupied accommodation.³⁵

8.44 Professor Dodson also supported the appointment of a Minister for Housing. He suggested that a Minister is needed to coordinate the multitude of government agencies which impact housing outcomes and to ensure that one of Australia's most valuable asset classes is managed strategically:

... national housing stock is worth \$6 trillion, yet we do not have a dedicated, identified policy development capacity within our federal government to specifically focus on how we manage that huge national asset. The responsibility for housing across all the different parts of the housing system is split between Treasury and the Department of Human Services. Plus, there are other parts of housing policy that are influenced within the ATO, the Reserve Bank and so on through their responsibilities...

...the total value of Australia's housing stock is around \$6 trillion. That is very significant when you compare it to about \$1.5 trillion in the share market and about \$1.6 trillion in superannuation funds, many of which are also invested in the share market. Our housing stock is a huge national asset. We have an Assistant Minister. We do not have a portfolio, though, in terms of an agency

³⁵ Housing Industry Association, *Submission 85*, p. 3.

with responsibility for understanding simply how that housing stock contributes to productivity and the functioning of our economy.³⁶

8.45 Professor Whitzman agreed:

It makes sense, from a governance perspective, to have a Minister for Housing to bring together the various arms of housing...³⁷

8.46 HIA recommended that the Minister for Housing's portfolio encompass a new Land Planning Council, 'to provide national monitoring and reporting of land supply':

As a first step, establish a mandatory national reporting framework for states and territories to identify the current and predicted supply of unzoned, zoned, approved and completed residential land...

The collection of accurate and timely data on land supply which predicates new housing supply is a fundamental element in managing the growth of our cities. The Commonwealth government needs to lead a process to ensure there is a consistent approach to land supply monitoring and reporting, addressing every step in the land supply pipeline.³⁸

8.47 Professor Dodson noted the previous existence of a National Housing Supply Council. This council monitored trends in the housing market and provided policy advised government on managing challenges:

We had a National Housing Supply Council, but that was closed down in 2013. Although it did not have complete systematic policy responsibility, it was a dedicated element within the federal government that monitored trends in the housing market, the housing system around affordability and so on, and then provided a degree of policy advice to the government about how to respond to pressures and challenges.³⁹

³⁶ Professor Jago Dodson, Director, Centre for Urban Research RMIT University, *Committee Hansard*, 29 August 2017, p. 10.

³⁷ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 46.

³⁸ Housing Industry Association, *Submission 85*, p. 4.

³⁹ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, pp. 10-11.

Increasing housing supply

8.48 Some witnesses suggested that improving the supply of housing will provide greater price relief than interventions to curb demand. They recommended that the Australian Government:

- reform planning and development approval processes;
- prioritise infrastructure projects that increase land supply for housing; and
- better utilise Commonwealth land.

Planning reform

8.49 The Planning Institute of Australia (PIA), Master Builders Australia and the HIA all recommended streamlining planning and development approval processes for residential development. Master Builders Australia claimed that speeding up planning processes for new housing developments by one month has the potential to reduce housing prices by 0.5 per cent.⁴⁰

8.50 Two approaches were suggested, namely:

- refining the existing National Affordable Housing Agreement (NAHA) to require states and territories to reform residential planning and approval processes; and
- introducing a joint Commonwealth and state body, modelled on the Australian Building Codes Board (ABC Board) to nationalise residential planning and approval processes.

8.51 The NAHA is an agreement by the Council of Australian Governments that commenced in 2009, coordinating a whole-of-government response to improving housing affordability. Ms Kristin Brookfield, Chief Executive of Industry Policy at HIA suggested that the Australian Government could require the states to streamline planning processes in order to access funding under the agreement:

... [the NAHA] is an existing agreement between states and the Commonwealth with funding attached to it. Having the sorts of things we mention here about planning reform and land supply attached to the existing agreement is one mechanism.⁴¹

⁴⁰ Master Builders Australia, *Submission 48*, p. 13.

⁴¹ Ms Kristin Brookfield, Chief Executive, Industry Policy, Housing Industry Association, *Committee Hansard*, 11 August 2017, p. 27.

- 8.52 However, the Committee notes that work is already underway to refine and extend the NAHA, including incorporating planning and zoning reform:

The Commonwealth Government is working with the states and territories to reform the National Affordable Housing Agreement (NAHA) and provide ongoing, indexed funding for a new National Housing and Homelessness Agreement (NHHA) from 2018-19, to improve the supply of new housing and improve housing and homelessness outcomes for all Australians across the housing spectrum...

Under the NHHA, funding to state and territory governments will target jurisdiction specific priorities including supply targets, planning and zoning reforms and renewal of public housing stock while also supporting the delivery of frontline homelessness services.⁴²

- 8.53 Mr Brendan Nelson, President of PIA suggested that a national planning instrument, modelled on the ABC Board would bring greater clarity to residential planning in Australia without preventing necessary jurisdictional specialisation:

I would love to see a national planning instrument. I would love to see a single definition of a house in this country, and I hope, before my time as a planner is done, that we can have one definition of a house. I look at the model that operates with building in this country through the Australian Building Codes Board, who worked quite effectively to develop a National Construction Code, which gives greater clarity. It does allow for jurisdictional elements to be factored in. But we're not talking about anything that's so far removed from that in terms of coming together, facilitating it. It is probably not dissimilar to the ABCB to be fair. I think that at that higher level it would give greater clarity.⁴³

- 8.54 Ms Kristin Brookfield also advocated for a national planning body to streamline and nationalise planning and approvals, suggesting that it would foster a more functional, national system:

An alternative model is what we see with the Australian Building Codes Board, which is where everyone has some skin in the game. So the Australian Building Codes Board is 50 per cent funded by the Commonwealth and 50 per

⁴² Department of Social Services, National Affordable Housing Agreement, *Housing Support*, <<https://www.dss.gov.au/housing-support/programmes-services/national-affordable-housing-agreement>> retrieved 19 January 2018.

⁴³ Mr Brendan, Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2018, p. 39.

cent funded by the states and territories collectively. So that funding then goes to the writing of the national building code and the administration of it. If that model could be used in the planning system for land supply, planning approvals et cetera, it may be a more functional way to truly get a national approach to planning reform.⁴⁴

- 8.55 Master Builders Australia recommended improving the transparency of the developer contributions required by local governments. Developer contributions are fees paid by residential developers to local governments to support the provision of essential infrastructure in new residential developments. Master Builders Australia advocated for the annual publication of the developer contributions required by local governments to expose councils which may be overcharging, reducing the affordability of new homes.⁴⁵

Prioritising infrastructure to increase land supply

- 8.56 Witnesses suggested that expanding the public transport networks of cities would relieve upwards pressure on housing prices and increase the amenity of existing houses in the city fringes. Mr Ashley Brinson, Executive Director of the Warren Centre for Advanced Engineering said better public transport connectivity brings homes closer to services and employment in real terms:

Public transport infrastructure investment—high-speed rail—actually picks up the map and folds it so that two points are closer together... That kind of transport expansion in the major cities will help with housing prices because there's not such pressure for workers to be immediately in the city.⁴⁶

- 8.57 Mr Matthew Pollock, National Manager of Economics and Housing at Master Builders Australia argued that strengthening transport links releases new land for development, increasing housing supply:

⁴⁴ Ms Kristin Brookfield, Chief Executive, Industry Policy, Housing Industry Association, *Committee Hansard*, 11 August 2017, p. 27.

⁴⁵ Master Builders Australia, *Submission 48*, p. 21.

⁴⁶ Mr Ashley Brinson, Executive Director, The Warren Centre for Advanced Engineering, *Committee Hansard*, Parramatta, 13 November, 2017, p. 26.

... better transport links are perhaps the best way to increase land supply. Not only do they increase land supply but they reduce the costs of land and housing across a city.⁴⁷

- 8.58 Master Builders Australia recommended that the Australian Government prioritise infrastructure projects which unlock new land for residential development, particularly within city boundaries and high demand areas:

This should, if possible, focus on greenfield developments inside existing city boundaries and seek to provide additional residential land in high demand areas. Unlocking more affordable land for residential development is the first step in developing a more sustainable housing stock in the long run.⁴⁸

Better utilisation of Commonwealth land

- 8.59 Other submitters called on the Commonwealth to better utilise its own land holdings to tackle poor housing affordability. The Committee for Sydney suggested that, rather than seeking to maximise purchase prices when disposing of Commonwealth land, governments could incentivise the development of affordable housing:

Where government is disposing of its own land, it can of course incentivise the development of affordable housing by not insisting on highest and best value. When disposing to an appropriate developer and/or [community housing provider], reducing the cost of the land can offset any losses on market value that the development of affordable housing will result in.⁴⁹

- 8.60 It described mechanisms that governments can use to maximise the delivery of affordable housing on government land, such as outcomes-based auctioning:

Another opportunity exists for government to partner with developers to prioritise affordability outcomes, rather than to maximise the sale or lease price. In other jurisdictions, governments auction land for mixed market and affordable housing development with a pre-determined maximum price for the land: beyond the maximum, bidders compete not on price but on the proportion of affordable housing they will deliver as part of the development. The Committee [for Sydney] believes this type of process would send a strong

⁴⁷ Mr Matthew Pollock, National Manager, Economics and Housing, Master Builders Australia, *Committee Hansard*, 11 August 2017, p. 9.

⁴⁸ Master Builders Australia, *Submission 48*, p. 21.

⁴⁹ Committee for Sydney, *Submission 88*, p. 48.

signal of prioritising affordable housing over other land uses, as well as providing the impetus to the private sector to respond innovatively to maximise the amount of new affordable housing.⁵⁰

- 8.61 The Committee for Sydney also noted that government land does not necessarily need to be sold off in order to be developed:

Importantly, government does not need to sell land in order to maximise its use for affordable housing. While it may be most effective to dispose of some sites, there is also a community expectation that public assets are not sold unnecessarily. The Committee [for Sydney] encourages the government to develop new models for partnering with the private and not for profit sectors. This will allow government to retain ownership of land, while unlocking it for productive purposes.⁵¹

- 8.62 In 2017, the Australian Government did announce the establishment of a 'National Housing Finance and Investment Corporation (NHFIC) to operate an affordable housing bond aggregator to encourage greater private and institutional investment and provide cheaper and longer-term finance to registered providers of affordable housing'.⁵² The establishment of the NHFIC was supported by the Centre for Urban Research at RMIT.⁵³

- 8.63 In its submission, PwC also supported the policy, stating:

We believe the Federal Government should consider mechanisms to support policy initiatives at the State and Local levels, as intended by the housing bond aggregator. While this proposed aggregator will give social and affordable housing providers access to cheaper and longer tenor debt for the construction of new homes, it will not solve the funding issues when it comes to social housing. The rent currently received does not cover operating costs, or fund new supply. The Federal Government will need to continue initiatives that pertain to funding -for example, title transfers to Community Housing Providers (CHPs), thereby mobilising Commonwealth Rental Assistance.

⁵⁰ Committee for Sydney, *Submission 88*, p. 48.

⁵¹ Committee for Sydney, *Submission 88*, p. 48.

⁵² Australian Government, Reducing Pressure on Housing Affordability, *Budget 2017-18*, <http://www.budget.gov.au/2017-18/content/glossies/factsheets/html/HA_18.htm> retrieved 19 February 2018.

⁵³ Centre for Urban Research RMIT, *Submission 35*, p 2.

We recognise that the bond aggregator demonstrates the Federal Government's priority to assist in the supply of affordable housing, of which we support.⁵⁴

8.64 PwC recommended:

We recommend that the Government leads the way in establishing affordable housing as essential infrastructure and prioritising this within infrastructure strategies and funding.

We recommend the Federal Government consider further funding mechanisms for affordable housing to enhance liveability and quality of life.

We recommend and support title transfers to Community Housing Providers as a mechanism.

We recommend the Federal Government consider tax concessions and incentives for the development of large-scale affordable housing and build to rent developments including working with State Governments to improve the tenancy provisions in each state to increase rental stock.⁵⁵

8.65 In June 2018, the Australian Government enacted legislation providing for the creation of the NHIF to administer the National Housing Infrastructure Facility (NHIF) and the Affordable Housing Bond Aggregator for Community Housing Providers (CHPs):

The \$1 billion NHIF will help to finance critical infrastructure to increase the stock of housing, particularly affordable housing, and to bring forward the supply of such housing. Through the NHIF, the Government will seek to address impediments in building the infrastructure that is critical to unlocking new housing supply. These can take the form of financial constraints — such as mismatches between future revenue streams and the upfront costs of infrastructure — and coordination issues relating to the different stakeholders and different layers of government regulation and responsibilities.

The Bond Aggregator will improve the efficiency of financing for CHPs by aggregating the lending requirements of multiple CHPs and financing those requirements by issuing bonds to institutional investors. The Bond Aggregator will build capacity of the sector and improve housing outcomes by providing

⁵⁴ PwC, *Submission 97*, p. 9.

⁵⁵ PwC, *Submission 97*, p. 10.

CHPs with a more efficient source of funds, reducing the refinancing risk faced by CHPs and reducing borrowing costs.⁵⁶

Rebalancing demand for housing

8.66 Witnesses suggested that the Australian Government could lead a repositioning of housing as a place to live as opposed to an asset for investment. Some witnesses suggested that dampening investor demand for housing could improve affordability.

8.67 Mr John Archer, Chief Executive Officer of the Regional Australia Institute, highlighted the impact of national taxation policy on the property sector. He suggested that taxation policy should be reviewed to ensure it supports desirable outcomes:

So, there's a whole package of taxes [land duty, stamp tax and negative gearing] that sit around the property and housing sector, and I think it's important that when we're thinking about this settlement pattern we're open-minded about whether they're playing a role in reinforcing what we've got now and whether they need to be changed to reinforce something different...

I think the tax breaks are for productive investment—investment that creates new wealth, new productivity for the nation. In fact, there's always a question you could ask about every tax, about whether they're doing that.⁵⁷

8.68 The Planning Institute of Australia (PIA) submitted that Australian Government taxation and investment policy is formulated without sufficient regard for its spatial impact:

That Commonwealth tax and investment policy has a real impact on places – but is conceived without sufficient regard for its spatial impact. It needs to work towards achieving outcomes adopted for cities involving all levels of Government.⁵⁸

⁵⁶ National Housing Finance and Investment Corporation Bill 2018 and National Housing Finance and Investment Corporation (Consequential Amendments and Transitional Provisions) Bill 2018, Explanatory Memorandum, p. 8.
<http://parlinfo.aph.gov.au/parlInfo/download/legislation/ems/r6042_ems_fd58a2d8-acce-47d8-8cb2-ec7fd852aac2/upload_pdf/662716.pdf;fileType=application%2Fpdf> retrieved 26 June 2018.

⁵⁷ Mr John (Jack) Archer, Chief Executive Officer, Regional Australia Institute, *Committee Hansard*, 17 October 2017, pp. 9-10.

⁵⁸ Planning Institute of Australia, *Submission 136*, p. 18.

- 8.69 It noted that its members believed that the Australian Government should actively manage demand for housing by reducing tax incentives to invest in residential properties:

Positive comments on what the Commonwealth could do to improve city performance: included: ...managing the growth of housing demand as an asset class by reducing tax incentives due to negative gearing and CGT discounts and exemptions.⁵⁹

- 8.70 However, Master Builders Australia argued that reducing tax incentives for investment in housing, such as negative gearing, would constitute ‘unfair treatment’ of property investors:

Master Builders urges the Government to maintain its policy to keep negative gearing rules for property investment unchanged and intact. Removing negative gearing rules from property investment, but not other types of investments would constitute unfair treatment of property investors and cause a greater variation in the treatment of debt financed versus equity finance.

Keeping negative gearing on property investments would ensure capital investment into property is treated equitably compared to other types of capital investments like stock, or investment into capital used in the generation of personal income, such as tools for trade workers.⁶⁰

- 8.71 The Committee heard that the Australian Government could also reduce demand for rental properties by legislating for longer term housing leases. Mr Hughes suggested that Homelessness NSW has been advocating for the introduction of five to ten year leases to improve housing security:

We think they can be a very good thing for both the landlord and the tenant. The landlord has a guarantee—especially with a good tenant.⁶¹

- 8.72 During a hearing in Parramatta, the Committee raised the prospect of incentives for pensioners to lease vacant rooms in their homes to better use existing housing stock. Mr Hughes was supportive, suggesting that the Council on the Ageing NSW (COTA NSW) has already considered a similar scheme:

⁵⁹ Planning Institute of Australia, *Submission 136*, pp. 10-11.

⁶⁰ Master Builders Australia, *Submission 48*, p. 34.

⁶¹ Mr Digby Hughes, Senior Policy and Research Officer, Homelessness NSW, *Committee Hansard*, 13 November 2017, p. 31.

COTA New South Wales has done some work on that with Youth Action to try to get the two cohorts involved, youth and older people. It doesn't take off as much as I think it probably could—I think there is a need for some taxation incentive because if it is an income they'll be paying tax on it...

For certain cohorts I think it's a great solution. It could be a great solution for older single women—people without major support needs.⁶²

- 8.73 Evidence was also presented regarding the Australian Government's role in ensuring welfare recipients can afford housing. Mr Ben Rimmer, Chief Executive Officer of the City of Melbourne suggested that the Australian Government has a major role in reducing homelessness:

It is frequently forgotten that the Commonwealth government's role in acute homelessness is incredibly significant through the operation of welfare policies, Centrelink's operation and other related matters...⁶³

Committee conclusions

- 8.74 It is clear to the Committee that high house purchase and rental costs are adversely impacting Australian cities, particularly the metropolitan capitals of Melbourne and Sydney. This will continue even with a softening of conditions in the capital city property markets, as affordability is also being impacted by low wage growth, structural shifts in the employment market and high levels of household debt. Even with downward fluctuations in housing prices and rents, the disparity between real estate prices and individual incomes is likely to make housing affordability an issue for years to come.
- 8.75 Average and lower income households are being pushed to the city fringes where poor access to employment, critical infrastructure and services reduces quality of life and contributes to social disadvantage. Key workers, such as paramedics, teachers and nurses now struggle to secure quality housing in the inner city jeopardising the resilience of these communities. Inadequate social and public housing stock is contributing to higher instances of homelessness, with single women and families now at risk of poor housing security.

⁶² Mr Digby Hughes, Senior Policy and Research Officer, Homelessness NSW, *Committee Hansard*, 13 November 2017, p. 33.

⁶³ Mr Ben Rimmer, Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 51.

- 8.76 Rising spatial inequality and increasing housing insecurity cannot be allowed to continue. The Committee believes that all Australians should have access to high-amenity affordable housing no matter where they live.
- 8.77 The Committee notes the complexity of supply and demand factors contributing to higher housing costs and urges the Australian Government to adopt a nuanced and multifaceted response. A senior Minister with responsibility for housing should be appointed to coordinate this response, across Commonwealth government portfolios and throughout levels of government (see Chapter 11 for more details on governance arrangements at the Commonwealth level).

Recommendation 15

- 8.78 **The Committee recommends that the Prime Minister appoint a senior Minister with responsibility for housing to:**
- **monitor housing affordability issues and lead a joint federal, state and local government response;**
 - **ensure all policies considered by cabinet support the provision of more affordable quality housing and strike the right balance between investors and home buyers;**
 - **coordinate all government agencies with a role in implementing housing outcomes;**
 - **identify and strategically develop Commonwealth land holdings to address housing affordability and amenity issues; and**
 - **investigate viability of nationalising and streamlining planning regulation similar to the Australian Building Codes Board model.**
- 8.79 In doing so the Committee urges the Australian Government to be mindful that housing remains affordable in some regional areas and responses must give consideration to different regional impacts.

9. Smart cities

What is a smart city?

- 9.1 Smart cities are those which leverage innovative technologies to ‘enhance [the] quality and performance of urban services, to reduce costs and resource consumption, and to engage more effectively and actively with its citizens’.¹ They deploy ‘smart devices, sensors and software’ to equip existing infrastructure with ‘the equivalent of digital eyes and ears’ enabling ‘more efficient and effective monitoring and control of our energy and water systems, transportation networks, human services, public safety operations – basically all core government functions’.²
- 9.2 The City of Newcastle described its transition to becoming a smarter city:
- In the coming year, we will roll out flexible infrastructure throughout our city centre including a multi-purpose technology pole enabling Wi-Fi and underpinning an Internet of Things (IoT) platform. Smart city applications will include smart lighting, smart parking, smart waste management, traffic analytics and environmental sensing. City data generated from these applications will be used to better inform city administration and business

¹ Downer Group, *Submission 18 Attachment 1*, p. 11.

² Smart Cities Council Australia New Zealand, *Submission 62*, p. 8.

decisions, and support a range of digital applications improving the liveability and sustainability of the city centre.³

- 9.3 The Australian Government recognises the potential of technological innovation to make our cities more liveable, prosperous and sustainable and outlines a ‘smart cities agenda’ in its *Smart Cities Plan*. In the plan it commits to ‘embrac[ing] new technology with the potential to revolutionise how cities are planned, function, and how our economy grows’:

By taking advantage of the unprecedented pace of technological progress, governments and the community can make cities more prosperous and sustainable.

Real time data and smart technology will lead to better utilisation of infrastructure, clean energy and energy efficiency, improvements in services and better benchmarking of cities performance.⁴

- 9.4 According to the Smart Cities Council Australia New Zealand (SCCANZ) there are three core capabilities which define smart cities:

First, a smart city collects information about itself through sensors, other devices and existing systems. Next, it communicates that data using wired or wireless networks. Third, it “crunches” (analyses) that data to understand what’s happening now, and what’s likely to happen next.⁵

- 9.5 SCANNZ said it is ‘those insights – presenting, perfecting and predicting – that enhance the overall sustainability of our cities’ and argued that ‘establishing the conditions and infrastructure to enable governments to merge multiple data streams and mine them for amazing insights, should be a goal for all levels of government’.⁶
- 9.6 Evidence to the inquiry indicated that conditions and infrastructure required to generate ‘smarter cities’ in the Australian context include:
- connection to fast and reliable internet;
 - the proliferation of internet of things (IoT) technologies;
 - establishing mechanisms to safeguard the interoperability of IoT technologies; and

³ Newcastle City Council, *Submission 66*, pp. 5-6.

⁴ Department of Prime Minister and Cabinet, *Smart Cities Plan*, 2016, p. 3.

⁵ Smart Cities Council Australia New Zealand, *Submission 62*, p. 11.

⁶ Smart Cities Council Australia New Zealand, *Submission 62*, p. 11.

- a move to ‘open data’.

9.7 This chapter considers these smart city elements in detail before outlining the Committee’s conclusions.

Fast and reliable internet

9.8 Stakeholders to the inquiry viewed fast and reliable internet connectivity as a cornerstone of smart cities. The Council of Mayors South East Queensland said good internet connectivity is ‘fast becoming seen as essential infrastructure for a functioning and prosperous community’:

High-speed internet has changed the way we learn, do business, buy goods and interact with each other. Digital infrastructure connects people and businesses to the information and opportunities they seek, wherever they may be, across any industry.⁷

9.9 The Australian Academy of Technology and Engineering (ATSE) agreed, suggesting that, ‘highly efficient and capable digital infrastructure is a necessity if Australia is to be a globally competitive innovator’.⁸ It emphasised that ‘fast and reliable access to the internet’ is a key component of good digital infrastructure:

As the dependence of all aspects of society on the digital economy grows, the availability of high-speed broadband will become increasingly important.⁹

9.10 ATSE argued that Australia’s ability to attract and retain businesses will be diminished without competitive digital infrastructure.¹⁰ The Council of Mayors South East Queensland made a similar point, suggesting that ‘accessibility to high speed internet has become a fundamental enabler of economic activity and participation in the modern economy’.¹¹

9.11 Mr Tim Williams, Chief Executive Officer of the Committee for Sydney emphasised that technology such as autonomous or electric vehicles cannot be rolled-out without good internet connectivity. Further, he noted the importance of digital infrastructure to the education industry, asserting that

⁷ Council of Mayors South East Queensland, *Submission 5 Attachment 1*, p. 58.

⁸ Australian Academy of Technology and Engineering, *Submission 17*, p. 6.

⁹ Australian Academy of Technology and Engineering, *Submission 17*, pp. 5-6.

¹⁰ Australian Academy of Technology and Engineering, *Submission 17*, p. 6.

¹¹ Council of Mayors South East Queensland, *Submission 5 Attachment 1*, p. 78.

some university graduates will not move to cities without average connection speeds of 100 megabits per second.¹²

- 9.12 According to the Council of Mayors South East Queensland, in recent years Australia ranked 60th in the world for internet speeds, with an average peak internet connection speed of 39.3 megabits per a second, revealing ‘large scope for improvement’.¹³ Internet connectivity and speeds seem to be a particular problem for regional cities and communities. The Council of Mayors South East Queensland said access to high speed internet is a key challenges for the south east Queensland region:

Digital connectivity, speed on connection and improving access to communications and technology in the region will make the SEQ region more attractive for investment, as well as improve integration within the region.¹⁴

- 9.13 Horsham Rural City Council said investment in better internet and mobile phone coverage is ‘crucial to attracting business to regional areas of Australia, particularly businesses linked to the increasing use of technology in the agricultural sector’.¹⁵
- 9.14 Coffs Harbour City Council suggested that the early rollout of the NBN in some areas of Coffs Harbour supported a rise in entrepreneurs establishing micro businesses in the area. It advocated for ‘the further roll out of the NBN [to] accelerate the importance of this sector’.¹⁶
- 9.15 Regional Capitals Australia urged the Australian Government ‘to prioritise the accelerated and equitable rollout of NBN in regional capital cities’.¹⁷

Proliferation of IoT technologies

- 9.16 Although internet coverage, reliability and speed in Australia requires significant improvement, its expansion in recent decades has been sufficient to support the proliferation of internet-enabled devices that are able to

¹² Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 45.

¹³ Council of Mayors South East Queensland, *Submission 5 Attachment 1*, p. 38.

¹⁴ Council of Mayors South East Queensland, *Submission 5 Attachment 1*, p. 38.

¹⁵ Horsham City Rural Council, *Submission 27*, p. 5

¹⁶ Coffs Harbour City Council, *Submission 41*, p. 6.

¹⁷ Regional Capitals Australia, *Submission 93*, p. 21.

interact and transfer information with other devices, people or automated systems. This phenomenon is known as the ‘internet of things’ (IoT) and comprises ‘sensors, monitors, video surveillance, and radio frequency identification tags, all communicating with each other to enhance infrastructure capability and resilience, and capturing volumes of data.’¹⁸

9.17 Stakeholders to the inquiry suggested that expanding the deployment of IoT technology is fundamental to achieving smarter cities.

9.18 IoT Alliance Australia (IoTAA) noted that ‘around the world, cities have incorporated [IoT] technologies into a range of smart city management solutions’.¹⁹ It suggested that IoT technologies have become somewhat synonymous with smart cities and viewed ‘it as an imperative for Australia to leverage IoT technology as a key lever to innovate and increase competitiveness on the world stage’:

The Internet of Things (IoT) promises major technology development that will transform ‘vertical’ industry productivity, innovation and business opportunities. IoT offers Australia significant and transformational economic benefit through smarter use of infrastructure, smart cities and intelligent asset management. Specifically, in the context of Smart Cities, a key ‘sector’ for IoT...²⁰

9.19 Associate Professor Hussein Dia of Swinburne University said that the ‘smart cities of the future will include advanced network operations management and control systems that utilise field sensors to detect and respond quickly to equipment and infrastructure faults’. He outlined the substantial benefits of better integrating city transport infrastructure with IoT technologies, such as sensors:

Vital infrastructure downtimes will be cut using sensors that monitor the health of critical infrastructure, collect data on system functioning, alert operators inside an integrated urban control centre to the need for predictive maintenance, and identify potential breakdowns before they occur. In transport, smarter vehicles, trains and public transport systems will sense their surrounding environments, and slow down or stop without human intervention in emergency situations. On-board public transport, a range of GPS, position fixing, video surveillance, and communications equipment will provide accurate and reliable multi-modal real-time passenger information,

¹⁸ Associate Professor Hussein Dia, *Submission 82*, p. 8.

¹⁹ IoT Alliance Australia, *Submission 37*, p. 5.

²⁰ IoT Alliance Australia, *Submission 37*, p. 4.

resulting in better informed travellers and ensuring a smoother, safer and more reliable experience for customers. A combination of sensors and position fixing equipment will maximise the efficiency of existing roads by providing route and network-wide levels of priority for emergency vehicles, light rail, and other modes of transport so as to maximise the movement of goods and passengers safely and efficiently. Back-office systems that leverage sensors, web, mobile, and GPS technologies will utilise smart algorithms, data mining and predictive modelling tools to reduce delays to passengers by optimising schedules and capacities in real time. Near railroad level crossings, a range of train-to-infrastructure and train-to-vehicle technologies will improve passenger safety by detecting fast approaching vehicles and providing warnings to avoid collisions. Electric vehicle charging infrastructure will also be integrated into a smart grid network, providing consumers with access to sustainable and equitable forms of connected mobility. A combination of technologies and sensors will also improve safety and security by permitting operators to remotely disable or enable a public transport service in the event of a security threat (e.g. an unauthorised driver).²¹

9.20 A 2016 survey conducted by the International City/County Management Association (ICMA) in partnership with the Smart Cities Council asked city administrators in the United States of America about barriers to implementing smart city and IoT technologies in their jurisdictions. IoTAA noted that its findings included:

- a. Budget constraints – 42 per cent of respondents described budget limitations as a "very significant barrier" and another 32 per cent called it a "significant" barrier.
- b. Complexity of procurement as a barrier – only 7 per cent suggested procurement is not a barrier.
- c. Need for more supportive policies – the majority of respondents (37.2 per cent) consider it a moderate barrier while 25 per cent describe it as a very significant or significant barrier.²²

9.21 IoTAA suggested that the Australian Government can support local governments to overcome similar barriers and proliferate IoT technologies in the Australian context by:

- provid[ing] guidance and resources for cataloguing solutions, case studies and best practices to demonstrate the value and utility of these solutions;

²¹ Associate Professor Hussein Dia, *Submission 82*, p. 8.

²² IoT Alliance Australia, *Submission 37*, p. 7.

- provid[ing] assistance and guidance through educational outreach with workshops and programs to assist cities and towns in aggregating demand and benchmarking results;
- encourag[ing] industry-led standards and interoperability development;
- encourage[ing] streamlining of procurement through supporting policies and using the City Deals process as a key mechanism for catalysing IoT and smart cities deployment...²³

9.22 SCCANZ also urged the Australian Government to support city administrators to deploy smart city technologies, such as IoT. It recommended that the government supports cities to:

- develop the capacity to deploy innovative technological solutions by providing access to ‘knowledge including best practices and case studies’;
- aggregate demand by distributing the costs and benefits of smart technologies across multiple users;
- streamline complex procurement; and
- embrace new financing models to fund smart city technologies.²⁴

9.23 The Department of Prime Minister and Cabinet noted that the Australian Government already has national policies in place to ‘directly support the innovative application of smart technology at the local level’. These are the Smart Cities and Suburbs Program and the Future Ready Incubation Package.²⁵

Smart Cities and Suburbs Program

9.24 The Australian Government is investing \$50 million through the Smart Cities and Suburbs Program to support the application of ‘smart technology’, such as IoT, at the local government level. The competitive grants program seeks to facilitate public and private sector co-investment and collaboration in smart technology projects that:²⁶

- improve the liveability and sustainability of cities, suburbs and towns through the application of smart technology solutions to economic, social and environmental challenges

²³ IoT Alliance Australia, *Submission 37*, p. 7.

²⁴ Smart Cities Council Australia New Zealand, *Submission 62*, p. 12.

²⁵ Department of the Prime Minister and Cabinet, *Submission 95*, p. 11.

²⁶ Department of the Prime Minister and Cabinet, *Submission 95*, p. 11.

- increase openly available public and private data sets to support citizen engagement, unlock innovation, and create new business opportunities
- increase innovation and capability in local governments through collaboration and smart city innovation ecosystem development
- contribute to development of smart city standards and improvement of regulation impacting the roll-out and use of smart technology.²⁷

9.25 Fifty two projects were awarded grants under round one of the program. The recipients will benefit from \$28.5 million of Australian Government funding and \$40 million of funding from partners; including local governments, industry, research organisations and the private sector. Projects awarded include developing community WIFI and open data platforms, smart parking systems and 3D planning tools.²⁸

9.26 Information about the projects is available online via the Australian Government's Digital Marketplace platform. The platform is primarily aimed at making it easier for smaller businesses to compete for the Commonwealth's \$6 billion a year spend on information and communications technology (ICT) products and services. However, it also has an important knowledge sharing function. It offers a library of 'open source projects' which local governments can reuse or contribute to, and describes the 52 smart technology projects funded under the Smart Cities and Suburbs Program. The Digital Marketplace is currently accessible in beta form and will be refined through stakeholder feedback.²⁹

9.27 IoTAA supported the program, but noted potential improvements. Mr Michael Conninos, Chair of the IoTAA's Smart Cities Committee said the Smart Cities and Suburbs Program provided the financial resources local governments needed to pursue 'smart' solutions to local issues:

...local government is heavily regulated. They have 10-year plans, community strategic plans, their budgeting. They don't necessarily have the level of discretion in their budgets to re-prioritise and reallocate funds.

²⁷ Australian Government, *Smart Cities and Suburbs Program Guidelines – Round 1*, p. 6.

²⁸ Australian Government, Smart Cities and Suburbs Program, <<https://cities.infrastructure.gov.au/smart-cities-program>> retrieved 8 March 2017.

²⁹ Australian Government, *Digital Marketplace*, <<https://marketplace.service.gov.au/>> retrieved 8 March 2018.

So a lot of the projects that you will see through the program are likely to come through existing problems that had been identified and funded with the potentially new solution.³⁰

- 9.28 However, Mr Frank Zeichner, Chief Executive Officer of the IoTAA urged the Australian Government to build on the success already achieved by the program by facilitating knowledge sharing across local governments more broadly:

It is not unlikely that we will get 50, 40 or whatever number of projects happening that are quite different. That is good from a use case point of view, probably, but are we getting any joint learnings that we can template and reuse for many other places? No. We missed a slight opportunity there. I think we could use the learnings from what we see out of what happens and say, 'Okay, what can we draw out of that for the next one, so that we can actually allow everyone to step up rather than reinvent from the bottom?'³¹

- 9.29 Mr Tim Williams, Chief Executive Officer of the Committee for Sydney, made a similar point. He considered information and best practice sharing a 'big role' of the Australian Government:

I would really like the federal cities and smart cities unit to do a bit more knowledge sharing so you lessen that knowledge gap... I think somebody should be providing the kind of approach of 'here are the 20 interesting things going on out there'. It is simple and cheap and I think we should do it.³²

Future Ready Incubation Package

- 9.30 The Future Ready Incubation Package complements the Smart Cities and Suburbs Program by developing local governments' capacity and skills to deliver technology-based community solutions. The package is a series of virtual and onsite professional development opportunities aimed at 'building capability in smart city strategic planning and project selection, design and delivery'. According to the Department of the Prime Minister and Cabinet, almost 550 participants from across the country had engaged in Future Ready activities by the end of June 2017 and collaboration and project

³⁰ Mr Michael Comminos, Chair, Smart Cities Committee, Internet of Things Alliance Australia, *Committee Hansard*, 22 August, 2017, pp. 50-51.

³¹ Mr Frank Zeichner, Chief Executive Officer, Internet of Things Alliance Australia, *Committee Hansard*, 22 August, 2017, p. 50.

³² Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August, 2017, pp. 45-46.

incubation activities are continuing beyond the conclusion of the program in September 2017.³³

- 9.31 SCCANZ supported the Australian Government's smart cities agenda. Executive Director, Mr Adam Beck participated in the Australian Government's Future Ready Incubation Package and suggested that the package delivered inexpensive but tangible capacity building opportunities to local government that will 'help unlock innovation':³⁴

Many city leaders are eager to use smart technologies, but they don't know how. They need access to knowledge, including best practices and case studies. Many cities are organised to deliver 19th century infrastructure – pour concrete, lay bricks, erect poles, dig holes. But 21st century requirements – citizen services, resource efficiency and greater equity – need a different approach.³⁵

- 9.32 SAP Australia Pty Ltd submitted that facilitating knowledge sharing and local government education are key responsibilities of the Australian Government:

- Create the structural platform for exchange of knowledge and learnings across multiple digital projects and cities to ensure community, private and government learn and no digital project is isolated...
- Enhance capacity of data analytics and management skills in regional areas through delivery of training to ensure new data being collected is able to be used by local people to solve local issues.³⁶

Interoperable IoT technologies

- 9.33 The Committee heard that the value of IoT technology hinges on its interoperability, that is, its ability to be compatible with other technology or software, to communicate and to exchange data. IoTAA warned that 'IoT drives innovation and improves outcomes across cities and regions, only

³³ Department of the Prime Minister and Cabinet, *Submission 95*, p. 11.

³⁴ Mr Adam Beck, Executive Director, Smart Cities Council Australia and New Zealand, *Committee Hansard*, 29 September 2017, p. 22.

³⁵ Smart Cities Council Australia New Zealand, *Submission 62*, p. 12.

³⁶ SAP Australia Pty Ltd, *Submission 134*, P. 14.

when point solutions can multiply their benefits using interoperable practices'.³⁷

9.34 It highlighted the cost of deploying non-standardised IoT technologies:

... analysis shows that using non-standardized versus standards based solutions for IoT will increase the cost of deployment, hinder mass scale adoption, and stifle technology innovation for smart city initiatives worldwide. City authorities and their technology partners could squander USD \$341 billion by 2025 if they adopt a fragmented versus standardized approach to IoT solution deployment.³⁸

9.35 Standards Australia suggested that IoT interoperability will not necessarily occur organically; 'a connected city requires a focus on how different aspects of the built and cyber environment interact, which necessitates integrated thinking and embraces the opportunities provided by IoT'.³⁹ It highlighted the enabling role standards play in the creation of connected cities and recommended that the Australian Government invest in standard 'mapping and development, to position our cities to take full advantage of technological advances that can make a marked impact on the lives of Australians and Australian communities', including:

- ... the development of a standards roadmap for Australia, identifying the work that needs to be undertaken in each sector to unlock the benefits of a connected Australian city; and;
- detailed standards development work in strategic priority areas...⁴⁰

9.36 IoTAA recommended a similar approach to safeguarding interoperability. It argued that the Australian Government should collaborate with state and local governments to develop the capacity of regions, cities and communities to implement smart solutions, including by encouraging the development of 'industry-led standards and interoperability'.⁴¹ It offered to assist the Australian Government to future proof new infrastructure and city services

³⁷ IoT Alliance Australia, *Submission 37*, p. 2.

³⁸ IoT Alliance Australia, *Submission 37*, p. 2.

³⁹ Standards Australia, *Submission 44*, p. 6.

⁴⁰ Standards Australia, *Submission 44*, p. 7 & 9.

⁴¹ IoT Alliance Australia, *Submission 37*, p. 7.

by making contractual provisions for IoT, such as smart sensors, and for interoperability and data sharing.⁴²

Fostering quality open data

- 9.37 The rise of IoT technologies has facilitated the collection of data on every aspect of Australian's lives, including the cities we live in.⁴³ SAP Australia Pty Ltd claimed that 'governments, communities and industry produce and collect and immense amount of data' and 'today, Australia has available to it a largely untapped rich resource of data'.⁴⁴
- 9.38 The immense quantity of data collected offers significant opportunities to those able to make sense of it. The Committee heard that data can be used to enhance the delivery of almost all core government services and most functions of cities, including:
- enabling real-time consultation and engagement with citizens in decision making;⁴⁵
 - optimising transport infrastructure;⁴⁶
 - better targeting policy interventions;⁴⁷
 - assessing the success of policy interventions and programs in real-time;⁴⁸
 - facilitating the better design and management of the built environment.⁴⁹
- 9.39 Australian governments already recognise the potential benefits of data and analytics to inform city planning, infrastructure investment and improve decision making.⁵⁰ A tangible example of how data can be used to inform better urban development and city management can be seen in the Townsville City Council 'Smart Water Pilot'. The council collected data about daily water usage from digital water meters around their community

⁴² IoT Alliance, *Submission 37*, p. 6.

⁴³ IoT Alliance, *Submission 37*, p. 5.

⁴⁴ SAP Australia Pty Ltd, *Submission 134*, p. 5.

⁴⁵ SAP Australia Pty Ltd, *Submission 134*, p. 11-13.

⁴⁶ Associate Professor Hussein Dia, *Submission 82*, p. 7.

⁴⁷ SAP Australia Pty Ltd, *Submission 134*, pp. 7-9.

⁴⁸ SAP Australia Pty Ltd, *Submission 134*, p. 11; Mr John Trabinger, Director Business Development, SAP Australia Pty Ltd, *Committee Hansard*, 27 February 2018, p. 7.

⁴⁹ BuildingSMART Australasia, *Submission 3*, p. 3.

⁵⁰ Australian Government, *Smart Cities Plan*, p. 27.

and communicated this to residents in close to real time, driving behavioural change to conserve water. It has achieved impressive results including:

- behavioural change in 50 per cent of consumers due to the provision of timely water usage information;
- 98 per cent faster notification time on water leaks potentially saving millions of litres of water; and
- a 10 per cent reduction in overall average household water consumption by residents who accessed information about their water usage.⁵¹

9.40 At the present, data is not consistently collected and stored in a format appropriate for broader analysis, nor is it always freely accessible. This poses significant challenges for governments or others seeking an evidence base to inform urban development or management. SAP Australia Pty Ltd summarised the difficulties that must be overcome:

... [data] is often located in isolated information systems or published across a multitude of data portals spanning all levels of government. Those data can often be hard to find, not well structured, poorly described and not readily published in readable formats. This makes it difficult for users to search portals, identify datasets that are useful, access that information and combine it together to perform meaningful analysis at a speed that could provide relevant and timely insights.⁵²

9.41 Stakeholders to the inquiry suggested that the Australian Government can resolve these issues by facilitating 'open data' freely available for use, re-use or distribution through the establishment of data collection and sharing principles.

9.42 Professor Stuart White, Director of the Institute for Sustainable Futures at the University of Technology Sydney described open data as critical to the development of more liveable cities. He suggested that 'we can't manage what we don't measure':

The importance of generating data and having a common platform for managing that data—open data principles, open source management of that data and so on—is extremely important.⁵³

⁵¹ IoT Alliance, *Submission 37*, p. 11.

⁵² SAP Australia Pty Ltd, *Submission 134*, p. 5.

⁵³ Professor Stuart White, Director, Institute for Sustainable Futures, University of Technology Sydney, *Committee Hansard*, 14 November 2017, p. 4.

- 9.43 The IoTAA listed ‘open standards, data sharing’ as the number one ‘principle required to effectively and efficiently [grow] smart infrastructure and smart cities using IoT’. It recommended that the Australian Government create data collection and sharing principles so ‘that all cities and regions can leverage state based as well as federal information’:

Through this model, local councils can share and use data in a more consistent way as well as relieving them of the burden of developing their own frameworks for sharing which typically they do not have the experience to do without significant learnings.⁵⁴

- 9.44 Mr Comninos suggested that Australian Government’s leadership is critical to ensuring data is seamlessly accessible across jurisdictions:

There is a need to have someone convene a conversation around [data] standards, around [IoT] interoperability, about how these verticals come together. We think it should happen at the national level, for a number of reasons. One is because we don't want to have state-specific situations akin to the rail gauges of the 1900s. The second is that the federal government itself is a strong contributor to the data around people. You have information on taxation, ASIC and human services.⁵⁵

- 9.45 Mr Zeichner asserted that the governments, cities and industries that move to open data the fastest will be ‘the winners’ in the knowledge economy. He argued that ‘getting the principles and the templates right and then letting the cities run with it makes sense’.⁵⁶

- 9.46 Mr Zeichner also noted that, in the absence of a national approach, individual local governments are already developing their own principles for open data, adding to the complexities around sharing and accessing data:

... a city council in Sydney has an open data platform, 19 pages of legalese to release one data set. It hasn't released any data sets. In Adelaide, two pages! Now that's a different risk appetite. There's a different set of legal people... So

⁵⁴ IoT Alliance, *Submission 37*, p. 2.

⁵⁵ Mr Michael Comninos, Chair, Smart Cities Committee, Internet of Things Alliance Australia, *Committee Hansard*, 22 August, 2017, p. 49.

⁵⁶ Mr Frank Zeichner, Chief Executive Officer, Internet of Things Alliance Australia, *Committee Hansard*, 22 August 2017, p. 53.

we have different governance and frameworks for releasing data and we have different platforms upon which they sit.⁵⁷

- 9.47 Mr Ashley Brinson, Executive Director of the Warren Centre for Advanced Engineering Australian Government, didn't oppose data collection and sharing principles, but warned that the private sector should be incentivised, not forced, to participate:

... there's a negotiation to have with those companies about that data, and either compensating them for that data or changing the rules of competition. If I'm the investor and I've put forward quite a sizeable investment to launch a company and the government were to take my data and give it to my competitors, that would discourage investment in the future. It might have ripple effects that would prevent innovation from coming to Australia on a reasonable schedule.⁵⁸

- 9.48 Evidence to the inquiry also suggested that national data collection and sharing principles could also help ensure information is compiled and made available in usable formats, with appropriate identifiers to better enable data analysis.

- 9.49 Dr Kim Houghton, General Manager of Research and Policy at the Regional Australia Institute said the Australian Government should have a role in improving the quality of open data:

For me, if there were a role for government...it would certainly be something around, to some degree, standardising some of the fields and some of the ways the data is put together. I would always put my hand up and say, 'Whenever we can, let's have a geographical tag on that stuff,' because a lot of data isn't available with a geographical tag on it and we know that the all the socioeconomic stuff varies enormously by geography.⁵⁹

- 9.50 Miss Natalie Kenny, Industry Value Engineer at SAP Australia Pty Ltd agreed with Dr Houghton:

To touch on Kim's point—I think it was a really great one—I wouldn't call it a gap, but there is something that we see could have better practice. The way in

⁵⁷ Mr Frank Zeichner, Chief Executive Officer, Internet of Things Alliance Australia, *Committee Hansard*, 22 August 2017, p. 51.

⁵⁸ Mr Ashley Brinson, Executive Director, The Warren Centre for Advanced Engineering, *Committee Hansard*, 13 November, 2017, p. 25.

⁵⁹ Dr Kim Houghton, General Manager, Research and Policy, Regional Australia Institute, *Committee Hansard*, 27 February 2018, p. 4.

which data is released or published is often done from the perspective of the way it was collected. Without getting technical, we're talking about the fields, the rows and the forms. It's sometimes put out on sites or published in ways that are actually only understandable to the people who collected it in the first place, rather than thinking, 'Actually, what will the end user do with that data and information?'⁶⁰

- 9.51 Professor Billie Giles-Corti, Director of the NHMRC Centre of Research Excellence in Healthy, Liveable Communities at RMIT University made a similar point during discussion of data collection to inform cities research. She described the difficulties in 'cleansing' different data sets to enable analysis and comparison:

... setting up a set of standards for the collection of critical data [is an idea], because the cleaning of the data that has to go into a report like this is enormous—to be able to standardise so that we actually can compare cities.⁶¹

- 9.52 Moreover, the Australian Local Government Association noted the importance of including privacy provisions and cybersecurity considerations in national approaches to open data and technology:

Ensuring privacy policies and processes are well developed as well as IT security is well maintained is critical. As seen with the recent #censusfail experience, one failure in government systems can undermine community confidence in the systems of all levels of government... Ensuring the integrity and security of council IT systems is very important, likewise so is ensuring the privacy of citizens through the appropriate handling of sensitive data and compliance with privacy laws.⁶²

- 9.53 The possibility of a single, national technology platform for storing and accessing open data was also discussed. Mr Comninou noted that City of London has established a 'data warehouse' to store information about the city to be used in scenario testing to inform planning and policy testing:

They had the equivalent of a data warehouse into which they put all the different datasets from different providers—the water authority, government,

⁶⁰ Miss Natalie Kenny, Industry Value Engineer, SAP Pty Ltd, *Committee Hansard*, 27 February 2018, p. 4.

⁶¹ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 39.

⁶² Australian Local Government Association, *Submission 83*, p. 13.

private sector et cetera. Whenever you had a problem in the city, you had this asset where you could go in and say, 'What is actually going on in the city? What has happened over the last five years? What are the trends? What can we infer to be the future?' So you can start to rapidly propose things and test. You could have something worked up in 12 weeks, test it; three months in, you could say, 'It didn't work,' and have another go.⁶³

- 9.54 However, Mr Zeichner suggested that it is impractical to expect industry to conform to a single data platform when many businesses have already developed their own technology solution:

... it's not about having the one platform for everything, because you'll never get anyone to do it, and everyone starts at a different place and they have already got one—or 10.⁶⁴

- 9.55 He suggested that national data collection and sharing principles are more critical to facilitating useful open data:

There is no uber-platform; there would be many different places where data is, and then it is about having a way and a framework that you understand and trust for sharing it between those many platforms... How you share the data between all of those things, and under what conditions, is really the magic... For me, it's the data sharing framework that is the key enabler.⁶⁵

- 9.56 Although no national data collection and sharing principles currently exist, the Australian Government does recognise the importance of open data. In 2016 the Australian Government commissioned the Productivity Commission to investigate open data issues in more detail. A final report was handed down in 2017.⁶⁶ In May 2018, the Government issued its response to the Productivity Commission's report. The Australian Government Committed to 'invest \$65 million over the forward estimates to reform the Australian data system and introduce a range of measures to

⁶³ Mr Michael Comninos, Chair, Smart Cities Committee, Internet of Things Alliance Australia, *Committee Hansard*, 22 August, 2017, p. 53.

⁶⁴ Mr Frank Zeichner, Chief Executive Officer, Internet of Things Alliance Australia, *Committee Hansard*, 22 August, 2017, p. 54.

⁶⁵ Mr Frank Zeichner, Chief Executive Officer, Internet of Things Alliance Australia, *Committee Hansard*, 22 August, 2017, p. 54.

⁶⁶ Productivity Commission, *Data Availability and Use*, <http://www.pc.gov.au/inquiries/completed/data-access#report> retrieved 9 March 2017.

implement the Productivity Commission's recommendations'. The three key features underpinning these reforms are:

- A new Consumer Data Right will give citizens greater transparency and control over their own data.
- A National Data Commissioner will implement and oversee a simpler, more efficient data sharing and release framework. The National Data Commissioner will be the trusted overseer of the public data system.

9.57 New legislative and governance arrangements will enable better use of data across the economy while ensuring appropriate safeguards are in place to protect sensitive information.⁶⁷ In addition, in July 2018, the Australian Government issued an issues paper for consultation on new Data Sharing and Release Legislation.⁶⁸

9.58 Moreover, the Australian Government's *Smart Cities Plan* describes 'sharing anonymised data' as an 'essential platform for innovation'⁶⁹ and it is releasing non-sensitive public data for open use under its National Innovation and Science Agenda:

Under the National Innovation and Science Agenda, the Australian Government is releasing more non-sensitive public data for private sector innovation, and is using this data to improve service delivery and to inform policy.⁷⁰

9.59 The Department of the Prime Minister and Cabinet also pointed out that the Australian Government is bringing 'together critical cities information in an easily accessible online format, in the one location' through its National Cities Performance Framework.⁷¹ It is also supporting the collection and proliferation of performance data on cities through the Australian Urban

⁶⁷ Department of the Prime Minister and Cabinet, *The Australian Government's response to the Productivity Commission Data Availability and Use Inquiry*, <http://dataavailability.pmc.gov.au/sites/default/files/govt-response-pc-dau-inquiry.pdf> May 2018.

⁶⁸ New Australian Government Data Sharing and Release Legislation: Issues paper for consultation, <https://www.pmc.gov.au/resource-centre/public-data/issues-paper-data-sharing-release-legislation>, July 2018.

⁶⁹ Australian Government, *Smart Cities Plan*, p. 27.

⁷⁰ Australian Government, *Smart Cities Plan*, p. 27.

⁷¹ Department of the Prime Minister and Cabinet, *Submission 95*, p. 11.

Research Network (AURIN) and Urban living labs initiatives. These initiatives are considered in greater detail below.

National Cities Performance Framework

9.60 The Australian Government launched the first National Cities Performance Framework in December 2017. The framework brings together data on Australians largest 21 cities, plus Western Sydney, to provide a ‘snapshot of their performance across key measures including:⁷²

- Jobs and skills, including;
 - Employment growth
 - Unemployment rate
 - Participation rate
 - Educational attainment
- Infrastructure and investment, comprising;
 - Jobs accessibility in 30 minutes
 - Work trips by public and active transport
 - Peak travel delay
- Liveability and sustainability, including;
 - Adult obesity rate
 - Perceived safety
 - Access to green space
 - Support in times of crisis
 - Suicide rate
 - Air quality
 - Volunteering
 - Greenhouse gas emissions per capita
 - Office building energy efficiency
 - Access to public transport
- Innovation and digital opportunities, including;
 - Knowledge services industries
 - Broadband connections
 - New business entrants and exits
 - Patents and trademarks
- Governance, planning and regulation;
 - Governance fragmentation
- Housing, such as:

⁷² Australian Government, *National Cities Performance Framework*,
<<https://cities.infrastructure.gov.au/performance-framework>> retrieved 8 March 2018.

- Public and community housing
- Homelessness rate
- Rent stress
- Mortgage stress
- Housing construction costs
- Dwelling price to income ratio
- Population change per building approval.⁷³

- 9.61 The framework is designed to inform the Australian Government's implementation of the *Smart Cities Plan*, and to assist all levels of government, industry and the community to make informed policy and investment decisions.⁷⁴ Information collected through the framework is publically available via the National Cities Performance Framework Dashboard, an online data platform which enables anyone to access and use the information.⁷⁵
- 9.62 The framework and the online dashboard offer many benefits. It enables comparisons between cities, highlighting the unique challenges and successes experienced by different communities. It provides insight into the patterns, trends and interactions between different cities, which will support governments to shape policies supporting all cities to succeed. It also increases the visibility of Australian cities in international research as framework data is publically available.⁷⁶
- 9.63 Stakeholders to the inquiry were very supportive of the National Cities Performance Framework but advocated for its expansion.
- 9.64 The Green Building Council of Australia (GBCA) described the framework as an 'a valuable opportunity to begin to build a more comprehensive system of reporting the contextual and success indicators that help us understand our cities'. It suggested that the data derived through the framework would 'help drive business case development at a local level, and explain to communities the benefits of the government's investments

⁷³ Australian Government, *Smart Cities Plan: National Cities Performance Framework Final Report*, December 2017, p. 29.

⁷⁴ Australian Government, *Smart Cities Plan: National Cities Performance Framework Final Report*, December 2017, p. 3.

⁷⁵ Australian Government, *National cities Performance Framework Dashboard*, < <https://smart-cities.dashboard.gov.au/all-cities/overview> > retrieved 9 March 2018.

⁷⁶ Australian Government, *Smart Cities Plan: National Cities Performance Framework Final Report*, December 2017, p. 3.

over the longer-term in the context of their city's own unique characteristics'. It recommended that the Australian Government improve the framework by expanding the indicators considered and the cities assessed.⁷⁷

- 9.65 The Australian Sustainable Built Environment Council (ASBEC) agreed. It suggested that a more comprehensive framework would enable it to be used to 'evaluate specific investments and priorities across all levels of government' and better inform the design of City Deals.⁷⁸ ASBEC conceded that not all cities will be able to be assessed against all indicators:

Given the diversity of Australian cities, and the challenges in collecting data across all indicators for every city, it is appropriate to consider a taxonomy of Australian cities that provides a structure for data collection and indicators across different types of cities. For example, the data available for Sydney and Melbourne is likely to be very different than that available for Townsville and Launceston and the contextual issues these different types of cities face will demand different indicators to inform policy development.⁷⁹

- 9.66 Mr Jonathan Cartledge, Head of Public Affairs at the GBCA, suggested that liveability and sustainability indicators should be separated and expanded:

I think there is a real opportunity to actually separate those, which would lend appropriate emphasis to the significant impact of both liveability, when you look at health, wellbeing and social inclusion issues, and sustainability, when you look at biodiversity and emissions reduction, as being of equal weight when you are measuring the performance of our cities. I think that separating those, as the framework moves forward, would be really valuable.⁸⁰

- 9.67 Likewise, Professor Lars Coenen of the University of Melbourne suggested that the National Cities Performance Framework indicator for innovation does not align with international indicators and could be refined:

... there is an urgent need for better, more realistic data about innovation and cities. Currently the default measurement of innovation in Australia is through patents. There is, however, a global academic consensus that this indicator is partial at best and misleading as the worst. The Australian

⁷⁷ Green Building Council of Australia, *Submission 99*, p. 8.

⁷⁸ Australian Sustainable Built Environment Council, *Submission 111*, p. 4.

⁷⁹ Australian Sustainable Built Environment Council, *Submission 111*, p. 4.

⁸⁰ Mr Jonathan Cartledge, Head of Public Affairs, Green Building Council of Australia; and Chair, Cities Task Group, Australian Sustainable Built Environment Council, *Committee Hansard*, 14 November 2017, p. 16.

government could easily expand and supplement the current measurement of innovation in cities by smarter and more comprehensive indicators.⁸¹

- 9.68 Ms Rachel Sweeney, Secretariat of Regional Capitals Australia (RCA) advocated for including smaller regional capitals in the National Cities Framework in recognition of their importance to smaller surrounding settlements.⁸² RCA submitted that assessing smaller regional capitals under the framework would support better targeted government intervention in those places and highlight the competitive advantages they offer to businesses:

The exclusion of the remaining regional cities significantly undersells the contribution and potential of regional Australia. It is the position of RCA that monitoring all regional cities will significantly increase the understanding of how these cities function. The monitoring will highlight investment opportunities and identify how the service hub role can be strengthened - a stated objective of the Smart Cities Plan.⁸³

- 9.69 The Australian Government will consider expanding the National Cities Performance Framework to include additional indicators and cities as part of regular, three yearly reviews beginning 2020:

The review will include an assessment of the Performance Framework purpose, policy priorities, coverage and indicators. It will consider the need to include additional cities and sub-city level information where this is identified as a priority by stakeholders, and data is available.⁸⁴

- 9.70 The Australian Government has also indicated that work is already underway to refine and expand some indicators, for example, the framework's performance indicator for greenhouse gas emissions. At present, there is no 'official measure of city level greenhouse gas emissions per capita, or city level energy consumption' on which to base a city specific emissions measure. This figure is currently estimated for each city using state-level emissions data produced by the Department of Environment and

⁸¹ Professor Lars Coenen, City of Melbourne, Chair of Resilient Cities, The University of Melbourne, *Committee Hansard*, 29 August 2017, p. 43.

⁸² Ms Rachael Sweeney, Secretariat, Regional Capitals Australia, *Committee Hansard*, 21 November 2017, p. 5.

⁸³ Regional Capitals Australia, *Submission 93*, p. 11.

⁸⁴ Australian Government, *Smart Cities Plan: National Cities Performance Framework Final Report*, December 2017, p. 33.

Energy. However, CSIRO is working in partnership with other agencies to bring ‘together energy-use data from a diverse range of sources to create... a more comprehensive picture, called the Energy Use Data Model’. This model will allow more ‘robust emissions estimates to be included in future updates’ of the framework.⁸⁵

Australian Urban Research Network (AURIN)

- 9.71 The Australian Government funds AURIN to collect data and to provide an ‘evidence base for informed decisions about the smart growth and sustainable development of Australia’s cities and towns’.⁸⁶ For example, Professor Chris Pettit from City Futures at the University of NSW is working with AURIN to formulate new metrics for comprehensive ‘intra-city’ data analyses of property markets. AURIN said this ‘research shows that the property market is complex and operates with many sub-markets across space, time and according to housing type’. It claimed that these insights are informing policy responses to housing affordability in Australia.⁸⁷
- 9.72 AURIN submitted that its ‘restricted funding envelope’ is challenging its ability to maintain the visibility, currency and access to its current data holdings.⁸⁸

Urban living labs

- 9.73 Urban living labs are discrete city precincts or urban areas fitted with technologies, such as sensors, which provide real-time data for collection and analysis by multidisciplinary teams of researchers. Dr Craig James, Research Program Director at CSIRO said urban living labs enable small scale scenario testing to be undertaken for cities:

... the city is a very complex system. That is a formal terminology. It means that it is a system of interlinked things where sometimes it is really not obvious what is going to happen when you do something. Urban living labs, with that rigorous monitoring evaluation, actually allows you to try to find

⁸⁵ Australian Government, *Smart Cities Plan: National Cities Performance Framework Final Report*, December 2017, p. 33.

⁸⁶ Australian Urban Research Network, *Submission 101*, p. 1.

⁸⁷ Australian Urban Research Network, *Submission 101*, p. 2.

⁸⁸ Australian Urban Research Network, *Submission 101*, p. 3.

out if what you are doing is going to result in the expected benefit or if you are going to get some sort of unexpected result.⁸⁹

- 9.74 Mr Guy Barnett, Principal Research Consultant at CSIRO said urban living labs allow researchers ‘to try new and different things that you couldn't do at a household scale and which might be too big to try and do at the metropolitan scale’.⁹⁰
- 9.75 The CSIRO is currently establishing a network of urban living labs to ‘support place-based urban experimentation and learning’. It recently launched the Sydney Science Park Urban Living Lab in partnership with property developer Celestino in Western Sydney. The urban living lab will provide ‘a unique opportunity to investigate the relationships between urban greening, energy efficiency, demand for water, community wellbeing and health’.⁹¹
- 9.76 Mr Barnett said urban living labs are ‘very popular in Europe’, but are a relatively new idea in Australia and a comprehensive network of labs is not yet up and running:

The urban living lab concept is very popular in Europe... it is a relatively new idea in Australia to have that really close connection between science, industry and practice and doing things in real world contexts. But it is still a little bit fragmented. We have things going on in the water space and we have things going on in the energy space. What we are calling for is more coordination and integration of urban living labs, so looking at how different infrastructures come together and interact. And creating a network of living labs so that we can have some meta-learning that are coming from all of that activity.⁹²

Committee conclusions

- 9.77 Smart cities, which leverage technology to improve the efficiency of services, enhance liveability, and improve environmental and social sustainability,

⁸⁹ Dr Craig James, Research Program Director, Commonwealth Scientific and Industrial Research Organisation, *Committee Hansard*, 5 September 2017, p. 4.

⁹⁰ Mr Guy Barnett, Principal Research Consultant, Commonwealth Scientific and Industrial Research Organisation, *Committee Hansard*, 5 September 2017, p. 4.

⁹¹ Australian Government, *Smart Cities Plan: National Cities Performance Framework Final Report*, December 2017, p. 35.

⁹² Mr Guy Barnett, Principal Research Consultant, Commonwealth Scientific and Industrial Research Organisation, *Committee Hansard*, 5 September 2017, p. 4.

are critical to the ongoing prosperity of Australia and the well-being of Australians. The Committee is pleased to see national recognition of this in the Australia Government *Smart Cities Plan*, which clearly articulates a commitment to fostering smart cities.

- 9.78 Evidence indicates that a number of elements are fundamental to the generation of smarter cities. They include fast and reliable internet connectivity, the proliferation of IoT technologies, interoperability standards, and data sharing and collection principles.
- 9.79 Fast and reliable internet is indispensable to the creation of smart cities and is the basis of the modern, knowledge economy. Although internet connectivity is reliable in Australia's cities; the Committee received evidence that there is ample scope to improve internet speed. Moreover, regional cities and towns reported coverage issues. The Committee would like to see the Australian Government accelerate the rollout of the NBN, particularly in regional capitals.

Recommendation 16

- 9.80 **The Committee recommends that the Australian Government ensure that the development of the NBN is commensurate with the future capacity requirements of intelligent transport systems and the Internet of Things (IoT), and that relevant capacity constraints be identified and addressed.**
- 9.81 Adequate internet coverage will support the proliferation of the IoT technologies, synonymous with smarter cities. Equipping the built environment with sensors, microphones and cameras able to communicate via the internet will provide the detailed data and centralised control necessary for more sophisticated asset design, construction and operation. The Committee is pleased to learn that the Australian Government is providing financial and technical support to local governments to deploy smart cities technology in their communities through the Smart Cities and Suburbs Program and the Future Ready Incubation Package. However, evidence suggests that local governments would benefit from ongoing support.

Recommendation 17

- 9.82 **The Committee recommends that the Australian Government offer additional funding and technical support to local governments by**

extending the Smart Cities and Suburbs Program and the Future Ready Incubation Package indefinitely. The Committee also recommends that the Future Ready Incubation Package specifically address local governments' capacity to effectively and efficiently procure smart cities technology.

- 9.83 The proliferation of IoT technologies will only support the development of smarter cities if they are interoperable. Stakeholders highlighted the costs of incompatible technologies and suggested that national standards are needed to safeguard interoperability. The Committee believes that IoT interoperability standards are fundamental to smarter cities and should already have been instigated. It recommends that the Australian Government task Standards Australia with addressing this issue as a priority.

Recommendation 18

- 9.84 **The Committee recommends that Standards Australia develop a 'standards roadmap' for Australia, including:**

- **identifying the standards required in each sector to unlock the benefits of connected Australian cities; and**
- **developing standards in strategic priority areas, including standards to safeguard the interoperability of IoT and other smart cities technologies.**

- 9.85 Fostering open access to data is a complex issue. The Committee recognises the significant gains broad access to data can offer, for example:

- better targeted government policies able to be evaluated in real-time;
- optimised infrastructure operation;
- better designed urban environments; and
- market-led solutions to urban problems.

- 9.86 It also recognises the value in creating national data collection and sharing principles to guide the storage of information in a more usable format and its broad dissemination. The Committee also heard about the potential benefits a data sharing platform could deliver. However, evidence to the inquiry was insufficient to draw a conclusion and these matters have already been dealt with by the Productivity Commission. The Committee therefore

chooses to make no comment, other than urging the Australian Government to act on the Productivity Commissions findings promptly to create a national policy, regulatory or technology framework to facilitate open data.

- 9.87 The Committee acknowledges that the Australian Government is also promoting the collection and dissemination of cities performance data through the National Cities Performance Framework. Stakeholders to the inquiry indicated that the framework could be strengthened by expanding it to include additional indicators and smaller, regional cities.
- 9.88 The Committee shares this view and is pleased to hear that the Australian Government has already committed to expanding and refining performance indicators, such as emissions per capita, and to conducting three-yearly reviews of the framework to consider the incorporation of additional cities.

Recommendation 19

- 9.89 **The Committee recommends that the Australian Government continue to expand the performance indicators and cities assessed under the National Cities Performance Framework, including:**
- **enhancing indicators for environmental sustainability and innovation; and**
 - **incorporating smaller regional capitals into the framework.**
- 9.90 The Committee also recommends that the Australian Government continue to support the work of AURIN and CSIRO's urban living labs.

Recommendation 20

- 9.91 **The Committee recommends that the Australian Government provide ongoing funding to increase the visibility of and enhance data collection and analysis undertaken through AURIN and CSIRO's urban living labs.**

10. Global best practice

- 10.1 This chapter builds on the preceding five chapters' discussion of how Australia can make its urban form more socially and environmentally sustainable. It considers how international experiences, academic research, and precinct or community rating systems can inform best practice urban development in the Australian context. It also explores the global benefits of achieving a more sustainable urban form.

International best practice

- 10.2 Australia is not the only country grappling with rapid population growth and urbanisation, climate change, shifting demographics, economic agglomeration, poor housing affordability or technological disruption. As the National Health Foundation noted, 'sustainable urban development is a global priority,' and it is 'estimated that 60 per cent of the world's population will live in urban environments by 2030'.¹ Professor Barbara Norman acknowledged that achieving 'a more sustainable future in an urban world is challenging national governments around the globe'.²

¹ National Heart Foundation, *Submission 113*, p. 6.

² Professor Barbara Norman, *Submission 29*, p. 3.

- 10.3 Transport strategist and urban economist³ Dr Chris Hale suggested that Australia is at least a decade away from becoming a global leader in sustainable urban development:

Australian cities are not currently 'best practice' exemplars on key metrics such as 'public transport mode share', and the path to achieving substantially better outcomes on such metrics is a long and arduous one (certainly it will take a decade and more at least, and upward of 4-5 terms of federal government to achieve substantive and lasting change in the infrastructure and indeed the institutional settings required to perform at a high level on a challenging apex metric like sustainable transport mode shares).⁴

- 10.4 He argued that 'better cross-referenc[ing] public policy directions for Australian cities toward events and policy dynamics in major international competitor cities' will help redirect urban development onto a more sustainable trajectory:

We need to become less self-referential, and more worldly and open-minded in our understanding of Australian cities, planning and infrastructure relative to global counterparts. Federal policy outlooks and capabilities should shift in this 'more global, outward-looking and self-aware' direction.⁵

- 10.5 Dr Hale was not alone in this recommendation. A range of international best practice approaches to urban development were referred to throughout the inquiry as possible models for Australian emulation. These are discussed below.

Urban densification and decentralisation strategies

- 10.6 Many stakeholders suggested that Australia could learn from the densification and decentralisation strategies used in the redevelopment of the City of London in the United Kingdom and the City of Stockholm in Sweden.
- 10.7 The City of London's cross rail project was highlighted by the Bus Industry Confederation for its integration of transport and land use planning to facilitate a more compact urban form and the development of secondary business districts:

³ The Conversation, Chris Hale, < <https://theconversation.com/profiles/chris-hale-93655> > retrieved 26 February 2018.

⁴ Dr Chris Hale, *Submission 8*, p. 1.

⁵ Dr Chris Hale, *Submission 8*, p. 1.

Cross rail (Stages 1 and 2), Europe's biggest infrastructure project, is London's major land transportation initiative, firmly grounded in the city's economic development/land use strategy and also serving many areas of significant disadvantage, with value capture an important source of funding...

Improving circumferential movement through the suburbs, to support growth of [employment] nodes in these areas and accessibility more generally, is also a land use transport priority...⁶

- 10.8 Bus Industry Confederation (BIC) noted that the cross rail project mandated urban densification around public transport. It contended that 'linking development densities to public transport accessibility levels is a good idea, since it provides a clear framework for thinking about development opportunities and expectations within a sustainability context'.⁷ It suggested that Australian cities could learn from the City of London's approach to this project, particularly the city's use of a 'strong research evidence base for policy and planning directions', its 'wide engagement around policy matters, to build credibility' for the cross rail project, and the role of the Mayor in providing strong leadership for the greater London area.⁸
- 10.9 BIC also praised the City of Stockholm's approach to urban regeneration and densification. It suggested that Australia could learn from the city's exceptional 'land use and transport policy and planning at the city wide level':

The city integrates its urban planning (land use), transport planning and infrastructure planning, [and the] the strong connections between urban land use and transport [are] captured by the description of the City (urban) Plan as the walkable city. The focus in the plan is on increasing densities and delivering mixed use development, building where there is spare capacity on the public transport (PT) network and increasing PT frequencies where densities are increased, if required.⁹

- 10.10 Associate Professor Matthew Burke provided an example of this approach. He described the City of Stockholm's relocation of government jobs to boost the financial viability and capacity of its public transport network:

⁶ Bus Industry Confederation, *Submission 110*, p. 13.

⁷ Bus Industry Confederation, *Submission 110*, p. 14.

⁸ Bus Industry Confederation, *Submission 110*, p. 14.

⁹ Bus Industry Confederation, *Submission 110*, p. 11.

There was movement of government jobs, but to strategic locations only clustered at the apex of public transport lines... The advantages they got out of this are really quite striking. One of them is public transport flows. Currently, across Australia we have huge subsidies for our public transport networks that are significantly less in a place like Stockholm or Copenhagen. The reason is that we run air trains—empty trains—outbound and we run packed sardine tins inbound as this tidal wave comes into the inner cities. In Singapore, Stockholm and Copenhagen a lot of the lines are running 55 or 60 per cent of the passengers inbound and 45 or 40 per cent outbound, so the flows are very stable.¹⁰

10.11 The National Heart Foundation asserted that the placement of ‘large suburban employment nodes along rail lines’ in Stockholm has also resulted in ‘much higher mode shares for walking and especially cycling’. It suggested modelling indicates that similar ‘government led decentralisation’ in Australian cities would be likewise beneficial.¹¹

10.12 BIC noted that Stockholm’s success is also informed by the presence of a single local municipal government responsible for the whole city:

These jurisdictional arrangements simplify the urban governance problem by reducing the complexity of horizontal integration.¹²

10.13 Mr Michael Apps, Executive Director of BIC suggested that the presence of a single municipality encompassing the whole city made it easier to align the city, regional and national governments behind shared urban development objectives for Stockholm, articulated by an arrangement similar to a City Deal, known as the Stockholm Agreement.¹³ The Stockholm Agreement encompasses ‘key urban/regional transport and related environmental priorities’, such as development initiatives and a congestion tax:

The Stockholm Agreement, which began in 2007, provides SEK 100b (\$A16b), a quarter from congestion charge revenues, to expand the coverage and capacity of the city’s public transport network and to remove heavy road traffic from surface streets (mainly by building a new Stockholm bypass tunnel). ...[providing] a clear line of sight in policy and program terms

¹⁰ Associate Professor Matthew Burke, Principal Research Fellow, Cities Research Institute, Griffith University, *Committee Hansard*, 29 September 2018, p. 8.

¹¹ National Heart Foundation, *Submission 113*, p. 3.

¹² Bus Industry Confederation, *Submission 110*, p. 11.

¹³ Mr Michael Apps, Executive Director, Bus Industry Confederation, *Committee Hansard*, 24 October 2017, p. 3.

between the charge and system improvements (even in it is not locally term hypothecation).¹⁴

- 10.14 BIC suggested that the City of Stockholm's approach to urban development could provide 'useful lessons for Australia'.¹⁵

Technology supported urban regeneration

- 10.15 Innovative new technologies are also playing a much greater role in urban development internationally.
- 10.16 Autodesk and BuildingSMART Australasia both lauded the Government of the United Kingdom's focus on building information modelling (BIM) and suggested that Australia should consider adopting a similar approach. BIM is a process whereby 'a full 3D digital prototype of a planned facility (whether that is a building, piece of infrastructure or an urban precinct) is created during the planning and design stage and then maintained and updated throughout its life cycle'.¹⁶
- 10.17 According to BuildingSMART Australasia, the Government of the United Kingdom is championing the use of BIM in the procurement of government buildings and infrastructure¹⁷ and the Australian Government should do the same. It suggested that broader use of BIM could 'facilitate design collaboration across all disciplines, coordination during the construction and delivery phases [of urban development projects], with handover of the as-built model to support on-going asset management and operation' of the building, infrastructure or precinct constructed.¹⁸ It claimed that the use of BIM in this way could deliver 'infrastructure energy and cost savings' across federally led urban development projects.¹⁹ AECOM, the Spatial Industry Business Association (SIBA) and the Queensland University of Technology (QUT) made similar claims during the Committee's previous inquiry into the role of smart ICT in the design and planning of infrastructure. They suggested that the use of BIM in the design, construction and operation

¹⁴ Bus Industry Confederation, *Submission 110*, p. 11.

¹⁵ Bus Industry Confederation, *Submission 110*, p. 11.

¹⁶ BuildingSMART Australasia, *Submission 3*, p. 6.

¹⁷ BuildingSMART Australasia, *Submission 3*, p. 4.

¹⁸ BuildingSMART Australasia, *Submission 3*, p. 6.

¹⁹ BuildingSMART Australasia, *Submission 3*, p. 3.

stages of major infrastructure projects could decrease the cost of procurement, reduce the resources used in construction, and decrease carbon emissions and noise pollution. AECOM, SIBA and QUT noted that cost savings on capital expenditure on major infrastructure through the use of BIM 'that could be as high as 33 per cent over the lifecycle of the infrastructure asset'.²⁰

- 10.18 BuildingSMART Australasia also suggested that requiring BIM as part of an urban development plan could lead to automated compliance assessments for building standards like energy efficiency:

Adopt automated checking of regulations during design using software applications that link to a BIM model... Such a tool has been piloted in the UK and will enable the transformation of the business of checking compliance, including energy efficiency compliance, from a manual hard copy process (often undertaken after the design work has been completed), into an iterative software application that works alongside the design development. The speed of the process will allow the designer to explore other – more sustainable – options and enable swift, regular reassessment, leading to improved designs.²¹

- 10.19 Autodesk argued that a national policy for BIM is needed to position Australia 'on par with countries such as the United Kingdom, Singapore and many others who have already implemented BIM and digital policy for government'.²² It claimed that mandating the use of BIM in the UK has 'had an enormous effect on the industry in a positive way, including by realising capital cost savings and committing to carbon reductions of 20 per cent to 2020'. Moreover, it noted that the Government of the United Kingdom is leveraging BIM to develop 'policy for 'Digital Built Britain' which will enable the fast track of planning and delivery of smart cities and give governments access to much stronger information and analytics around asset information and performance'.²³

- 10.20 The views of BuildingSMART Australasia and Autodesk align with those expressed by stakeholders during the Committee's previous inquiry. Many urged the Australian Government to replicate the Government of the United

²⁰ House Standing Committee on Infrastructure, Transport and Cities, *Smart ICT: Report on the inquiry into the role of smart ICT in the design and planning of infrastructure*, March 2016, p. 9-10.

²¹ BuildingSMART Australasia, *Submission 3*, p. 4.

²² Autodesk, *Submission 90*, p. 4.

²³ Autodesk, *Submission 90*, p. 4.

Kingdom's model for promulgating BIM.²⁴ For example, Transport for NSW observed that a 'UK BIM Task Group is recognised for playing a pivotal role in the success of the UK strategy' and recommended:

Australian Governments, through COAG, replicate the UK model, and where possible, utilise and build on the established UK Standards, supporting technologies, training modules, accreditation frameworks and contract models

This will allow Australia to leverage off global leaders and ensure we maintain alignment with international best practice'.²⁵

- 10.21 Internationally, there is also an urban development focus on integrating 'smart' technology, such as sensors and cameras, throughout city infrastructure to collect data and provide an evidentiary base for policies and programs. The Internet of Things (IoT) Alliance said it is 'imperative for Australia to leverage IoT technology as a key lever to innovate and increase its competitiveness on the world stage':

At a city level, emerging disruptive technologies... are enabling cities to embrace smarter ways to design, build and operate their critical infrastructure, provide new citizen centric services and create new industries.²⁶

- 10.22 According to Mr Williams, American cities like Kansas are future proofing their urban development by incorporating smart city technologies into the development of new infrastructure:

... Kansas City has been doing great work—Google made it a 'gigabit city'... they have created a light rail corridor that is also a heavily sensed corridor, and they are using it as a way of bringing the two agendas [smart cities and infrastructure development] together.²⁷

- 10.23 Mr Williams suggested that the smart cities agenda and the development of infrastructure remain 'very siloed' in Australian cities and bringing these two agendas together would help align urban development with

²⁴ House Standing Committee on Infrastructure, Transport and Cities, *Smart ICT: Report on the inquiry into the role of smart ICT in the design and planning of infrastructure*, March 2016, p. 136-140.

²⁵ House Standing Committee on Infrastructure, Transport and Cities, *Smart ICT: Report on the inquiry into the role of smart ICT in the design and planning of infrastructure*, March 2016, p. 137.

²⁶ Internet of Things Alliance, *Submission 37*, p. 5.

²⁷ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 45.

international best practice.²⁸ He suggested that one of the 'big roles for the federal government in the smart cities space is information sharing and best practice sharing':

We have almost got to cut the gap by somebody stepping in and saying, 'By the way, many of the things that you want to do have been done in Boston and Chicago and all we need to do is take a bit of that off the shelf'... I would really like the federal cities and smart cities unit to do a bit more knowledge sharing... I think somebody should be providing the kind of approach of 'here are the 20 interesting things going on out there'. It is simple and cheap and I think we should do it.²⁹

10.24 Autodesk highlighted Washington, D. C. as a potential model for Australian policy makers for similar reasons. The city aspires 'to become the healthiest, greenest, and most liveable city in the United States by 2032'. It aims to 'retrofit 100 per cent of existing commercial and multi-family buildings to net-zero energy standards, and to capture rainwater on-site across 75 per cent of the District's landscape'.³⁰

10.25 Washington D. C. is deploying a combination of 'policy, planning, and design innovations' to achieve these goals. It has created a 'data rich 3D City Model' to test different design and policy scenarios to delivery energy and water use efficiency gains. The model found that:

- Digital tools for planning district-scale green stormwater infrastructure can assist in achieving substantial stormwater goals in the capture and harvesting of rainwater;
- Large scale Rapid Energy Modeling (REM) can assist in identifying buildings which maybe suitable for retro-fitting of energy saving building systems; and
- Triple Bottom Line analysis can expose additional benefits including a reduction in congestion and flooding.³¹

10.26 Autodesk reported that, as a result, the City of Washington has defined policies and 'set aggressive goals to reduce their environmental footprint,

²⁸ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 45.

²⁹ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, pp. 45-46.

³⁰ Autodesk, *Submission 90*, p. 5.

³¹ Autodesk, *Submission 90*, p. 5.

combat climate change, and improve the quality of life for their citizens'. Autodesk said this approach reflects the 'global focus on how governments and the community come together to solve challenges around liveability, sustainability and investment in cities' and the significant role technology can play in solving some of these challenges.³²

International models for innovative mobility

- 10.27 International approaches to urban development could also be used to guide Australian cities' transition to automated, electric, shared and active transportation solutions. Countries, such as the United States, the United Kingdom and Canada are more advanced in terms of their integration of these new modes of transportation.
- 10.28 MacroPlan Dimasi submitted that the Government of the United Kingdom is funding an 'accelerated [automated vehicle] take up as part of a broadly based economic development strategy'. It claimed that legislation is being passed which 'extends the motor insurance requirement to include automated vehicle owners, set standards for charge points, mandate provision of electric vehicle infrastructure and protect AVs from cyber terrorist attacks'.³³
- 10.29 Australian car sharing company, GoGet, described global best practice approaches to facilitating a transport modal shift from private vehicles to shared mobility options. It noted that the American City of San Francisco reduced car parking requirements for new urban developments, supporting developers to provide credits for ride share mobility options instead. It claimed that 'this program and others like it, have seen 80 per cent of new households in the City of San Francisco becoming car free'.³⁴
- 10.30 GoGet also noted that the City of Vancouver in Canada is combining integrated transport and land-use planning with metropolitan-wide policies to discourage private car usage:

Vancouver set a goal to see 50 per cent of trips within the city occurring via modes other than the private car. In conjunction with a number of other strategies relating to public transport and land use, was the recognition of the need to grow the use of shared mobility. This resulted in a metropolitan-wide

³² Autodesk, *Submission 90*, pp. 5-6.

³³ MacroPlan Dimasi, *Submission 151*, pp. 20-21.

³⁴ Goget, *Submission 69*, p. 5.

policy providing local governments with guidance and a template for the effective regulation of carsharing. This multi-faceted approach led to significant results with the City achieving its goal of 50 per cent non-private car use in 2015—5 years ahead of schedule.³⁵

- 10.31 Associate Professor Burke suggested that ‘a national cycling strategy with a particular focus on the development of continuous safe cycling networks and appropriate policies in our major cities would be particularly helpful to combat congestion and improve sustainability’ in Australian cities. Associate Professor Burke suggested that Australia could emulate the United Kingdom’s approach to a national cycling network and develop cycling infrastructure that connects ‘the entire east coast and (via the ferry) Tasmania for urban and regional connectivity and to attract the growing cycle tourism market’. Further, he noted that ‘the Dutch, Scandinavian, Chinese and Japanese national policy frameworks could all be used to help frame a strategy appropriate to the Australian setting’.³⁶

Globally oriented second tier cities

- 10.32 Stakeholders to the inquiry also drew attention to a number of smaller international cities. These cities use best practice urban development to ease the transition from a more traditional industrial economic base to the modern knowledge and services oriented economy. The Committee for Geelong, an organisation established to help facilitate the development of Victoria’s second largest city, undertook an international study tour of second tier cities including:

- Dundee, Scotland;
- Cleveland, Pittsburgh and Richmond, United States of America;
- Eindhoven, Netherlands; and
- Bristol, Liverpool and Sheffield in England.

- 10.33 It undertook the tour because it recognised that ‘many second cities across the globe have experienced similar transitions to Geelong, as globalised supply chains, tariff reductions and deregulation, and cheap offshore labour have led to declining manufacturing sectors in developed economies’.³⁷ The

³⁵ Goget, *Submission 69*, pp. 5–6.

³⁶ Associate Professor Matthew Burke, *Submission 98*, p. 4.

³⁷ Committee for Geelong, *Exhibit 37: ‘Winning from Second’*, UN Global Compact – Cities Programme and the Centre for Urban Research RMIT, 2016, p. 4.

cities selected for examination included those with comparable infrastructure, populations and local leadership; and cities have which has 'transformed their economies following manufacturing declines, and [which] are important contributors to their respective countries' economies'.³⁸

10.34 The Committee for Geelong found that the successful cities they visited shared a number of characteristics, including:

- centralised economic development agencies;
- supporting innovation and entrepreneurs;
- prioritising of industry sectors based on the inherent strengths of the city;
- differentiation from other secondary and major cities, as a place to live and invest as well as in the priority industry sectors; and,
- making the city a good place to live through waterfront developments, arts and culture, food, and revitalising city centres.³⁹

10.35 It suggested that Geelong could emulate the successful urban development of comparable international cities by advocating for 'a second city policy, planning and investment with federal and state governments'. It also found that 'industry mapping and opportunity identification and a co-ordinated approach to economic development and planning have been integral to the successful transformation of the second cities studied... and are therefore suggested priorities for Geelong'.⁴⁰

10.36 Horsham Rural City Council submitted that 'Australian regional capitals could look to the lead of other international cities and focus on creating good recreation and physical activities and space, and being well connected in terms of both public transport and on-line resources'. It argued that this international best practice approach 'is essential to attract and retain young creative professionals to our regional cities'.⁴¹

³⁸ Committee for Geelong, *Exhibit 37: 'Winning from Second' UN Global Compact – Cities Programme and the Centre for Urban Research RMIT*, 2016, p. 22.

³⁹ Committee for Geelong, *Exhibit 37: 'Winning from Second' UN Global Compact – Cities Programme and the Centre for Urban Research RMIT*, 2016, p. 76.

⁴⁰ Committee for Geelong, *Exhibit 37: 'Winning from Second', UN Global Compact – Cities Programme and the Centre for Urban Research RMIT* 2016, p. 5.

⁴¹ Horsham Rural City Council, *Submission 27*, p. 1.

Coordinated international approaches to urban regeneration

10.37 A number of coordinated global approaches to urban development were also presented to the Committee. Many witnesses highlighted the United Nations' (UN) 2030 Sustainable Development Goals (SDG) which aim to mobilise international efforts to 'end all forms of poverty, fight inequalities and tackle climate change, ensuring that no one is left behind'.⁴² The Australian Government committed to the SDGs in 2015, including the urban goal 'to make cities and human settlements inclusive, safe, resilient and sustainable'.⁴³ The SDGs flow through to the UN's New Urban Agenda and the National Urban Policy (NUP) – 'a roadmap for building cities that can serve as engines of prosperity and centres of cultural and social well-being while protecting the environment'.⁴⁴ The Australia Government endorsed the NUP in 2016,⁴⁵ but has 'never really focussed too heavily on [it] because the responsibility for urban planning has been left to individual jurisdictions'.⁴⁶

10.38 Mr Brendan Nelson, President of the Planning Institute of Australia, suggested that Australia should consider other countries' approaches to implementing the NUP, specifically the nationally coordinated agenda in Chile or Mexico:

We are not suggesting that a national urban agenda or program involves the Commonwealth taking over planning responsibilities. That planning responsibility should remain with the states and territories, as should local government work, where they do the more localised planning. But there are some issues at a national scale that do need greater direction and commitment from the Commonwealth, and it's important that all levels of government work together in this regard and it is not seen as the Commonwealth coming in at the eleventh hour and signing a cheque to build a new motorway or to

⁴² United Nations, *The Sustainable Development Agenda*,
<<https://www.un.org/sustainabledevelopment/development-agenda/>> retrieved 20 April 2018.

⁴³ University of Melbourne, *Submission 106*, p. 2.

⁴⁴ National Heart Foundation, *Submission 113*, p. 6.

⁴⁵ Compass Housing Services, *Submission 162*, Attachment A, p. 1.

⁴⁶ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 34.

build a new piece of train infrastructure, but that it is a consistent approach across the board.⁴⁷

- 10.39 The Eastern Regional Organisation for Planning and Human Settlements (EAROPH) is the UN accredited peak body for the Asia Pacific region. It contributed to the formation of the NUP and has an ongoing role in its implementation. EAROPH noted that international work is underway to develop appropriate reporting frameworks for countries to assess their progress in implementing the NUP. It suggested that the Australian Government should keep pace with international efforts by reporting its progress towards meeting its international commitments.⁴⁸
- 10.40 The Australian Local Government Association (ALGA) showcased the US based Rockefeller Foundation's international 100 Resilient Cities Program. The program supports cities to 'build resilience to the physical, social, and economic challenges that are a growing part of the 21st century':
- Cities from around the world can apply to become part of the 100 Resilient Cities Network. Once selected, they are eligible to receive four types of support: Support to hire a Chief Resilience Officer, an innovative new position in government that will lead the city's resilience efforts; and expertise to develop a robust resilience strategy; access to a platform of partners providing technologies and services to help cities implement a resilience strategy (partners include Microsoft, Swiss Re, and the Nature Conservancy).
- 10.41 ALGA noted that Melbourne and Sydney are both members of the program and are 'heavily engaged in tackling the challenges facing our cities when it comes to working towards a more sustainable and resilient urban form that enhances urban liveability'. It suggested that the 'experiences of Melbourne which launched its resilience strategy last year, has considerable merit in providing the Commonwealth with a global best practice model to support when it comes to dealing with all Australian cities, towns and regions'.⁴⁹
- 10.42 The Department of the Prime Minister and Cabinet acknowledged the value of examining global best practice to urban development and suggested that Australian policies, such as the City Deals agenda, already reference policies

⁴⁷ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 34.

⁴⁸ Eastern Regional Organisation for Planning and Human Settlements, *Submission 78*, p. 1.

⁴⁹ Australian Local Government Association, *Submission 83*, p. 9.

and programs being used internationally.⁵⁰ However, careful consideration is needed before applying international approaches to best practice urban development in the unique context of Australian cities. Professor Burton, Director of the Cities Research Institute at Griffith University, urged policy makers to carefully consider the context and relevance of international sustainable urban development policies and practices before attempting to recreate them:

While it can be very useful to learn which urban policy measures (at whichever spatial scale) work well in particular settings, it is important to understand the local context of that success...

Global guides to 'best practice' can be prone to superficiality in describing the local contextual factors that account for success in one setting and failure in another, although they can perform a valuable service in providing inspiration and demonstrating the possibilities of doing things differently and better.⁵¹

10.43 Dr Hale also asserted that Australian policy makers and urban planners need to 'more carefully' select reference cities which inform their initiatives:

'Reference cities' should be cross-checked for factors such as comparable population, success at handling population growth and change over time, success in achieving strong public transport mode shares, robustness of institutional models, and success on other key sustainability and economic development metric indicators.⁵²

10.44 Dr Hale warned that 'this may mean a need to shift our attention space beyond the longstanding engagement with policies and institutions arising from the USA and UK':⁵³

Firstly, I'm saying that in terms of this idea of orientation to global practice we need to re-engage with a broader set of international experience and ultimately beyond the US and the UK, where we've quite understandably traditionally drawn our ideas from. There are plenty of great ideas throughout the developed parts of Asia and continental Europe, and I don't even know that we necessarily understand the United States as well as we believe we

⁵⁰ Department of the Prime Minister and Cabinet, *Submission 95*, p. 8.

⁵¹ Professor Paul Burton, *Submission 57*, pp. 3-4.

⁵² Dr Chris Hale, *Submission 8*, p. 1.

⁵³ Dr Chris Hale, *Submission 8*, p. 1.

understand it sometimes. So, that's the first point – about re-engaging with international practice.⁵⁴

Multidisciplinary urban research in Australia

10.45 While Australian can learn from much successful international approaches to urban development, quality academic research grounded in local conditions is also valuable. The Centre for Urban Research at RMIT University (CUR) argued that as ‘the foundations for our economic, social and environmental wellbeing’, Australian cities must be supported by ‘better understanding and insight into policy, planning and decision-making into [the] many different aspects of urban development such as transport, environment, energy use, housing provision, biodiversity, recreation and infrastructure’.⁵⁵ It asserted that this understanding can only be achieved through multidisciplinary, applied urban research. CSIRO agreed, saying ‘as the complexity of urban systems is increasingly revealed, particularly as a result of climate change impacts and extreme weather, there is a growing role for science to inform urban policy, planning and management processes’.⁵⁶

10.46 According to CUR there are two main challenges to multidisciplinary, applied urban research in Australia. Firstly, ‘there is no medium to long term national applied urban research agenda and program’, and secondly, ‘there are no institutional arrangements in Australia with the capacity to support collaboration between universities and key interest groups’.⁵⁷ Professor Jago Dodson, Director of CUR explained:

... we do not currently have any systematic nationally organised mechanism for drawing on the capability, knowledge and resources of our universities. We have a substantial capability within the universities, but that is not harnessed to respond to federal government priorities in a systematic way at the moment. Various scholars... would like to see something more systematic where we can collaborate and cooperate around a national research agenda for

⁵⁴ Dr Chris Hale, Chief executive Officer and Founder, Hale Infra Strategy Pty Ltd, *Committee Hansard*, 21 November 2017, p. 16.

⁵⁵ Centre for Urban Research RMIT, *Submission 35*, p. 8.

⁵⁶ Commonwealth Scientific and Industrial Research Organisation, *Submission 121*, p. 8.

⁵⁷ Centre for Urban Research RMIT, *Submission 35*, p. 8.

cities. It is very fragmented at the moment and, I would argue, under resourced.⁵⁸

- 10.47 CUR acknowledged that there are a number of cooperative research centres (CRC) and networks focussed on specific urban development challenges, including the Australian Housing and Urban Research Institute and CRCs for Water Sensitive Cities, Low Carbon Living and Spatial Infrastructure. However, they have a narrow research focus, are funded for a limited time and 'each have only a few university members'.⁵⁹ Professor Peter Newton of the Centre for Urban Transitions at the Swinburne University of Technology pointed out that the urban-focussed CRCs 'are all within about two years of finishing their federal funding, which is really the glue that brings the research community together'. He noted that the focus of the Australian Government's CRC program has shifted to 'cyber, smart manufacturing' issues and that cities research appears not to be 'in scope'. Professor Newton expressed concern that existing, urban-focussed CRCs will no longer be funded under the new research agenda.⁶⁰ He argued that, given the Australian Government's focus on cities through its Smart Cities Agenda and the City Deals program, urban-focussed CRC's should continue to be supported.⁶¹
- 10.48 CSIRO asserted that 'urban research providers have a pivotal role to play in the translation of urban science and technology into the innovative products and services that will help benefit the liveability, sustainability and resilience of existing and new cities in Australia'.⁶²
- 10.49 Dr Jaz Hee-jeong Choi, Director of the Urban Informatics Research Lab, Queensland University of Technology, said Australia must develop 'diverse and enduring narratives' about its cities and that collaboration between researchers has a significant role to play:

⁵⁸ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, Committee Hansard, 29 August 2017, p. 11.

⁵⁹ Centre for Urban Research RMIT, *Submission 35*, p. 8.

⁶⁰ Professor Peter Newton, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, pp. 19-20.

⁶¹ Professor Peter Newton, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, pp. 19-20.

⁶² Commonwealth Scientific and Industrial Research Organisation, *Submission 121*, p. 3.

We must develop diverse and enduring narratives of Australian cities... A part of that, I believe, could be a collaboratorium that brings together interests and capacities across public, private, community and research sectors to place urban futures as a key intellectual and social agenda for Australia, allowing comprehensive transdisciplinary research and development for both short- and long-term goals, which must include ambitious methodological exploration.⁶³

- 10.50 CUR made a similar recommendation, noting that other countries have already developed national institutions and agendas for urban research. It reported that the Government of the United Kingdom established the UK Collaboratorium for Research in Infrastructure and Cities (UKCRIC) in 2015 when it became clear that its urban research was being inhibited by fragmentation and under resourcing:

It is funded through the Engineering and Physical Sciences Research Council and its vision is to provide leadership and support for the development and growth of a coordinated and coherent UK-based national infrastructure research community involving 14 universities. Also, it engages with all the key interest groups including city and commercial policy makers, investors, citizens and academia in shaping the infrastructure research agenda and provides a focus for knowledge transfer.⁶⁴

- 10.51 A comparable institution has commenced urban research in the Netherlands. The Amsterdam Institute for Advanced Metropolitan Solutions (AMS) was established in 2015 to facilitated cooperation between universities, research institutions, companies, cities and citizens towards identifying solutions to urban challenges. CUR noted that ‘cooperation is a feature of [AMS’s] governance along with a commitment to interdisciplinary research that includes participation by engineers, designers, physical and social scientists:

The research is applied research that tests solutions for urban areas in the Netherlands and other countries. In addition to research AMS has developed an education program that includes massive open online courses, summer schools, professional development programs and an accredited masters program. Further, AMS has established a platform for storing and combining knowledge, networks and infrastructures.⁶⁵

⁶³ Dr Jaz Hee-jeong Choi, Director, Urban Informatics Research Lab, Queensland University of Technology, *Committee Hansard*, 29 September 2017, p. 17.

⁶⁴ Centre for Urban Research RMIT, *Submission 35*, p. 8.

⁶⁵ Centre for Urban Research RMIT, *Submission 35*, p. 8

10.52 CUR warned that ‘there is an urgent need for the Australian Government to support the development of additional collaborative research capacity that supports all the major interest groups engage in a more informed debate on the future of Australian cities and how they might become more productive and inclusive’.⁶⁶

National urban design principles and sustainability rating systems

10.53 Urban design principles and development rating systems can also be used to catalyse best practice urban development. Ms Megan Motto, Chief Executive Officer of Consult Australia said urban design principles, such as her own organisation’s Australian Digital Built Environment Principles, support quality urban development by functioning like a ‘value system’, underpinning and informing all decisions related to a project:

The design principles that we developed are like a value system, if you like. It's like an organisation will say, 'Well, we'll have a whole bunch of rules and procedures, but underpinning them we'll have a value system so that everything that we assess we can assess against that value system and that way we have a framework for making sure that we're making decisions within the right parameters.' So the principles that we talk about in the built environment are design principles.⁶⁷

10.54 Dr Bob Webb, Honorary Associate Professor at the Climate Change Institute of the Australian National University asserted that collectively agreed, consistent design principles are the ‘starting place for sustainable transitions for cities’.⁶⁸ Dr Webb suggested that national design principles should be ‘directly mapped to the UN Sustainable Development Goals’. He noted that a review of current metropolitan plans for Australian capital cities found that many include similar explicit or implicit goals or design principles that ‘generally align well with the breadth of the UN SDGs’,⁶⁹ including:

- More compact form rather than continuing urban sprawl;
- Productive agricultural land and connected landscapes protected;
- Polycentric city with distributed activity and job growth centres;

⁶⁶ Centre for Urban Research RMIT, *Submission 35*, p. 9.

⁶⁷ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 16.

⁶⁸ Dr Bob Webb, *Submission 119*, pp. 1-2.

⁶⁹ Dr Bob Webb, *Submission 119*, pp. 1-2.

- Reduced car dependency, increased public transport, '30 minute city';
- Place-based mixed-use development allied with transport corridors and hubs;
- Mixed-use and more self-contained communities;
- More distributed infrastructure (e.g. water, energy, food);
- More self-sufficiency in food, water, energy through, for example, urban agriculture, water sensitive urban design, rooftop solar/renewables;
- Water sensitive urban design (WSUD);
- Increased focus on blue and green (living) infrastructure;
- Physical and social infrastructure that facilitates diverse social interaction, supporting creative innovation;
- Neighbourhoods and entire metropolitan areas that are walkable and cycleable;
- Greater housing choice, more compact and affordable housing, more quality shared spaces (public and utility spaces);
- Circular economy with reduced resources usage/waste/emissions and ecological footprint; and
- Low carbon, climate resilient strategies with emphasis on coherent strategies so that decarbonisation and resilience achieved concurrently.⁷⁰

10.55 However, a number of stakeholders pointed out that national urban design principles already exist. Creating Places for People: an Urban Design Protocol for Australian Cities was developed by the Australian Government in 2011 after 'two years of collaboration between peak community and industry organisations and governments at all levels'.⁷¹

10.56 The Australian Sustainable Built Environment Council (ASBEC) is 'the custodian of the design protocol'. It said that the protocol:

... establishes twelve broadly agreed principles for quality urban places in the Australian context, such as: physical and social connection; safety; and

⁷⁰ Dr Bob Webb, *Submission 119*, p. 7.

⁷¹ Infrastructure Australia, *Creating Places for People – an Urban Design Protocol for Australian Cities*, <<http://infrastructureaustralia.gov.au/policy-publications/publications/Creating-Places-for-People-an-urban-design-protocol-for-Australian-cities-2011.aspx>> viewed 14 April 2018.

custodianship. These principles can be applied to any project or location — whether it is in a large capital city, regional centre or rural town.⁷²

- 10.57 ASBEC noted that the protocol ‘was developed with contributions from key government agencies, business and community stakeholders and as such is very broadly accepted’. It recommended that ‘all governments deliver best practice urban environments through a renewed commitment to adopt and champion Creating Places for People: An Urban Design Protocol for Australian Cities’. It encouraged the Australian Government to ‘materially support this resource to ensure that it remains effective, up to date, and can be more widely promulgated across industry, government and the community’.⁷³
- 10.58 PwC supported the protocol’s ‘best practice approach to people-centred urban design’, but noted that ‘is not clear how state and local authorities use the protocol to inform their frameworks, policies and plans’. It recommended ‘strong and regular liaising between the federal, state and local governments to ensure frameworks and policies are embedded into local and state policies’.⁷⁴
- 10.59 The Planning Institute of Australia also urged the Australian Government to promote the implementation the ‘quality urban design principles and approaches as outlined in the National Urban Design Protocol’.⁷⁵
- 10.60 In addition to promoting the protocol, ASBEC suggested that ‘it is also important to leverage existing industry best-practice and measure and deliver outcomes through support for third party verification and rating tools’. It reported that ‘credible tools’ include the Green Building Council Australia’s (GBCA) Green Star Ratings.⁷⁶
- 10.61 As already noted, GBCA’s Green Star Rating System is an ‘internationally recognised sustainability rating system’ offering rating tools which independently assess and certify:
- the design, construction, internal fitout and operation performance of buildings (discussed in Chapter 7, Sustainable Buildings); and

⁷² Australian Sustainable Built Environment Council, *Submission 111*, p. 6.

⁷³ Australian Sustainable Built Environment Council, *Submission 111*, pp. 5-6.

⁷⁴ PwC, *Submission 97*, p. 7.

⁷⁵ Planning Institute of Australia, *Submission 136*, p. 4.

⁷⁶ Australian Sustainable Built Environment Council, *Submission 111*, p. 6.

- planning for community or precinct scale development.⁷⁷

10.62 The GBCA's Green Star – Communities Rating 'assesses the planning, design and construction of large scale development projects at a precinct, neighbourhood and/or community scale'. It provides a 'rigorous and holistic rating across five impact categories':

- Governance: which recognises developers and projects that demonstrate leadership by establishing strong governance practices such as transparency and engagement;
- Liveability: which celebrates developments that deliver safe, accessible and culturally rich communities that are inclusive and support healthy lifestyles;
- Economic prosperity: which recognises projects that promote prosperity and productivity, affordable living and housing, and which invest in education and skills development;
- Environment: which recognises developments which minimise the environmental impact of construction and promote transport, infrastructure and buildings with smaller ecological footprints; and
- Innovation: which acknowledges innovative development practices and processes which promote sustainability in the built environment.⁷⁸

10.63 GBCA explained that the Green Star – Communities Rating addresses 'many of the negative impacts of urban living such as traffic congestion, greenhouse gas emissions, obesity and isolation'. It claimed that the rating is considered the leading metric internationally, 'with over 50 precincts registered and certified'.⁷⁹

10.64 GBCA argued that the 'measurement, and wherever possible certification, of outcomes at a project, precinct, community and city basis will help ensure the credibility of infrastructure investments'. It contended that 'ratings tools, like Green Star, provide a vehicle to capture and effectively communicate outcomes from our infrastructure to affected communities':⁸⁰

⁷⁷ Green Building Council Australia, *Green Star Rating System* < <https://new.gbca.org.au/green-star/rating-system/> > viewed 14 April 2018.

⁷⁸ Green Building Council Australia, *Communities*, < <https://new.gbca.org.au/green-star/rating-system/communities/> > viewed 14 April 2018.

⁷⁹ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 1.

⁸⁰ Green Building Council Australia, *Submission 99*, p. 7.

The credits in the rating tool provide guidance and best practice benchmarks that have been developed after extensive collaboration with industry, academia and government. By referencing Green Star Communities in policies, and encouraging its use for suitable development projects, governments can take advantage of the sustainability benchmarks and common language developed for the rating tool through extensive and ongoing consultation by the GBCA.⁸¹

- 10.65 GBCA recommended that the Australian Government require 'best practice design supported by third party verification, like Green Star on all relevant infrastructure and associated urban renewal projects' including 'projects planned or funded through City Deals'.⁸²
- 10.66 Mr Anthony Marklund, a Principal Engineer at Floth Sustainable Building Consultants made a similar suggestion. He argued that the Australian Government could facilitate broader use of the GBCA's Green Star Rating System by mandating ratings for office buildings and by making certification a prerequisite for federal funding provided through City Deals.⁸³
- 10.67 The Queensland Government noted that it has already committed to, and is working towards, achieving Green Star Ratings for a number of its buildings.⁸⁴

International benefits of best practice

- 10.68 The social and environmental benefits of a more sustainable urban form have already been discussed in great detail. They include:
- sustainable economies (e.g. enhanced productivity, resource utilisation, competitiveness, job skills and investment)
 - sustainable societies (e.g. healthier people, improved wellbeing)
 - sustainable environments (e.g. enhancement of local urban environments; reduced resources use from/degradation of local, regional and distant non-urban areas (in Australia and internationally)...⁸⁵

⁸¹ Green Building Council Australia, *Submission 99*, p. 11.

⁸² Green Building Council Australia, *Submission 99*, pp. 7 & 10.

⁸³ Mr Anthony Marklund, Principal ESD Engineer, Floth Sustainable Building Consultants, *Committee Hansard*, 29 September 2017, p. 13.

⁸⁴ Queensland Government, *Submission 137*, p. 18.

10.69 However the considerable international benefits have not yet been noted. Stakeholders, such as Dr Webb, noted that achieving globally leading urban renewal in Australian cities will enhance our international reputation and will facilitate broader 'two-way investment and collaboration with other countries in international networks and forums'.⁸⁶ There is evidence that becoming an exemplar of best practice urban development will:

- enhance Australia's reputation as a responsible global citizen;
- create the vibrant city scapes needed to attract the talent critical to a prosperous knowledge economy; and
- support the advancement of urban development expertise and innovative products for export to cities facing similar pressures.

10.70 These benefits are considered in more detail below.

Responsible global citizen

10.71 The Australian Government is signatory to two important international agreements which require a shift to a more environmentally and socially sustainable form:

- the United Nation's Framework Convention on Climate Change (UNFCCC) also known as the Paris Agreement; and
- the United Nation's 2030 Agenda for Sustainable Development.

10.72 Under the UNFCCC, the Australian Government has agreed to reduce greenhouse gas emissions to 26-28 per cent below 2005 levels,⁸⁷ and by endorsing the 2030 Agenda for Sustainable Development Australia has committed to achieving 17 Sustainable Development Goals.⁸⁸

10.73 Lake Macquarie City Council suggested that becoming a global leader in sustainable urban development will build Australia's 'reputation as a responsible global citizen by demonstrating our commitment to the United Nation's Sustainable Development Goals'.⁸⁹ The University of Melbourne

⁸⁵ Dr Bob Webb, *Submission 119*, p. 5.

⁸⁶ Dr Bob Webb, *Submission 119*, p. 5.

⁸⁷ NSW Government, *Submission 125*, p. 21.

⁸⁸ Department of Foreign Affairs and Trade, *2030 Agenda for Sustainable Development*, <<http://dfat.gov.au/aid/topics/development-issues/2030-agenda/Pages/default.aspx>> retrieved 16 April 2018.

⁸⁹ Lake Macquarie City Council, *Submission 43*, p. 3.

agreed⁹⁰ and suggested that it would also position Australia as a leader in the Asia Pacific region:

The possibility of building up Australia's leadership role in the Asia-Pacific was emphasised by the United Nations Under-Secretary General, Dr Joan Clos, during his visit to Melbourne in May 2017, who said: 'as a key regional player and a highly urbanised country itself, Australia has the potential to influence urbanisation processes in the Asia-Pacific region in many positive ways'.⁹¹

- 10.74 Moreover, the NSW Government suggested that 'undertaking best practice approaches in sustainable urban development can assist the Australian Government to meet' its carbon reduction obligations under the UNFCCC.⁹² The University of Technology Sydney said improving energy productivity 'is essential if Australia is to meet its obligations to the international community under the UN Paris agreement on climate change'.⁹³

Attracting international workers and tourists

- 10.75 Achieving best practice urban renewal will underpin Australia's prosperity as it transitions to a knowledge and services oriented economy. The City of Fremantle noted that the 'changing world of work will require innovative knowledge workers, often the younger element of the workforces' and 'being at the forefront of sustainable urban development, with quality urban design, can act as strong selling point to attract and retain footloose global knowledge'.⁹⁴
- 10.76 The GPT Group suggested that highly liveable cities attract highly skilled knowledge workers, industries and individuals of high net worth which have an economic multiplying effect, such as 'increased international tourism demand, associated investment and employment generation'.⁹⁵ The Water Services Association of Australia made a similar point, emphasising the economic benefits of attracting international talent:

⁹⁰ University of Melbourne, *Submission 106*, p. 1.

⁹¹ University of Melbourne, *Submission 106*, p. 10.

⁹² NSW Government, *Submission 125*, p. 21.

⁹³ University of Technology Sydney, *Submission 67*, p. 2.

⁹⁴ City of Fremantle, *Submission 16*, p. 10.

⁹⁵ The GPT Group, *Submission 72*, p. 10.

Much of our economic growth in cities is fuelled by our knowledge workers. Attracting the best human capital is crucial when competing with international cities like London, Hong Kong and New York. Retaining a competitive advantage, and continuing to attract talent in the face of emerging challenges will require innovative solutions and collaborative planning, particularly around essential services and infrastructure.⁹⁶

- 10.77 The NSW Government acknowledged that ‘Australia’s success is largely impacted by the success of its cities, both metropolitan and regional’ and ‘should these cities be products of ‘best practice’ sustainable urban development... Australia would experience a range of national benefits’.⁹⁷ The Council of Capital City Lord Mayors noted that ‘cities are measured by organisations such as the Mercers Quality of Living Survey and the Economist Global Liveability Ranking and seeking to achieve best practice in sustainable urban development will ensure Australian cities continue to be well placed in these ranking’.⁹⁸
- 10.78 Consult Australia said ‘the cities that will be the most competitive in the international war for talent and investment will be the most liveable and the most economically successful’.⁹⁹
- 10.79 A number of witnesses also noted that best practice urban development will also ensure Australian cities remain an attract prospect for international tourism. For example, Consult Australian said ‘cities looking to compete as destinations for the tourist dollar will be those that balance the social, cultural and economic infrastructure that combined creates a world-class destination’.¹⁰⁰

Exporting expertise and innovative technology

- 10.80 Evidence to the inquiry suggested that becoming an exemplar of globally-renown best practice urban development would position Australia to export expertise and innovative technology to its rapidly urbanising Asian neighbours.

⁹⁶ Water Services Association of Australia, *Submission 53*, p. 9.

⁹⁷ NSW Government, *Submission 125*, p. 20.

⁹⁸ Council of Capital City Lord Mayors, *Submission 103*, p. 9.

⁹⁹ Consult Australia, *Submission 61*, p. 14.

¹⁰⁰ Consult Australia, *Submission 61*, p. 4.

10.81 CSIRO claimed that ‘as one of the world’s most urbanised nations, with a history of scientific and innovation excellence, there is significant opportunity for Australia to expand its role as a global ‘best practice’ leader in sustainable urban development.¹⁰¹ Autodesk explained that the ‘2017 G20 Infrastructure Outlook Report estimates that Asia will account for over 50 per cent of the global infrastructure investment to 2040, with Australia’s largest trading partner, China, generating 30 per cent of this demand’. It suggested that ‘given the importance of this region to Australia’s future economic prosperity, including through investment and trade, it is critical that Australia is not only discusses, but actions, best practice in resilient and sustainable infrastructure and cities’:

By setting clear policies and benchmarks for sustainable cities, Australia will attract investment, not only infrastructure investment but more broadly ‘knowledge economy’ investment. Being a global best practice nation also positions Australia to be an exporter of high value, information technology services for the infrastructure sector to growing Asian economies.¹⁰²

10.82 Mr Ashley Brinson, Executive Director of The Warren Centre for Advanced Engineering observed that well executed, high quality urban development in Australia ‘could lead to the export of engineering services based on domestic showcased projects’:

In the coming decades, projects worth US\$97 trillion—that’s more than A\$100 trillion—will be built globally, with more than half of that in our neighbourhood of the Asian region. Australian engineers and consulting companies have the skill to participate in regional services export.¹⁰³

10.83 CSIRO agreed:

Our access to the rapidly urbanising markets in Asia provide us significant competitive advantage. If we can solve the urban challenges facing our own cities, there may be a vast global market for Australian urban sustainability knowledge and expertise.¹⁰⁴

¹⁰¹ CSIRO *Submission 121*, p. 9.

¹⁰² Autodesk, *Submission 90*, pp. 4-5.

¹⁰³ Mr Ashley Brinson, Executive Director, The Warren Centre for Advanced Engineering, *Committee Hansard*, 13 November, 2017, p. 24.

¹⁰⁴ Commonwealth Scientific and Industrial Research Organisation, *Submission 121*, p. 9.

10.84 The Committee heard that this is already occurring in some areas. CSIRO noted that ‘Australian technology [is] pioneering the design and engineering of green buildings in the Middle East and China’. Dr Marcus Spiller, Principal and Partner of SGS Economics suggested that ‘Australian planners, engineers and kindred professionals are [already] sought after the world over for their expertise in this space’.¹⁰⁵ Mr Brinson agreed:

Their impact is not only felt at home but also it contains the capacity to deliver iconic infrastructure to cities like Beijing. I’ve worked alongside Australian engineers in international projects and the capacity of this nation to participate on the global stage, especially in the Asian region, is sorely underestimated at home.¹⁰⁶

10.85 There is also a sizeable opportunity to expand Australia’s export market. CSIRO suggested that ‘as we retrofit our existing cities and build new ones, we should seize the opportunity to create innovative businesses, products and services that position Australia as a global leader in city building’:

CSIRO as Australia’s innovation catalyst, could play a pivotal role in the translation of urban science and technology into products and services that benefit our nation and enhance our productivity (CSIRO 2015)... In an increasingly digital world, there are likely to be opportunities to increase the competitiveness of our nation with a focus on technology and future cities (Productivity Commission 2016). Virtual reality, artificial intelligence, robotic building, and 3D printing are just a few of the emerging technologies that could be used to improve the sustainability of cities (CSIRO Futures 2016). Advances in automation technologies may become important for upgrading existing building stock. Robotics could potentially increase the rate of building renewal while improving safety. When combined with the onsite production of building materials, there is the potential for less generation of waste and efficiency gains through reduced transport requirements (Quezada et al. 2016b).¹⁰⁷

10.86 The University of Melbourne also suggested that ‘Australia is well-positioned to lead the world in a number of new technologies’:

For example we are home to a number of significant innovations in construction materials, including the use of locally prefabricated timber

¹⁰⁵ Dr Marcus Spiller, Principal and Partner, SGS Economics, *Committee Hansard*, 29 August 2017, p. 1.

¹⁰⁶ Mr Ashley Brinson, Executive Director, The Warren Centre for Advanced Engineering, *Committee Hansard*, 13 November, 2017, p. 23.

¹⁰⁷ Commonwealth Scientific and Industrial Research Organisation, *Submission 121*, p. 9.

components and the use of an in situ podium to develop the world's largest modular prefabricated tower. These advances allow us to deliver high and medium density housing at significantly lower costs. In combination with Australia's leadership in low-energy buildings, they position our builders, developers, and universities as leaders in sustainable housing construction.¹⁰⁸

- 10.87 The University of Queensland noted that the emergence of new forms of automated, electric and personal mobility also offer significant opportunities to nations which are early adapters:

As the emergence of these disruptions are being anticipated globally, the economic development opportunity is enormous to develop exportable capability, and policy and planning intelligence among Australia's government agencies, supporting consultancies, small and medium enterprises, and academia. However, such an outcome would require federal oversight, conversation, policy support and funding to ensure that Australia is on track to be a world leader in urban transport policy relating to autonomous and connected vehicles.¹⁰⁹

- 10.88 Lake Macquarie City Council suggested that if Australia can lead globally recognised best practice urban renewal at home and abroad, it will also enhance 'our international attractiveness as a place to learn about sustainable urban forms' and facilitate 'employment in local sustainable development industries'.¹¹⁰

Committee conclusions

- 10.89 It is clear that a successful transition to best practice urban development will create vibrant, sustainable and prosperous Australian cities. It will also deliver a number of international benefits, including:

- enhancing Australia's reputation as a responsible global citizen;
- safeguarding Australia's competitiveness in the knowledge economy; and
- positioning Australia to export expertise and innovative new products.

- 10.90 The Committee believes that the Australian Government must lead this reorientation to global best practice by adopting the recommendations outlined below.

¹⁰⁸ University of Melbourne, *Submission 106*, p. 9.

¹⁰⁹ University of Queensland, *Submission 165*, p. 11.

¹¹⁰ Lake Macquarie City Council, *Submission 43*, p. 3.

- 10.91 Australia is one of many nations around the world attempting to achieve a more socially and environmentally sustainable urban form in the face of economic, climatic and demographic change. As such, there are significant opportunities to both learn from, and contribute to, sustainability transitions elsewhere.
- 10.92 A number of international examples of best practice urban development were shared with the Committee throughout the inquiry. Many are relevant to the Australian context, particularly approaches in the United Kingdom, Sweden and the United States of America. There are also lessons for Australia in the Chinese approach to urban development. There is a high level of integrated planning from the national to the local level resulting in rapid infrastructure provision coordinated with urban development.
- 10.93 The Committee recognises that the integration of transport infrastructure and land-use planning, coupled with strategically located employment hubs, in the City of Stockholm and the City of London is a template for achieving a more compact urban form in Australian cities. The potential to better leverage transport infrastructure to support liveability and sustainability has arisen consistently throughout the inquiry. The Committee feels that this strategy could be particularly effective in tackling urban sprawl.
- 10.94 There is also much to learn from the experience of integrated urban development and infrastructure provision in China and Hong Kong. Companies such as MTR in Hong Kong and Didi (ridesharing) are already operating in Australia, and, on the basis of their successful operation in their home markets, have a great deal to offer Australia. MTR are already aware of challenges and opportunities in Melbourne and Sydney for using value capture to fund and operate transport infrastructure, and particularly as a way to fund the eradication of level crossings in Melbourne. They can apply their experience and expertise to fund HSR in the same way. MTR would appear to be a perfect partner for government and private investors as a major player for the roll out of rail transport in Australia sustainably funded by value capture. MTR are interested in pursuing these opportunities. It is the Committee's view that opportunities to utilise the expertise of companies such as MTR should be facilitated by government.
- 10.95 The Committee also heard many interesting examples of technology-informed approaches to urban development and renewal. The broad application of BIM in government led development projects in the United Kingdom is delivering sustainability and cost gains. Smart city and IoT technology, such as sensors and cameras, are providing a detailed

evidentiary base for targeted urban policies and programs in American cities such as Washington DC. It is clear that Australia has fallen behind in these areas. Chapter 9, *Smart Cities*, makes a number of recommendations to foster a faster transition to technology enabled communities which make the best use of new IoT technologies. The Committee notes that its previous report, *Smart ICT: Report on the inquiry into the role of smart ICT in the design and planning of infrastructure* recommended the formation of a Smart Infrastructure Taskforce, modelled on the UK BIM Task Group, to accelerate the adoption of new technologies in relation to in the development of infrastructure. It also recommended that the Australian Government require BIM on all major infrastructure projects and consider how smart ICT can optimise the operation and maintenance of existing infrastructure. The Committee reiterates the importance of those recommendations.

10.96 Cities in the United States and the United Kingdom are also more advanced in integrating disruptive transportation technology, such as electric, autonomous and shared vehicles. It is clear to the Committee that this technology could substantially improve the connectivity and sustainability of Australian cities if its rollout is comprehensive.

10.97 The Committee also acknowledges that there are a number of international programs supporting best practice urban development, such as the United Nation's New Urban Agenda and the Rockefeller Foundation's 100 Resilient Cities Program. These programs are internationally recognised and Australia's ongoing involvement will help inform high-quality urban renewal. There is scope for the Australian Government to apply international best practice to urban development, especially through the improved governance arrangements proposed in the next chapter through the office of the National Chief Planner.

Recommendation 21

10.98 The Committee recommends that the Department of Infrastructure, Regional Development and Cities and the National Chief Planner apply international best practice approaches to urban development, to:

- the development of national settlement plans;
- the design of policies and programs;

- **the provision of funding to support Australian cities and regional centres; and**
- **investigate international companies with proven unique global best practice expertise in infrastructure provision and urban development.**

10.99 Australian can learn from much successful international approaches to urban development. However, quality academic research grounded in local conditions is needed to identify international approaches suitable to the Australian context and guide their application. Maintaining a national capacity for high-quality, multidisciplinary research is critical. The Committee is concerned to hear that the forward research agenda for the CRC program does not maintain a focus on urban issues. It is disappointed that existing research centres are not collaborating as effectively as they could. This is an area where Australian Government support is vital.

Recommendation 22

10.100 The Committee recommends that the Australian Government maintain the CRC research agenda's previous focus on urban issues until the nation's cities have achieved an environmentally and socially sustainable urban form.

10.101 The Committee would like to see a national institute for cities research examine how international best practice approaches to urban development can be applied in Australian cities. It considers that a number of the examples discussed in this report could be applied in the Australian context.

Recommendation 23

10.102 The Committee recommends that the Australian Government establishes a national institute for cities research, on the model of the UKCRIC, to enhance collaboration, knowledge and data sharing across research groups and universities; and tasks the new institute for cities research with identifying how international best practice approaches to urban development can best be applied in Australian cities.

10.103 The benefits of national urban design principles to support a shared understanding of best practice were also highlighted throughout the inquiry. The Committee is disappointed to hear that existing industry-supported, national principles are not well known or being broadly applied.

Recommendation 24

10.104 The Committee recommends that the Australian Government re-endorse **Creating Places for People: An Urban Design Protocol for Australian Cities** and provide financial support for the purposes of maintaining and promoting these design principles.

10.105 Evidence to the inquiry indicates that precinct rating systems, such as the GBCA's Green Star – Communities Rating can support high quality urban development by providing independent verification of sustainability outcomes. Rating systems can also assist governments or developers to communicate the social and environmental benefits of processes such as densification. The Committee would like to the Australian Government encouraging the use of rating systems, such as the GBCA's Green Star program in the development of high amenity, sustainable precincts in low density areas to support a transition to a more compact urban form.

Recommendation 25

10.106 The Committee recommends that the Australian Government support the broader application of rating systems, such as the Green Building Council of Australia's Green Star program, to urban regeneration.

Part 3. Role of government

11. Role of the Commonwealth (1)

Improving governance

- 11.1 Parts 1 and 2 of the report examined the sustainable development of Australia's cities and regions at a national and regional level (Part 1) and at a city level (Part 2). Part 3 of the report (Chapters 11–13) focuses once again on policy at the national level, in particular the role of the Australian Government in the development of cities.
- 11.2 The need for the Australian Government to take a leading role in the development of cities was highlighted in the evidence presented to the Committee. Australian Government policy touches on many areas which relate directly to the development of cities and regions. The Australian Government is the only entity which can influence policies and outcomes at a national level.
- 11.3 The Commonwealth to a large degree also controls the purse strings. The development of cities is heavily reliant on Commonwealth funding and support. The evidence presented to the Committee indicates that most stakeholders believe the Australian Government should be taking an even larger role in the development of cities. Its current policy framework is centred round the *Smart Cities Plan* and City Deals (the City Deal program will be discussed in more detail in the next chapter).

Smart Cities Plan

11.4 The *Smart Cities Plan* outlines the Australian Government's vision for cities.¹ It contains six policy priorities:

- Jobs and Skills—employment and training outcomes 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.
- Infrastructure and Investment—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. For instance, several cities are working towards the concept of a '30 minute city', where residents can access employment, education, services and recreational facilities within 30 minutes of home, regardless of where they live. The Government also aims to utilise innovative financing and value capture where possible, to maximise and capture the value of investment.
- Liveability and Sustainability—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 the use of active transport, while acting to reduce carbon emissions.
- Innovation and Digital Opportunities—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.
- Governance, City Planning and Regulation—land use planning and administration in cities, as well as how effectively local governance and regulation support economic, social and environmental outcomes. Long-

¹ Department of the Prime Minister and Cabinet, *Submission 95*, p. 3.

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.

- Housing—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.²

11.5 The Department of the Prime Minister and Cabinet notes that the ‘Smart Cities Plan provides a framework to deliver on these policy priorities, including through City Deals, the Smart Cities and Suburbs Program and the establishment of the Infrastructure and Project Financing Agency’.³ The *Smart Cities Plan* is also at the heart of a range of Australian Government initiatives on cities centred around housing, migration reform, infrastructure and value capture and data and innovation reforms.⁴ The Smart Cities and Suburbs Program and Future Ready are discussed below. The City Deals initiative is discussed in the next chapter.

11.6 The National Cities Performance Framework provides ‘a snapshot of the productivity, liveability and progress of Australia’s 21 largest cities, consistent with the focus of the Smart Cities agenda’. The Interim Report includes ‘12 contextual indicators, which provide insight into a city’s demographic and economic situation, and 41 performance indicators across the six Smart Cities policy priorities’. The National Cities Performance Framework will:

- help to understand the context for the performance of cities;
- provide data to help users measure the performance of cities; and
- support the selection, focus and evaluation of City Deals.

11.7 The Infrastructure and Project Financing Agency (IPFA) began operation on 1 July 2017 with a view to bringing ‘greater rigour to infrastructure investment decision-making, and enable the Government to make more informed decisions’. It draws upon ‘private sector expertise to expand the Commonwealth’s current in-house capability, the Agency will engage

² Department of the Prime Minister and Cabinet, *Submission 95*, p. 6.

³ Department of the Prime Minister and Cabinet, *Submission 95*, p. 6.

⁴ Department of the Prime Minister and Cabinet, *Submission 95*, p. 7.

project proponents at an early stage to ensure the full range of financing options are canvassed from the start'. IPFA will:

... work across Commonwealth agencies and with state, territory and private sector proponents to look for opportunities in public infrastructure investments, where the call on the Government's balance sheet can be mitigated, new revenue streams can be captured, or greater private sector investment can be crowded-in, making the taxpayer's dollar go further. In particular, the Agency will investigate where private sector investment can be enabled in marginal projects that face high upfront costs and risks but provide access to long revenue streams through their life. By seeking innovative approaches to funding and financing of infrastructure projects, and reducing its traditional reliance on grant funding, the Commonwealth will support the delivery of a larger number of infrastructure projects.⁵

Impact of Commonwealth policies on cities

- 11.8 The Planning Institute of Australia (PIA) noted that 'that the Federal Government has responsibility for policies that have implications on other tiers of government'. It stated:

The Federal Government is responsible for immigration policy which influences the rate of population growth experienced in settlements that then require land use planning infrastructure planning responses by the State/Territory and Local Governments. The Federal Government is also responsible for taxation (e.g. negative gearing) and foreign investment policy which have implications on the housing market. Taxation policy also has implications on transportation (e.g. subsidies that relate to private vehicle sales and petrol). Finally, the Federal Government contributes funding towards infrastructure that is required to accommodate growth however sometimes there is a disconnect between the Federal Government and State/Territory Government about what the priorities are. It is important that there is a clearer line of sight between the types of outcomes desired for Australia's settlements and Federal policies such as immigration, foreign investment, taxation and infrastructure priorities.⁶

- 11.9 The PIA recommended that the Australian Government 'evaluate all public policies including, its taxation, investment and immigration policies to determine the spatial effects these have on how different cities take shape and perform'. It indicated that:

⁵ Department of the Prime Minister and Cabinet, *Submission 95*, p. 13.

⁶ Planning Institute of Australia, *Submission 136*, pp. 9–10.

A national settlement strategy would provide the context for the Commonwealth Government to appreciate the unintended implications of national taxation, public policies, investment and immigration policy on the spatial structure and performance of Australia cities and regions.⁷

11.10 One PIA member observed that the Commonwealth's impact is “*spatially blind*”.⁸

11.11 The Australian Local Government Association emphasised ‘the legitimate role the Commonwealth plays in our cities and regions through taxation, immigration, infrastructure investment, telecommunications, environmental regulations and energy policy, international trade, and increasingly through a range of international obligations’. It noted, too, that the Australian Government is ‘a large land owner, employer and property portfolio manager’.⁹

11.12 The Queensland Government observed that ‘there are many areas of Australian Government responsibility that impact on city development and thus provide an opportunity for improved city sustainability’. These included, but were not limited to, ‘climate change, energy (through the market regulator), digital and telecommunications, major transport infrastructure, immigration, health, housing and education and training’.¹⁰

11.13 Professor Jago Dodson, Director of the Centre for Urban Research at RMIT University, observed that:

Australia has recently signed up to some significant global agreements that have implications for urban development in the form of the United Nations sustainable development goals of which goal 11 commits national governments to strengthening national and regional development planning.¹¹

11.14 He noted that ‘Australia has signed the new urban agenda in 2016 which has a number of elements concerning the role of national governments in the management of urbanisation and urban development’, which included

⁷ Planning Institute of Australia, *Submission 136*, p. 5.

⁸ Planning Institute of Australia, *Submission 136*, pp. 9–10.

⁹ Australian Local Government Association, *Submission 83*, p. 5.

¹⁰ Queensland Government, *Submission 137*, p. 15.

¹¹ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 9.

article 89, 'which expects signatories to enhance the ability of governments to effectively implement national urban policies'. He stated:

It is clear that in a world of rapid urbanisation nation states certainly have a role in managing the development of the cities within their national borders and the UN Habitat program has been establishing a framework for understanding how national governments can develop urban policy and principles and objectives that they can work to under those policies.¹²

Immigration

11.15 The pressures around immigration in particular were highlighted in the evidence presented to the Committee. Compass Housing stated:

There is no question that immigration produces significant benefits for our country. However, given the existing pressure on infrastructure, particularly in our capital cities, it is incumbent on policy makers to ensure the rate of intake does not exceed the capacity of the country to provide the level of infrastructure, including social infrastructure, necessary to avoid placing additional pressure on the living standards of the existing population, particularly those displaced from the housing market.¹³

11.16 The City of Sydney noted that 'the discussion of immigration is highly contentious', but that 'the lack of infrastructure and services planning to support increased population is coming increasingly into focus'.¹⁴ Engineers Australia highlighted the disconnect between infrastructure planning, land use and population policy, stating:

Australia's national population policy is in effect its comparatively high immigration intake which is renewed each annual budget. The inadequacy of this approach was reflected in recommendation 2.2 in Infrastructure Australia's national plan. Population policy is not simply about the overall size and rate of growth of the population, but also its distribution and how alternative distributions could be achieved. The Government's reluctance to adopt Infrastructure Australia's recommendation demonstrates a reluctance to seriously address the issue of population distribution.¹⁵

¹² Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 9.

¹³ Compass Housing, *Submission 162*, pp. 8–9.

¹⁴ City of Sydney, *Submission 100*, p. 16.

¹⁵ Engineers Australia, *Submission 45*, p. 4.

11.17 Master Builders Australia urged a more liberal immigration intake, recommending:

- Setting the permanent migration intake at between 200,000 and 240,000 per year, with a focus on skilled migration
- Review the 'highly skilled' threshold within employer -nominated visa classes to reduce ongoing skills shortage in 'middle and semi-skilled' occupations and resulting project bottlenecks
- The '457 visa' program should remain uncapped and responsive to the nation's skills needs with the migration program filled by people who have previously held a temporary visa in Australia. Labour market testing should also be removed.

11.18 Master Builders Australia argued:

A well-managed and -targeted immigration program is an important policy lever which brings a range of social and economic benefits to Australia. It adds to the supply of skilled labour, increases accumulated savings and contributes to domestic investment and expanded domestic consumption. Immigration also brings indirect benefits by increasing innovation and connectedness with the rest of the world, and by promoting a vibrant, cosmopolitan and outward-looking Australian culture that is better equipped to meet the challenges of the future.¹⁶

11.19 Compass Housing noted that 'the Productivity Commission has previously raised serious questions about the ability of the states and territories to provide sufficient infrastructure to service the current rate of population growth'—1.6% in the year to June 2017—which was 'significantly above both the OECD average and Australia's own long-term average'. Compass Housing observed that:

At an annual growth rate of 1.6%, Australia's population will double by 2063. Maintaining existing living standards will necessarily require a doubling of existing infrastructure. Considering it took 230 years for Australia to produce the infrastructure it has in place right now, it seems optimistic to suggest we could double it in the next 45 years.¹⁷

11.20 On the other hand, Sustainable Population Australia (SPA) observed that Australia's population growth was high by world standards, driven by immigration, and disproportionately focused on the capital cities. It argued

¹⁶ Master Builders Australia, *Submission 48*, p. 76.

¹⁷ Compass Housing, *Submission 162*, pp. 8–9.

that 'it is difficult to meet town planning objectives with this rate of population growth', and that 'this population growth is not inevitable'. SPA stated that 'Australia could maintain a broadly stable population and maintain humanitarian obligations without any changes to the current birth rate or the humanitarian program'.¹⁸

- 11.21 Financial-Architects.Asia challenged this proposition, suggesting that a focus on low immigration and population growth went against 'Australia's post-English settlement history, and our recent decades of experience of multi-culturalism'. It suggested that low immigration 'also somewhat defies accepted economic theory and observations on the impact of migration from poorer countries to wealthier countries'. It argued:

World growth in population, and especially the growth of China and India (which will in coming decades overtake China in total numbers) means that we cannot, for too long, have low immigration. There were approx. 43 million babies born in just those two countries last year and each of them needs to create over 10 million jobs next year to meet their economic objectives. The pressures will build for us to share our land and resources, whether we can resist it for select periods, or not. Australia cannot be King Canute on immigration for very long at all, given the sheer weight of these numbers and their respective paces of modernisation and economic growth. As demographer Bernard Salt says we must have policies of 'inclusivity'.¹⁹

- 11.22 Looking more broadly, Urbis argued that 'the absence of cities in federal policy-making to date is staggering'. It observed that 'Australian cities are managed by complex interrelationships across all levels of government, with the Federal Government having massive influence through macro-policy in areas such as immigration, tax and infrastructure'. It noted that 'direct Federal Government involvement in cities has been pursued in the past with some great results', but that 'unfortunately most initiatives have failed to endure changing political cycles'. Urbis argued that the role of the Australian Government is 'about vision, leadership and influence':

The Federal Government is ideally placed to promote overarching national perspectives focussed on addressing the bigger, longer term issues affecting all cities. It is about fostering collaborative actions across States and Territories, creating more unified commitment to addressing the biggest challenges. It's time for them to step into the breach to foster cross-portfolio policy

¹⁸ Sustainable Population Australia, *Submission 32*, p. 1.

¹⁹ Financial-Architects.Asia, *Submission 73*, p. 3.

coordination, focussed on better place based outcomes. Implementation is left to state and local government, avoiding adding additional layers to already over regulated processes.²⁰

Leadership, leverage and coordination

11.23 There was a range of views expressed on what role the Australian Government should take in the development of cities, but there was a high level of agreement on the Commonwealth's central role—leadership.

11.24 Mr Ben Rimmer, CEO of the City of Melbourne, observed that 'what happens in the centre of cities is very important to the prosperity of the country and the economic growth of the country as a whole and is really the source of the next significant shift in productivity reform in Australia and, through productivity reform, employment growth and other issues that are important to social wellbeing'. Given this, he argued, 'you very quickly form a view that the Commonwealth government must have a central role in thinking about the future of these issues and in thinking about the future of productivity reform in the centre of our cities'. He suggested that 'if the Commonwealth government used the levers that it has to even greater effect our cities could become even more of a source of real and enduring competitive advantage for Australia'. He argued that this leadership role had a number of facets, including 'planning, funding and governance, but most of all the role of the Commonwealth was 'in aligning the interests of different levels of government, different stakeholders, using incentives and advocacy and the bully pulpit, effectively, to produce a shift in the national debate on some of these issues'. He gave the example of a national initiative to improve the strategic planning of Australia's largest cities through COAG in 2009:

That initiative was a great example of the Commonwealth using its authority to encourage state governments and, frankly, local governments to improve their performance on strategic planning for the benefit of the national productivity story.²¹

²⁰ Urbis, *Submission 46*, p. 4.

²¹ Mr Ben Rimmer, Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, pp. 49–50.

- 11.25 Mr Rimmer highlighted a number of areas where Australian Government action could promote the development of cities. He noted that the Commonwealth had a role in relation to 'priority infrastructure', stating:

If getting people to and from the centre of Australian cities is so crucial to the productivity story and the employment story, then high capacity public transport into and out of the centre of our urban areas is incredibly important to our national economic story and, therefore, is an important part of the Commonwealth's story.²²

- 11.26 He indicated that there was a role for the Commonwealth 'in terms of funding solutions'²³, and in promoting 'inclusive growth'. He stated:

You have been talking previously around housing affordability and even around homelessness. It is frequently forgotten that the Commonwealth government's role in acute homelessness is incredibly significant through the operation of welfare policies, Centrelink's operation and other related matters and, of course, in the city of Melbourne and the city of Sydney, famously in recent times, we see this in very practical terms because we end up with rough sleepers on our streets and a whole range of community perspectives and real challenges for the people involved. We see that there is obviously a role for local government in managing that; there is obviously a role for the state government in homelessness programs, but there are also very important interactions with the Commonwealth through Centrelink, welfare policies and housing affordability policy that need to be part of the debate about the Commonwealth's role in cities.²⁴

- 11.27 Mr Rimmer saw a Commonwealth leadership role around 'climate adaptation, mitigation, energy efficiency and so on', and noted that the Commonwealth had an 'incredibly important galvanising role' in policy areas 'where there is joint Commonwealth-state regulatory power'. He cited the Building Code of Australia, stating that 'the Commonwealth's role in

²² Mr Ben Rimmer, Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 50.

²³ Mr Ben Rimmer, Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 50.

²⁴ Mr Ben Rimmer, Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 51.

that can be incredibly important in leading a position through the states that can then be adopted.²⁵

- 11.28 Mr Jonathan Cartledge, Chair of the Cities Task Group within ASBEC, regarded the National Cities Performance Framework as ‘a really valuable step forward in having federal government leadership in measuring the performance of our cities’.²⁶ Mr Cartledge thought that the ‘the National Cities Performance Framework is developing an evidence base that will deliver similar to what State of Australian Cities did in the sense of providing a source of evidence to inform decisions around urban planning and development’. He indicated that ‘we need to continue to build on that so that we have this capability at a national level to inform decision making’.²⁷ He also suggested that there is ‘an opportunity for federal leadership’ in terms of ‘interoperability and standards associated with data collection’, by providing guidelines to cities ‘as they roll out these sensors so that you get those points of comparison across cities and you don’t have 20 cities collecting 100 different datasets in totally different ways’.²⁸

- 11.29 Mr Brian Haratsis, Chairman of MacroPlan Dimasi, emphasised the importance of the Commonwealth taking a leading role in the development and deployment of information and technology. He stated:

Basic monitoring of urban and regional outcomes should be reinitiated ... There is little data appreciation of the current situation, so it is difficult to specify the objectives of transitioning. What I would say to you is that sustainability is not just to do with environment; it is social, economic and environmental. If you were to map a pathway for sustainability then you would need to set objectives and understand where things are today ... we don’t know whether we are getting good results, for example, on urban fringes. We just don’t know.²⁹

²⁵ Mr Ben Rimmer, Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 51.

²⁶ Mr Jonathan Cartledge, Chair, Cities Task Group, ASBEC, *Committee Hansard*, 14 November 2017, p. 18.

²⁷ Mr Jonathan Cartledge, Chair, Cities Task Group, ASBEC, *Committee Hansard*, 14 November 2017, p. 21.

²⁸ Mr Jonathan Cartledge, Chair, Cities Task Group, ASBEC, *Committee Hansard*, 14 November 2017, p. 22.

²⁹ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 2.

- 11.30 He suggested that there needs to be ‘participation and collaboration, because the future of the cities is now to be understood via technology, not just by looking at community’. The role of the Commonwealth ‘in helping that transition, I think, is crucial, because none of the states individually have got their head around this or will be getting their head around this in the short run’.³⁰
- 11.31 Mr Brendan Nelson, President of the Planning Institute of Australia, argued that ‘there are some nationally significant issues which cannot be dealt with simply by state or territory governments, or local government jurisdictions’, and that there was ‘an active role by the Commonwealth is required in that regard’. He noted that there ‘are a large range of environmental issues, but economic growth is significant and immigration is significant, and the impact that all of those decisions have in relation to our cities is very significant’, and suggested that ‘the powers and responsibilities conferred by the Constitution are perhaps not reflective of the current areas of responsibility that we should be focusing on at all levels of government’.³¹
- 11.32 Professor Carolyn Whitzman, from the University of Melbourne, saw a greater role for the Commonwealth in promoting affordable housing. She stated that ‘the role of the Commonwealth government, as a direct investor as well as a bond guarantor and investment partner with other levels of government, the private sector and non-profits, is key’. She noted that:
- When the nation-building economic stimulus plan was in full swing in 2010 social housing represented over 12 per cent of total housing starts as opposed to less than two per cent in 2014. Providing housing first for very low-income households represents a sustainable investment with, as recently calculated by research in our university, a 2.7 to 1 cost benefit ratio, and the Commonwealth government needs to set social and low-income build-to-rent markets and then invest accordingly.³²
- 11.33 She also recommended that ‘the federal government needs to shift taxation relief mechanisms such as negative gearing from individual household investors to help create that asset class of build-to-rent affordable housing at specified income targets’. She suggested that ‘one fairly simple way to

³⁰ Mr Brian Haratsis, Chairman, MacroPlan Dimasi, *Committee Hansard*, 5 December 2017, p. 2.

³¹ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 33.

³² Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, University of Melbourne, *Committee Hansard*, 29 August 2017, p. 41.

improve financing for affordable rental housing is to classify social housing as essential infrastructure, as Infrastructure Victoria does but Infrastructure Australia does not'.³³

- 11.34 The representatives of GoGet Car Share, saw 'a huge opportunity for the federal government to have a big impact on congestion through incentivising people to give up their vehicles and to use car share as an alternative'. They suggested options such as making carshare usage and membership fees tax-deductible, making carshare exempt from FBT or taking the GST off carshare.³⁴ They also highlighted the opportunity for governments to use shared transport, noting that:

The state government of New South Wales has trialled replacing their existing fleet with a variety of shared transport modes. They recently announced that they expect to save \$1 billion through this reduction in their fleet.³⁵

- 11.35 Mr Chris Johnson, Chief Executive Officer of Urban Taskforce Australia, identified a number of areas where he felt Commonwealth intervention was essential. He argued that the 'the more the federal government can help push a metropolitan rail network across the urban areas of Australia, the better'. He thought, however, that 'in doing that there should be a requirement that around all those railway stations of those metropolitan rail networks there is greater density'.³⁶ He urged a closer examination of issues around air transport, including restrictions on building heights and aircraft noise. With regard to building heights he stated:

It seems, in our reading, that federal bureaucrats can be very restrictive of allowing heights. Yet when it is challenged — and evidence based — you can actually get much greater heights. We have the fairly ludicrous situation that in Melbourne you can get reasonably close to airports, 100 storeys, but in Sydney at Parramatta, only 60 storeys, even though it is far further away from an airport than the Melbourne example. And, if you look around the world,

³³ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, University of Melbourne, *Committee Hansard*, 29 August 2017, p. 41.

³⁴ Mr Tristan Sender, Chief Executive Officer, GoGet Car Share, *Committee Hansard*, 14 November 2017, p. 2.

³⁵ Mr Joshua Brydges, Locations and Transport Planner, GoGet Car Share, *Committee Hansard*, 14 November 2017, p. 2.

³⁶ Mr Chris Johnson, Chief Executive Officer, Urban Taskforce Australia, *Committee Hansard*, 14 November 2017, p. 10.

you can see airports quite close—New York, Shanghai Pudong—areas where the tension doesn't seem to exist to the same extent.³⁷

11.36 With regard to aircraft noise he stated:

There has been a questioning of the ANEF system, which is currently the agreed system for measuring noise around airports. The federal government has been trying to bring in another approach—N70, N60—different ways of measuring noise, which would suddenly, in our opinion, sterilise a lot more land for housing around airports yet no change at all in what is actually happening, just a different measurement technique. So we are concerned about that.³⁸

11.37 Mr Johnson also highlighted the Commonwealth's role in advocating new urban forms, especially in the face of population pressures. He stated:

A lot of good work is happening by the federal government through Angus Taylor and others in promoting a shift towards more urban living and how we relate to airports and public transport et cetera. But I think there is a tension growing, certainly in Sydney, about this shift away from a suburban model and it is becoming threatening to a lot of people. I think it is being translated back to 'Can we stop immigration?' or 'Can we slow down on broader issues like this?'. The federal government is clearly involved in immigration. So I think greater leadership on advocacy about the form of cities is needed from a federal government level.³⁹

11.38 Associate Professor Matthew Burke, Principal Research Fellow with the Cities Research institute at Griffith University, suggested that the Commonwealth had a clear role to play in the development of cities;⁴⁰ while Mr Warren Rowe, Planner in Residence at the University of Queensland, believed that 'the federal government has a very clear role in cities and I would certainly recommend that a national cities policy be one of the

³⁷ Mr Chris Johnson, Chief Executive Officer, Urban Taskforce Australia, *Committee Hansard*, 14 November 2017, p. 10.

³⁸ Mr Chris Johnson, Chief Executive Officer, Urban Taskforce Australia, *Committee Hansard*, 14 November 2017, p. 10.

³⁹ Mr Chris Johnson, Chief Executive Officer, Urban Taskforce Australia, *Committee Hansard*, 14 November 2017, p. 11.

⁴⁰ Associate Professor Matthew Burke, Principal Research fellow, Cities Research institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 3.

outcomes of this committee's deliberations'.⁴¹ Professor Paul Burton, Director of the Cities Research Institute at Griffith University, observed that 'there are constitutional arguments that get put up that say that it's no role for the feds. I don't think they are particularly compelling arguments.' He noted that the Commonwealth has in the past, on occasion, intervened in cities policy. He thought that, 'by and large, although they have been brief, very good and interesting things have happened during those periods'. He thought that what was required most was consistency, stating:

The enemy of good practice is the fact that things come and go on a three- or four-year cycle and there is no certainty in the urban policy environment. That's the most damaging feature, in my view.⁴²

11.39 Mr John Wynne, National Director of Planning at Urbis Pty Ltd, thought the principal instrument of Commonwealth policy was funding. He stated:

I would say that the primary role ... is to align funding from the federal government to a better metropolitan planning, to ensure that there's a clear mandate around focusing on distinct urban policy issues that are agreed upon across the country and to resource state government to do that work, with good funding in return for good work, and actually supporting it being done at that level. I think it's going to be very difficult at a federal level to get down to the level of detail that is needed to research, interpret and then plan for metropolitan plans. I think the lever that the federal government has is money. Therefore, aligning that money with commitment of effort, commitment and quality of output.⁴³

Importance of long-term bipartisan vision

11.40 An important aspect of Commonwealth leadership in the planning space is providing a long-term bipartisan vision of the future of Australia's cities and regions. The Australian Local Government Association (ALGA) stated that the 'absence of an agreed national long-term strategy and bipartisan commitment to funding for our cities, towns and regions will cost Australia dearly'. It observed that lack of a coherent long-term plan will result 'in a

⁴¹ Mr Warren Rowe, Planner in Residence, University of Queensland, *Committee Hansard*, 29 September 2017, pp. 2–3.

⁴² Professor Paul Burton, Director, Cities Research Institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 11.

⁴³ Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, p. 40.

range of expensive inefficiencies and social dysfunction, that in turn will continue to place added pressures on public budgets required to fund and support transport networks, housing, critical infrastructure, health, community services and social cohesion and capital'. The ALGA argued that 'addressing the twin pressures of global competition and growing inequality in Australian cities, towns and regions is important and the challenge needs Commonwealth leadership'.⁴⁴

- 11.41 Ms Marianne Richards, an executive member of the Town and Country Planning Association, observed that:

A bi-partisan commitment to planning and delivering better cities; to working collaboratively with the states and territories, and with industry, to prioritise and fund the infrastructure we need for jobs, growth and a better way of life is now more urgent than ever.⁴⁵

- 11.42 The Council of Capital City Lord Mayors cited the Productivity Commission's report *Performance Benchmarking of Australian Business Regulation: Planning, Zoning and Development Assessments* (April 2011), which 'identified the importance of bipartisan political support, cooperation and participation between state and local government as important factors for successful implementation of capital city strategic and spatial planning'.⁴⁶

Working with state and local governments to achieve long-term objectives

- 11.43 Peak business body, the Australian Chamber argued for 'a more integrated, holistic and coordinated approach to the planning and development of our cities is required'. It believed that the Australian Government had 'a very important role to play in the development and planning of our cities', as 'state and local government authorities alone' had 'neither the remit, the integrated holistic vision, nor the resources to achieve this'.⁴⁷
- 11.44 Ms Marianne Richards, representing the Town and Country Planning Association, highlighted 'the need for the Commonwealth to support or facilitate some sort of collaboration between jurisdictions across all three tiers of government'. She preferred not to debate 'whether there are too

⁴⁴ Australian Local Government Association, *Submission 83*, p. 1.

⁴⁵ Marianne Richards, *Submission 36*, p. 6.

⁴⁶ Council of Capital City Lord Mayors, *Submission 103*, p. 3.

⁴⁷ The Australian Chamber, *Submission 159*, p. 1.

many tiers' of government, stating: 'We are where we are: there are three tiers, and they need to be talking to each other and coordinating, as well as non-government organisations and peak bodies'. She concluded that:

There are some nationally significant issues that really can't be dealt with by any state or territory government or local government jurisdictions acting alone. Therefore, we need something coordinated. We actually need the Commonwealth's conversation, informing both those layers of government. There is a large number of environmental issues, and economic growth and immigration are both significant. And there is increased security, driven by terrorism.⁴⁸

11.45 The Planning Institute of Australia (PIA) observed that 'the Federal Government has an opportunity to lead a process by which there is an agreement forged between Federal and State/Territory governments regarding the types of outcomes that are desired for Australia's settlements and infrastructure funding priorities'. The PIA noted that its members had 'identified the importance of the Council of Australian Governments (COAG) and Infrastructure Australia to drive better collaboration between the two levels of government'. It suggested that:

COAG and Infrastructure Australia could be utilised to provide more consistency across Australia where it is beneficial in areas such as planning regulation, infrastructure planning and infrastructure business case development which could lead to Federal funding being tied to strategic outcomes and transparency.⁴⁹

11.46 Mr Brendan Nelson, President of the PIA, expressed a desire 'to see a national planning instrument', stating:

I would love to see a single definition of a house in this country, and I hope, before my time as a planner is done, that we can have one definition of a house. I look at the model that operates with building in this country through the Australian Building Codes Board, who worked quite effectively to develop a National Construction Code, which gives greater clarity. It does allow for jurisdictional elements to be factored in. But we're not talking about anything that's so far removed from that in terms of coming together, facilitating it. It is

⁴⁸ Ms Marianne Richards, Executive Committee Member, Town and Country Planning Association, *Committee Hansard*, 21 November 2017, p. 17.

⁴⁹ Planning Institute of Australia, *Submission 136*, pp. 9–10.

probably not dissimilar to the ABCB to be fair. I think that at that higher level it would give greater clarity.⁵⁰

- 11.47 He noted that ‘when I’m a planner sitting down making recommendations at a state level I actually don’t know what the Commonwealth’s expectations are for me as a state planner’:

... should we be shouldering more of the load, or does the Commonwealth have a view around what it wants for the future of Australia in terms of settlement? Does it want to see more people settling in Adelaide where the infrastructure capacity can probably sustain a bit more growth and the economics of Adelaide would be probably very welcoming? Should we be looking at incentivising growth to go into those locations? I don’t have that.⁵¹

- 11.48 He observed that it was ‘the same as leaving a local government to do the planning without state-level regional plans or district plans. Local councils by themselves can’t do it if they don’t understand the context within which they’re doing their planning.’⁵²

- 11.49 Professor Sue Holliday was ‘a great believer in collaborative planning rather than individual planning’. While aware that ‘there has always been the sort of tension between state and local and then the tension between commonwealth and state and local’, she thought that ‘it is something that definitely state and local should be working collaboratively on’. She saw the need for ‘a national overview of where we are going’, and that was a role for the Commonwealth. While not advocating direct land-use planning by the Commonwealth, she observed that ‘the Commonwealth has responsibility for the economy, for roads, for health, for immigration—for everything that impacts cities—and we should be working collaboratively together with the states and the territories in order to get that overview’.⁵³

⁵⁰ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 38.

⁵¹ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 38.

⁵² Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 38.

⁵³ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 26.

Capacity building

11.50 The capacity of governments to develop and implement comprehensive, integrated planning regimes has been questioned in the evidence presented to the Committee. In particular, the concerns have been raised about the capabilities of local government, but the capabilities of the State and Federal governments have questioned too. Professor Peter Newton noted that local government was 'in the front line in this urban change intensification, but their capacity to respond is not where it needs to be'. He referenced the vertical fiscal imbalance and the 'lack of vertical integration between state and [local] governments'.⁵⁴ He observed that 'apart from your capital city municipalities and a small number of others, most really struggle to do significant strategic planning and to have methods of engaging with entire municipalities to convey ideas about where we think this municipality needs to change'. His own research term was active in promoting new ideas and building capacity at local government level, but 'there is just not the resourcing to do that with all of the municipalities within a city. So, the question then is: is there a training program that needs to be attached to some of these projects that will allow you to roll that out in an effective way?' then there was the question of the political reaction to urban renewal:

You always have a distribution of leaders, fast followers and those that lag. The challenge in all of these areas is to see if you can move up that curve. We have chosen to work with municipalities that kind of 'get it' in terms of this jump. It is an area that potentially could have something of a backlash within local government, because most councillors go to elections with words such as, 'We will prevent overdevelopment and we will protect neighbourhood character.' Those who like to slap down this intervention/research will say, 'You're attempting to provide development above the current level.' If well designed, with renewable energy, water harvesting and all of the things that make life more liveable, if you can assemble a precinct you can begin to redirect the amount of space given over to community as distinct from cars.⁵⁵

11.51 Mr Allan Garcia, Chief Executive Officer of Infrastructure Tasmania, highlighted the disparity in resources between the larger and smaller State jurisdictions and the capability gaps that existed in the smaller States:

⁵⁴ Professor Peter Newton, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, p. 18.

⁵⁵ Professor Peter Newton, Research Professor in Sustainable Urbanism, Centre for Urban Transitions, Swinburne University of Technology, *Committee Hansard*, 29 August 2017, p. 19.

I suppose in a small jurisdiction, it's a matter of the capacity to not only take that information but to do the analysis and do the work. While there's a pointer at planning, I suppose it's in the broader context of the skill base and the analytics and the capability to get all that right. You do need some scale to do that. Through my office we are moving towards an improved circumstance. This is not a plug for my area, but in general terms in Tasmania, the lack of those higher-level resources and integration probably confines us to doing things at a certain pace and level.⁵⁶

11.52 Ms Megan Motto, Chief Executive Officer of Consult Australia, highlighted capacity building within government as critical. She stated:

We absolutely need the capacity to be able to plan and design these cities. We have seen an unfortunate decline, for example, in people in stem areas who are able to become the engineers and planners and architects of the future and we need to reinvest in those skill sets. We need to reinvest in the training of those people, but we also need to reinvest in them being engaged in the process. For example, we used to have very informed government agencies that made some of these building and infrastructure and construction decisions. We now have seen a gutting of those agencies, as the private sector has now become the contingent workforce of the public sector in delivering public utility. What that means is that we have less informed clients who don't, in fact, know what they're trying to purchase. So we need to build capacity, both on the private sector delivery side but also on the client side, the government side, so that the government is an informed and model client as much as it purports to be a model litigant. We need to be making sure that we are building that capacity.⁵⁷

11.53 She also argued that 'as technology exponentially changes the face of our cities, we need to build capacity in the way that we respond to those technological challenges'. She stated:

We need to understand and respond to those both from an implementation perspective—understanding what technologies to invest in and how to implement them in complex systems in the most useful ways—but, very importantly, from government's perspective. We also need to understand how

⁵⁶ Mr Allan Garcia, Chief Executive Officer, Infrastructure Tasmania, *Committee Hansard*, 12 April 2018, p. 2.

⁵⁷ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 13.

we might need to change regulatory systems so that we're embracing new technologies and innovation and not being stuck in the ways of the past.⁵⁸

- 11.54 Several commentators highlighted the role of the Australian Government in increasing capabilities at the local level to support innovation. Mr Tim Williams, Chief Executive Officer of the Committee for Sydney stated:

I think one of the big roles for the federal government in the smart cities space is information sharing and best practice sharing. We have almost got to cut the gap by somebody stepping in and saying, 'By the way, many of the things that you want to do have been done in Boston and Chicago and all we need to do is take a bit of that off the shelf'. I feel as though there is not enough sharing of best practice. Within Australia—and I am sure there are, by the way—I don't know enough of which cities and which places are innovating. I would really like the federal cities and smart cities unit to do a bit more knowledge sharing so you lessen that knowledge gap. A few years ago I was working in Coffs Harbour with SMEs in terms of sharing knowledge about what the internet could do. I was very primitive in my own knowledge, really. I was struck by the fact that quite a lot of knowledge can go a long way. I think somebody should be providing the kind of approach of 'here are the 20 interesting things going on out there'. It is simple and cheap and I think we should do it.⁵⁹

- 11.55 Cr Neil Meiklejohn, representing Southern Downs Regional Council, suggested that 'more-targeted funding' to local government 'would be helpful':

... because the difficulty is that the capacity in those smaller rural and regional communities, like the Southern Downs, is much more difficult, where we are funding the infrastructure and economic opportunities from a much smaller rate base. That is a significant issue.⁶⁰

- 11.56 Professor Jago Dodson, Director of the Centre for Urban Research at RMIT University, believed the Australian Government had 'a role in enabling and improving the capacity of state and local governments to undertake city planning through to governmental collaboration'. He also highlighted the 'vertical fiscal imbalance, which is endemic to Australia's constitutional

⁵⁸ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 13.

⁵⁹ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 45–6.

⁶⁰ Cr Neil Meiklejohn, Southern Downs Regional Council, *Committee Hansard*, 29 September 2017, p. 33.

relationships and arrangements in the sense that the states have at least formal constitutional responsibility for spatial planning, urban planning within their roles, yet they have relatively weak taxation powers compared to the federal government'. He also noted the Australian Government's 'significant influence on urban development through its various instruments and responsibilities, particularly immigration, for example'. He highlighted the fact that there 'is necessarily a tension between the responsibilities of the state governments and their capacity to meet those responsibilities certainly when it comes to fiscal issues'. Professor Dodson also advocated 'improved research capacity building within Australia'. He noted that 'we do not currently have any systematic nationally organised mechanism for drawing on the capability, knowledge and resources of our universities. We have a substantial capability within the universities, but that is not harnessed to respond to federal government priorities in a systematic way at the moment.'⁶¹

- 11.57 However, Professor Dodson also highlighted the need 'to develop institutional capacity, to develop capability within the federal government that is able to lead a national agenda for city planning'. He stated:

Under the previous Labor government some capacity was developed. That was downgraded—if that is the way to put it—under the first term of the present government. When Prime Minister Turnbull decided to elevate city planning and cities policy to a higher level within his priorities there was a big scramble within the federal public service to figure out how to develop capacity in a very short time frame to respond to that new agenda setting, and I think we are still probably not at the point where we have systematic, coherent policy development across the public service, so that is something that the federal government needs to think through.⁶²

- 11.58 Professor Dodson urged the development of 'a national agenda setting program within the federal government'; and while supportive of the Smart Cities policy, thought it 'more of a program than a systematic national policy'. He thought it 'tends to target specific interventions rather than having a systemic view of the way our cities are developing' and was 'very much focused on productivity and digital transformation'. He argued for

⁶¹ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 11.

⁶² Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 10.

‘cross-portfolio coordination to help develop that national planning agenda’. He suggested that this mirrors ‘challenges in the housing policy portfolio’:

I have recently produced a report for the Australian Housing and Urban Research Institute that argues that national housing stock is worth \$6 trillion, yet we do not have a dedicated identified policy development capacity within our federal government to specifically focus on how we manage that huge national asset. The responsibility for housing across all the different parts of the housing system is split between Treasury and the Department of Human Services. Plus, there are other parts of housing policy that are influenced within the ATO, the Reserve Bank and so on through their responsibilities.⁶³

11.59 Current capacity building initiatives being undertaken by the Australian Government include the Smart Cities and Suburbs Program and Future Ready. The Smart Cities and Suburbs Program involves competitive grants designed to ‘unlock public and private sector co-investment and collaboration in smart technology projects that improve the liveability, productivity and sustainability of Australian cities, suburbs and towns’. The grants, ranging between \$100 000 and \$5 million, are designed to ‘fund up to 50 per cent of project costs, supporting small to large scale initiatives delivered in metropolitan and regional urban centres’. Future Ready is designed to complement the program, ‘delivering structured smart technology capability development opportunities nationally’. Its purpose is to ‘help local government leaders and their communities prepare for smart city transformations through co-learning and collaboration with the public, private and civil sectors’. The Department of the Prime Minister and Cabinet noted that ‘almost 550 participants from across the country had engaged in Future Ready activities’ by the end of June 2017, with events due to run until September 2017.⁶⁴

11.60 Mr Adam Beck, Executive Director of the Smart Cities Council Australia New Zealand, was directly involved in the delivery of Future Ready. He told the Committee:

I had the opportunity to facilitate a one-hour webinar as part of that Future Ready program. We had more than 120 people on the webinar when we were discussing the Internet of Things. So there are some very basic, tangible, federally-led, capacity-building programs where can help unlock innovation.

⁶³ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 10.

⁶⁴ Department of the Prime Minister and Cabinet, *Submission 95*, p. 11.

Another example, very tangible: last Friday, I was in Perth and I ran a half-day masterclass with 29 local authorities in Western Australia. I spent four hours with them and they left the room fundamentally understanding what the Smart Cities agenda and idea is and how it can help their cities. They have three simple steps to move forward and build a road map or a pathway. So in four hours we were able to fundamentally build the capacity of almost a third of local governments in Western Australia. So there are some very tangible, easy and very cheap ways in which we can build capacity in this area.⁶⁵

National direction

11.61 The need for new governance arrangements was raised by a number of stakeholders. Professor Billie Giles-Corti, from RMIT, argued for a ‘transformation in the governance of cities’, suggesting coordination through COAG of evidence based policy.⁶⁶ The Inner Melbourne Planning Alliance urged the creation of:

- A COAG Cities & Urban Development Ministerial Council involving representation by state and territory treasurers and planning ministers, and local government.
- A Cities & Urban Development NGO Roundtable to ensure business and community groups have a direct voice to government on issues involving our cities.
- A Commonwealth Department of Cities & Urban Development tasked with developing and co-ordinating policy which involves urban outcomes.⁶⁷

11.62 The Planning Institute of Australia (PIA) recommended the appointment of ‘a “National Chief Planning Officer” to be administratively placed within the Prime Minister’s portfolio—whose roles would include coordination of the policy evaluation and national settlement strategy preparation’. This would ‘strengthen the coordination and alignment of Cities policy issues’.⁶⁸ Mr Brendan Nelson, President of the PIA, argued for the elevation of the

⁶⁵ Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 22.

⁶⁶ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 39.

⁶⁷ Inner Melbourne Planning Alliance, *Submission 123*, pp. 7–8.

⁶⁸ Planning Institute of Australia, *Submission 136*, p. 5.

cities minister to cabinet, for ministerial responsibility for cities to reside within the Department of the Prime Minister and Cabinet, and for the national chief planner to 'report to this ministerial portfolio office' and provide 'very strong advice in relation to strategic planning and really focus in on some of the issues that we've raised around the importance of strategic planning for the future'.⁶⁹ Mr Nelson saw the national chief planner supporting COAG's Standing Council on Transport and Infrastructure (SCOTI) 'making sure that that group was effective and that we weren't reinventing the wheel in every state and territory'. He also saw the role having 'responsibility in putting the strategic lens over investment decisions by the Commonwealth, particularly through large-scale infrastructure projects, and bring a level of realism to it beyond just the BCR and what the strategic imperative of this investment to the future of the country is'. He emphasised, however, that this was 'not about taking over planning functions or powers from each of the states':

They have very clear and delineated powers in relation to planning. But what I would say is that if anyone has sat down and had a look at all of the strategic planning that has been done around the country none of it matches up. I can't see a place where the strategic plans actually join up at jurisdictional boundaries. I can't see where infrastructure decisions are being aligned beyond jurisdictional boundaries. When I go to the wish list of IA, and see all of those projects in there, I don't see enough of a strategic lens to say, 'This is something that's going to be in the best interests of Australia long term.'⁷⁰

- 11.63 Ms Pru Sanderson, Regional City Executive for Roads Australia, advocated for the appointment of 'a minister for cities and urban development', and 'a chief city strategist', because urban planning was 'about long-term strategy'. 'Long term,' she stated, 'it's about strategic mobility, climate, where population goes, autonomous vehicles, capability in urban regeneration—we're babes in the wood on that: we have to rework our cities and we don't know how to do that—and the smart cities program.'⁷¹

⁶⁹ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, pp. 34–5.

⁷⁰ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 38.

⁷¹ Ms Prudence Sanderson, Regional City Executive, Roads Australia, *Committee Hansard*, 21 November 2017, p. 24.

- 11.64 Professor Jago Dodson, Director of the Centre for Urban Research at RMIT University, argued that the ‘importance of cities to our national productivity, to the national economy, to our society and to our environment is immense’, and

... of a scale now that we need dedicated portfolio capability and an advocate within ideally the cabinet who can represent the interests and questions around cities and work with colleagues in the government to both push an agenda within that specific portfolio frame but also to be a coordinator who pulls in the other portfolios across government, including areas like health, education and so on, to ensure that the federal government is getting the best value from the various forms of investment that it makes through other areas of policy.⁷²

- 11.65 Professor Dodson also noted that ‘we do not have an agency that is dedicated to understanding the housing system. We had a National Housing Supply Council, but that was closed down in 2013.’⁷³

- 11.66 Professor Carolyn Whitzman argued for the appointment of a minister for housing, stating:

It makes sense, from a governance perspective, to have a minister for housing to bring together the various arms of housing which have to do with not just social housing, which would be considered a social service, but also looking into housing as a major ground for innovation and for activities.⁷⁴

- 11.67 Mr Greg Budworth, Group Managing Director of Compass Housing Services, agreed, citing the example of Canada:

They have the same system: federated provinces and limited powers of the national government. They had no power and colleagues like us would say that we’re in the same boat: the federal government says it doesn’t have the power and there is no minister of housing et cetera. Justin Trudeau got elected and was swept into power on a popular vote. He started a national conversation about affordable housing and the housing system. Six or nine months later that national conversation has turned into a housing minister, a

⁷² Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 11.

⁷³ Professor Jago Dodson, Director, Centre for Urban Research, RMIT University, *Committee Hansard*, 29 August 2017, p. 10.

⁷⁴ Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning, the University of Melbourne, *Committee Hansard*, 29 August 2017, p. 46.

housing department and a national plan for housing. I think that's political will and political leadership.⁷⁵

11.68 The Housing Industry Association also recommended the appointment of 'Minister for Housing within Cabinet, with specific responsibility for promoting investment in housing delivery, land supply and improving housing affordability'.⁷⁶

11.69 Professor Stuart White, Director of the Institute for Sustainable Futures at UTS, thought it 'would be great to have that as the chief planner', but suggested that the role 'might be broader than planning, at least the way that that has traditionally been interpreted'. He suggested a national sustainability commissioner:

Planning is often interpreted by people who see it as having a much broader role—obviously it encompasses sustainability. But my sense would be that there's a risk that it could have more of a narrower land-use planning focus, when in fact it really does need to encompass more. So perhaps a national sustainability commissioner, in the sense that some states have experimented at various times with that model and in the sense that the Commonwealth has experimented at various times with, for example, a commission for the future, but perhaps rather stronger and with more longevity.⁷⁷

11.70 Professor White supported creating 'a national role which can be above the fray and, therefore, in principle, reporting to parliament ... one which can look at these issues across departments and across disciplines'.⁷⁸

11.71 Professor Barbara Norman advocated the creation of a Sustainable Development Commission, 'that could provide independent advice to the Parliament, take a longer term view on the needs for sustainable urban growth and provide "an arms-length" forum for discussion by all there levels of government and non-government organization on a more sustainable urban and regional future'.⁷⁹ Professor Norman saw the

⁷⁵ Mr Greg Budworth, Group Managing Director, Compass Housing Services Co. Ltd, *Committee Hansard*, 2 March 2018, p. 46.

⁷⁶ Housing Industry Association, *Submission 85*, p. 3.

⁷⁷ Professor Stuart White, Director, Institute for Sustainable Futures, UTS, *Committee Hansard*, 14 November 2017, p. 26.

⁷⁸ Professor Stuart White, Director, Institute for Sustainable Futures, UTS, *Committee Hansard*, 14 November 2017, p. 26.

⁷⁹ Professor Barbara Norman, *Submission 29*, p. 2.

commission having an ongoing role in the collection, analysis and dissemination of data around settlement planning and development. She also suggested that 'it could be a very useful independent space for multiple parties with different interests to come together around the table to discuss issues of the future'; and that it could 'provide good strategic advice to the parliament based on the data and those conversations for the principles and outcomes of an Australian sustainable development strategy 2030-2050'.⁸⁰ Dr Alice Howe, Executive Manager, External Engagement, with Lake Macquarie City Council, agreed with Professor Norman;⁸¹ as did Mr Anthony Farrell, Director, City Strategy, with Lake Macquarie City Council, who stated:

I think the commission approach is much more sensible. It allows a variety of perspectives to be brought to the table. It facilitates potential links back into the key stakeholders, whether they be governments or industry sectors or whatever. And it is more likely to deliver a sustainable solution. I think a national chief planner or chief strategist is simply going to be either somebody who survives on the cult of personality or somebody who becomes the first one out the door every time there's a change of government.⁸²

11.72 Mr Chris Johnson, Chief Executive Officer of Urban Taskforce Australia, thought the idea of a national chief planner 'an interesting concept'. As a former Government Architect in NSW, he saw merit in having an 'advocate with a knowledge-sharing role', but saw a risk in it not having any real power or substance.⁸³ Mr Brendan Lyon, Chief Executive Officer of Infrastructure Partnerships Australia, was concerned that within the context of federation, planning was a state, territory and local government role. He suggested that 'the Commonwealth's role is not so much about planning cities ... and I think that having a federal bureaucrat called a chief planner

⁸⁰ Professor Barbara Norman, *Committee Hansard*, 12 September 2017, p. 5.

⁸¹ Dr Alice Howe, Executive Manager, External Engagement, Lake Macquarie City Council, *Committee Hansard*, 2 March 2018, p. 31.

⁸² Mr Anthony Farrell, Director, City Strategy, Lake Macquarie City Council, *Committee Hansard*, 2 March 2018, p. 31.

⁸³ Mr Chris Johnson, Chief Executive Officer, Urban Taskforce Australia, *Committee Hansard*, 14 November 2017, p. 12.

will only confuse those accountabilities more'.⁸⁴ He suggested focussing the Commonwealth's role in cities on the Productivity Commission:

It is a respected agency; it is there to take work on referral from the Commonwealth. I would ask it to come back with actual measures. What are the first principles of what the Commonwealth wants out of cities? You want them to be efficient, you want them to be able to move skills and goods, you want them to be able to play their proper role in contributing to the national economy, which is where your own revenue base comes from. So I think clarity around roles is really important. I think that the Commonwealth should specify what it needs from cities, which is congestion down, productivity up—these sorts of things—and should design individual measures that can be applied right across that are able to do it. I understand the thrust of what you're saying. I think the more national focus and coordination on the issues that we get, the better. I think if the Commonwealth becomes interventionist in trying to tell state government planning departments where to put hospitals, where to put rail lines, where to put other things, then we're not playing to the strengths and we're not recognising both the expertise and the practical ownership issues of infrastructure at that level.⁸⁵

Committee conclusions

11.73 The evidence presented to the Committee indicates that Australian Government policies already have a significant impact on the development of cities—in effect, that the Australian Government is already operating in the cities' space whether it likes it or not. Whether it is in immigration, taxation, infrastructure, telecommunications and digital technology, or a host of other policy areas, the Commonwealth already plays a critical role in the development of cities. The Committee agrees with the view that this should be more explicitly addressed in the evaluation of Australian Government policy. In addition, the Australian Government is a signatory to important international initiatives around the development of cities—in particular the United Nation's Sustainable Development Goals. This needs to be explicitly acknowledged and acted upon in the development of all cities related policy.

⁸⁴ Mr Brendan Lyon, Chief Executive Officer, Infrastructure Partnerships Australia, *Committee Hansard*, 22 March 2018, p. 6.

⁸⁵ Mr Brendan Lyon, Chief Executive Officer, Infrastructure Partnerships Australia, *Committee Hansard*, 22 March 2018, p. 6.

Recommendation 26

11.74 The Committee recommends that the Australian Government conduct a review of the spatial impact (distribution of population, housing, employment, industry and services) of its policies in areas of federal responsibility.

11.75 The Committee is particularly aware of the link between immigration, population growth and the development of cities. Whether immigration should be at current, higher or lower levels is not a debate the Committee will join. What is clear, however, is that infrastructure provision and urban development needs to be in line with population growth—that there must be a direct link between immigration policy and cities policy. If the two are not in alignment, any investment in urban infrastructure, broadly speaking, will simply be overwhelmed by population growth, leaving planning and infrastructure spending in a permanent state of catch-up. Infrastructure planning should align with the national plan of settlement.

Recommendation 27

11.76 The Committee recommends that the Australian Government ensure that urban and regional infrastructure is developed giving consideration to potential settlement patterns.

11.77 The Australian Government also has an important role in the development of cities by coordinating policy between different jurisdictions and tiers of government, and providing incentives for the implementation of agreed policy. The Committee has already made a number of recommendations for policy action in areas such as urban sustainability (Chapter 5); urban connectivity (Chapter 6); sustainable buildings (Chapter 7); housing (Chapter 8); digital development (Chapter 9); and the pursuit of global best practice (Chapter 10). In addition, the Committee has made a series of recommendations about the pursuit of a more visionary planning policy through the development of a national plan of settlement and establish a regime of integrated, holistic master planning of communities at all levels, from local to national (Chapter 2); the integrated planning of cities (Chapter 3); and the integrated planning of regions including the development of faster connectivity at a national and regional level (Chapter 4). These are all areas where Australian Government leadership can and should be applied.

- 11.78 As already discussed in Chapter 4, the planning of cities and regions cannot be separated. They have one future and must be considered as a whole. Any governance regime should ensure that they have a shared future within a shared vision of national development. It is important, therefore, that they be drawn together within a single planning and development regime. The Committee believes that the development of cities and regions requires a sustained long-term involvement by the Commonwealth in planning policy. The development of cities and regions also requires a long-term bipartisan vision, one encapsulated in a national plan of settlement. There must be collaboration between and within different levels of government. There must be the development and coordination of resources to ensure that each level of government has, or has access to, the necessary level of expertise to play its part in the planning and development of our cities and regions.
- 11.79 To achieve this, the Committee proposes a governance framework that brings together a range of responsibilities to create a sustained, coordinated and holistic outcome. The Committee recommends the creation of a Minister for Cities and National Settlement, with a place in Cabinet, to coordinate cities policy within government and have oversight of the development of the national plan of settlement. The Committee further recommends the creation of the statutory Office of a National Chief Planner, whose role would be to provide independent expert advice on urban and regional planning and development. This office would incorporate Infrastructure Australia and the Infrastructure and Project Financing Agency. The Committee proposes the creation of a COAG Cities & Regional Development Ministerial Council to provide coordination of policy related to the development of cities and regional development and input into the national plan of settlement. The final element of the governance framework is a Cities & Regional Development NGO Roundtable to ensure business and community groups have a direct voice to government on issues involving our cities and regions, including input into the national plan of settlement.
- 11.80 Within this context, current policies under the *Smart Cities Plan* should be continued, but within the context of the development of a comprehensive national plan of settlement.

Recommendation 28

11.81 The Committee recommends that the Australian Government, in pursuit of a sustained, coordinated, holistic vision for the development of Australia's cities and regions, create:

- **A Minister for Cities and National Settlement with a place in Cabinet, with responsibility, amongst other things, for the oversight of a national plan of settlement and housing;**
- **The statutory Office of a National Chief Planner, incorporating Infrastructure Australia and the Infrastructure and Project Financing Agency, to provide independent expert advice on urban and regional planning and development;**
- **A COAG Cities & Regional Development Ministerial Council involving representation by state and territory treasurers, housing ministers and planning ministers, and local government; and**
- **A Cities & Regional Development NGO Roundtable to ensure business and community groups have a direct voice to government on issues involving our cities and regions.**

12. Role of the Commonwealth (2)

Government programs

- 12.1 Where the previous chapter examined the role of the Commonwealth in developing a policy framework, this chapter looks at a range of Commonwealth government programs which have or could contribute to the development of sustainable cities. The chapter begins with a brief overview of the Building Better Cities Program, widely regarded as a great success and a template for future action, before exploring the potential of the current City Deals program to promote the coordinated planning and development of cities and regions. The chapter will then explore the issue of metropolitan governance—creating a governance mechanism that operates at a whole-of-city level, before exploring the use of tax incentives and grants to promote sustainable development.

Building Better Cities

- 12.2 The Building Better Cities program of the late 1980s/early 1990s was cited as an example of effective Commonwealth intervention in urban planning and development. Mr Warren Rowe, Planner in Residence at the University of Queensland, observed that:

It was the Hawke-Keating government. It was probably the last time that the federal government took a very active and direct interest in the development of cities. It was a federal program that had a sum of money that was allocated to projects around Australia. It was distributed quite broadly. Queensland's share of the pie was about \$180 million. I think we had about six or seven

projects, but two of the major projects were the re-establishment of the Gold Coast railway line. So what you see there is the direct result of that program.

The other, I think, successful sort of intervention was the reconstruction of a very large sewer main that runs from central Brisbane out to the major treatment plant at the mouth of the Brisbane River. In effect, what that did was open up the inner north-eastern suburbs, the urban renewable area, which I think is arguably one of the most successful urban renewal projects done in Australia. So you had two very significant projects, but I think it was actually the way in which the program operated.¹

- 12.3 Mr Rowe noted that the projects were not entirely federally funded—the Commonwealth provided seed funding and other partners contributed, including the private sector, with the participants involved in joint planning exercises to meet agreed outcomes. Mr Rowe thought it ‘quite a successful program’:

As I said, the proof of the Commonwealth’s involvement in something like that is: we may have got the railway line but we may not have got it in the time frame that was actually provided. I couldn’t imagine that corridor existing now without that railway line.²

- 12.4 Ms Jen Williams, Deputy Queensland Executive Director for the Property Council of Australia, tabled a report done by the Property Council tracing the legacy of two projects done under the Building Better Cities program. She explained:

It’s a case study of the Brisbane-Teneriffe renewal as well as Honeysuckle in New South Wales. As Mr Rowe was saying, that was a \$90 million project that the feds put about \$30 million into. The key piece of infrastructure was a \$22 million sewer line, which is a very unsexy piece of infrastructure but actually managed to unlock, at our last count, \$5.3 billion in private-sector investment.³

- 12.5 Dr Marcus Spiller, Principal and Partner with, SGS Economics & Planning Pty Ltd, worked on the Building Better Cities program in the early 1990s. He

¹ Mr Warren Rowe, Planner in Residence, University of Queensland, *Committee Hansard*, 29 September 2017, p. 12.

² Mr Warren Rowe, Planner in Residence, University of Queensland, *Committee Hansard*, 29 September 2017, p. 12.

³ Ms Jen Williams, Deputy Queensland Executive Director, Property Council of Australia, *Committee Hansard*, 29 September 2017, p. 12.

observed that 'Building Better Cities was very well received in most quarters:

There are a couple of reasons for that. One is it was an outcomes-focused and respectful program of the states in the sense that it was based on the states proposing an area strategy with certain outcomes to be achieved that could be measured and then the Commonwealth came across in a similar way to a productivity dividend saying, 'We'll tip in a certain amount of money', but in an untied fashion. I think this was very well received by the states because they were accountable for the outcomes but were not being told directly by the Commonwealth what things to build, what things to put where and what infrastructure was needed. So, in the subsidiarity sense, it respected a very important principle that the Commonwealth is entitled to use its resources, as I have mentioned, to nudge other jurisdictions towards achieving national objectives but it has recognised that the states in that case—and I would now say a metropolitan government would have done the job better—could be put in a better position to identify how to get best value out of those resources and make things happen on the ground. It was flexible and respectful in that sense. They were the pros of it.⁴

12.6 Dr Spiller observed, however, that the program also had its shortcomings—chiefly that it was too small:

The cons of it were that it was not really part of that government's base load agenda. That government's base load agenda was microeconomic reform, deregulation and freeing up markets. The Building Better Cities program was, in a sense, a little hobby program on the side. It is perhaps a bit harsh to say that but it was not big enough, which I suppose is what I am saying. It was not embraced as a base load program to transform the nation like those other microeconomic reform programs were, which changed the nation as well. So, if there is a criticism to be made, it should have been bigger and could have been bigger.⁵

12.7 Dr Spiller highlighted the success of the Program in the case of the Ultimo-Pymont development in inner Sydney:

Another example that I like to quote in other forums on a different issue is Ultimo-Pymont in Sydney, which again was a monte for regeneration but could have been regenerated in a less desirable way than it has been. One of

⁴ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 4.

⁵ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 4.

the great achievements of Ultimo-Pyrmont is that affordable housing is hardwired into the regeneration process, so when the Building Better Cities program for that area was negotiated the Commonwealth insisted on having a certain percentage of affordable housing embedded in it and negotiated.⁶

City Deals/Regional Deals

- 12.8 City Deals are a key part of the Australian Government's Smart City policy framework. A City Deal involves 'shared vision across the three levels of government centred on unlocking economic potential in a city'. Governments must 'work together to customise their approach to the unique opportunities of the city, drawing on innovative financing and funding arrangements to provide transformative investment'. Institutional reforms and investments 'may also be needed to create the whole-of-city capacity and governance arrangements necessary to sustain and build on the improvements under the City Deal'.⁷
- 12.9 The success of City Deals depends on three conditions:
- all jurisdictions must be willing and able to negotiate and deliver an ambitious City Deal;
 - there must be real opportunities to unlock economic potential and transform the city; and
 - City Deals should leverage government investment in the pursuit of the six Smart Cities Policy Priorities.⁸
- 12.10 The Australian Government plans to deliver City Deals in larger cities across Australia over coming years. It has 'committed to negotiating City Deals for all state and territory capital cities, where partner governments are willing', noting that there 'has been strong interest in City Deals from state and local governments across Australia'. It notes, however, that, 'developing and implementing a City Deal is complex and resource intensive. The Commonwealth is only able to meaningfully progress a few City Deals at a time and must therefore be highly selective in choosing locations'.⁹

⁶ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 4.

⁷ Department of the Prime Minister and the Cabinet, *Submission 95*, p. 8.

⁸ Department of the Prime Minister and the Cabinet, *Submission 95*, p. 9.

⁹ Department of the Prime Minister and the Cabinet, *Submission 95*, p. 8.

12.11 At the time of writing two City Deals had been completed—for Townsville and Launceston. The key features of the Townsville City Deal were:

- A Development Corporation for Townsville, to deliver urban renewal and drive further investment across the city
- The North Queensland Stadium, to revitalise the waterfront and CBD, as well as create design and construction jobs
- Establishment of an Industrial Development Board and acceleration of development within the State Development Area, to attract more investment, industry, freight and port-related businesses to Townsville.¹⁰

12.12 The key features of the Launceston City Deal were:

- support the relocation of Launceston's university campus closer to the city centre
- revitalise the historic CBD and the city's northern suburbs, and
- improve the health of the Tamar Estuary.¹¹

12.13 A City Deal for Hobart was announced in January 2018, but without funding attached.¹²

12.14 In addition, a City Deal for Western Sydney was under negotiation. This will involve 'collaboration between the Commonwealth, state government and 8 local councils to build on the investment of a new airport—focusing on jobs and skills for the region, planning, infrastructure investment and housing affordability.'¹³

12.15 City Deals were widely welcomed in the evidence presented to the Committee. The Committee for Sydney noted that while the concept of the City Deal was new to Australia it had been working in the United Kingdom for a number of years. The Committee for Sydney believed that City Deals were 'highly relevant to Australia as they encourage strategic alignment and funding commitments between the Federal and City governments and indeed local councils'. It noted that in its translation to Australia 'the City Deal concept has kept most of its strengths and is being adapted to Australia

¹⁰ Department of the Prime Minister and the Cabinet, *Submission 95*, p. 8.

¹¹ Department of the Prime Minister and the Cabinet, *Submission 95*, p. 8.

¹² <<http://www.abc.net.au/news/2018-01-16/turnbull-in-tasmania-for-city-deal-sign-off/9331230>> viewed 16 January 2018.

¹³ Department of the Prime Minister and the Cabinet, *Submission 95*, p. 8.

conditions'. It suggested that 'in the complex constitutional environment of Australian Cities ... City Deals are perhaps more important as they enable collaboration between tiers on specific city objectives as never before without the need for frankly unlikely constitutional changes'. The Committee for Sydney noted that in the development of the Western Sydney City Deal 'there are positive signs that the transport infrastructure decision-making process is different to the current one which essentially is based on siloed departmental decision-making based on highly challengeable evidence and very narrowly focussed on travel time reduction'. There were also indications that the City Deal discussions were 'based on the GSC's emerging Plan for Sydney and properly involve a balanced consideration of the multi-modal infrastructure needs of servicing the new airport and of better connecting the area's communities with jobs and services'.¹⁴

- 12.16 Mr John Wynne, National Director of Planning for Urbis Pty Ltd, thought that the City Deals framework 'represents great hope for what we could achieve in Australia if we have a more federal, top-down approach to some of the big strategic planning issues in this country'. He noted that in western Sydney, the City Deals framework was engaging all levels of government and the private sector 'in thinking about the future of not just this airport but what it means for Sydney and what it means for Australia. Some of the most exciting strategic work has come out around that catalyst.' He noted that 'there are now volumes of thinking and a great amount of data and debate going on about how this can transform the city and then how it can transform Australia'.¹⁵
- 12.17 Mr Adam Beck, Executive Director of the Smart Cities Council Australia New Zealand, was more circumspect in his analysis, noting that 'the ink is still a bit wet on City Deals. We're six month into it. We've never done City Deals before. We've never really done Smart Cities before.' He believed that City Deals were potentially 'a backbone mechanism for accelerating so many of the other programs, plans and policies that we have', while at the same time urging that we do not move too fast to scale and replicate early

¹⁴ Committee for Sydney, *Submission 88*, pp.24–5.

¹⁵ Mr John Wynne, National Director of Planning, Urbis Pty Ltd, *Committee Hansard*, 14 November 2017, pp. 37.

successes. He also urged engagement with the private sector through industry advisory committees.¹⁶

The City Deals process, from what I understand, has no industry committee, no outside support. There are consultants and a lot of work being done but we don't have the luxury to work this out ourselves. Working it out together, in collaboration, is the only model, I believe. ... Getting non-government stakeholders together to help work through and sort out some of these challenges is a fundamental 'must' and I don't believe we do enough of it.¹⁷

- 12.18 Mr Beck was also concerned about the speed with which City Deals were being established and the lack of access to the scheme for all the potentially eligible cities and regions. Mr Beck told the Committee:

I was at a conference this morning in Brisbane — Urbanity 2017 — and I've just come out of a panel on City Deals. A question was raised to the panel. We currently have three City Deals in Australia — Townsville, Launceston and Western Sydney — and the Prime Minister wants one in each capital city, in the near term. But the comment came that we don't have the capacity to do that. We don't have capacity to get one in every city because the Department of the Prime Minister and Cabinet don't have enough resources.¹⁸

- 12.19 Professor Paul Burton, Director of the Cities Research Institute at Griffith University, observed that the City Deals model being applied in Australia was no longer the same as that being applied in the UK, in a different constitutional environment. He found it 'quite interesting that there are staunch advocates for that model in Australia, despite the fact that it's been, essentially, dropped and modified substantially in its country of origin'.¹⁹ Similarly, Mr Ben Rimmer, CEO of the City of Melbourne, observed that the concept of the City Deal being applied in Australia was different from that being applied in the UK:

We have borrowed the language from the UK about City Deals but unfortunately we have not borrowed the funding mechanism. The funding

¹⁶ Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 28.

¹⁷ Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 23.

¹⁸ Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 22.

¹⁹ Professor Paul Burton, Director, Cities Research Institute, Griffith University, *Committee Hansard*, 29 September 2017, p. 6.

mechanism in the UK involved other partners in growth and development sharing some of the economic upside of that growth and development so that they had an incentive to invest, an incentive to align together and an incentive to work together to produce nationally significant outcomes.²⁰

12.20 He noted that ‘the Australian version of City Deals does not really involve new money and has not really involved Commonwealth Treasury countenancing the idea that some of the upside in terms of tax receipts and economic growth could be shared with people who are generating that growth’.²¹

12.21 The Council of Capital City Lord Mayors suggested that ‘the City Deals process (and other programs developed by various Australian Government in the past 20 years) whilst potentially powerful in the areas they are being deployed, are far too selective and specific and possibly too cumbersome to enable the agility required to take advantage of opportunities’. The CCCLM sought a more agile and comprehensive policy framework around cities:

For example, agglomeration benefits of linked clustered development have long been recognised overseas as generating significant productivity benefits to cities, but in Australia there has been virtually no spatial innovation policy which results in reduced productivity outcomes for Federal and State/Territory governments from Australian cities. There is a clear leadership role the Australian government could take that achieves significant economic gains both locally and nationally.²²

12.22 Dr Spiller was also sceptical of the value of City Deals, stating that City Deals were:

... very much, in a sense, inspired by the UK City Deals which is premised on this idea of, ‘You guys hold the lead at the microeconomic productivity end of the spectrum. We hold the fiscal power. We’ll share the productivity dividend, the tax dividend, from you deploying those levers in a more efficient way’, so it makes a hell of a lot of sense. I would have a few criticisms. One of them is that the City Deals, with the way that it is being rolled out today, it seems to have been focused even more narrowly than the Building Better Cities program so it becomes very focused on individual projects in places like

²⁰ Mr Ben Rimmer , Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 50

²¹ Mr Ben Rimmer , Chief Executive Officer, City of Melbourne, *Committee Hansard*, 29 August 2017, p. 50.

²² Council of Capital City Lord Mayors, *Submission 103*, pp. 7–8.

Townsville or something like that which I think is getting perilously close to the Commonwealth picking individual project winners rather than facilitating structural change.²³

- 12.23 Other evidence presented to the Committee highlighted the desirability of linking City Deals to other policy frameworks and objectives. For example, the Australian Sustainable Built Environment Council (ASBEC) urged using City Deals to promote better sustainability outcomes, stating:

ASBEC supports the Australian Government's Smart Cities Plan, the intergovernmental collaboration facilitated through City Deals, and the commitment to measuring performance through the National Cities Performance Framework. Ongoing consultation on the delivery of this policy with industry through the Cities Reference Group should see ongoing improvements in the identification of appropriate indicators, metrics and supporting data that provides a comprehensive view of the success of our cities. This in turn should be seen as a vital evidence base to support policy development and solutions across governments and portfolios.²⁴

- 12.24 ASBEC believed that it was 'important that the connection between those indicators measuring performance of our cities through the Framework are clearly linked to the delivery of City Deals and the outcomes sought through the Smart Cities Plan'. It argued that the 'Australian Government is in a unique position to drive better outcomes through its own investments in infrastructure projects that underpin these deals', and that the 'opportunities should not be lost to use City Deals to negotiate ambitious objectives and outcomes that are contingent on these infrastructure investments'. ASBEC believed that 'these outcomes should help drive both the sustainable transition sought for our existing cities, and help grow new regional cities and towns'.²⁵

- 12.25 The Green Building Council of Australia (GBCA) supported explicitly linking City Deals with the National Cities Performance Framework, stating that 'a more comprehensive framework would create an opportunity to more explicitly inform the design of City Deals, and create a direct connection between the performance of a city, and the projects and

²³ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 4.

²⁴ Australian Sustainable Built Environment Council, *Submission 111*, p. 2.

²⁵ Australian Sustainable Built Environment Council, *Submission 111*, p. 2.

investments that help improve that performance against targeted policy priorities over time.²⁶

- 12.26 Other evidence focused on broadening the concept of city deals to encompass the regions. Dr Marcus Spiller, Principal and Partner at SGS Economics & Planning, suggested that you could ‘have regional deals that do a similar thing’ to City Deals;²⁷ while Mr Jack Archer, Chief Executive Officer of the Regional Australia Institute, agreed ‘absolutely’ that City Deals could be regional deals. He cited the example of the Shipwreck Coast on the Great Ocean Road as an example of where coordinated governance could liberate investment in regional Australia:

The example of a regional deal at the moment is the discussion around the Great Ocean Road. Now the Shipwreck Coast plan has got a cost/benefit of six to one—enormous potential benefits there. Yes, they need some more infrastructure. But I was talking to somebody the other night, and there were 27 approvals processes that they’ve had to go through to put a development on the Great Ocean Road, because of all the different interested government agencies, and there’s also very fragmented investment in the tourism opportunity there. So I think there’s a really important deal discussion around, saying: fix the governance; there is private sector investment wanting to come in and put investment into new tourism offers.²⁸

- 12.27 Ms Rachael Sweeney, representing Regional Capitals Australia, argued that their 51 regional capitals ‘should be moved into the cities portfolio and be eligible for a City Deal’.²⁹ She argued that

... if we had a City Deals policy where regional cities were considered to be critically important— not only from a service point of view but, as you can see throughout our submission, in relation to the growing economic importance of these regional cities as well—you could start, we hope, to develop policies where you can start to close the gap on that service and accessibility issue.³⁰

²⁶ Green Building Council of Australia, *Submission 99*, p. 8.

²⁷ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 3.

²⁸ Mr Jack Archer, Chief Executive Officer, Regional Australia Institute, *Committee Hansard*, 17 October 2017, p. 6.

²⁹ Ms Rachael Sweeney, Secretariat, Regional Capitals Australia, *Committee Hansard*, 21 November 2017, p. 7.

³⁰ Ms Rachael Sweeney, Secretariat, Regional Capitals Australia, *Committee Hansard*, 21 November 2017, p. 4.

- 12.28 Mr Bill Mithen, Chair of the G21 Geelong Region Alliance, also advocated a regional focus for City Deals. He stated:

We do have a position on the city deal. Uniformly, we've advocated strongly across the region for a city deal for Geelong and the region—the G21 region—based on the visitor economy. There has been a lot of negotiation with the state government. In fact, MOUs have been signed between the state government and the City of Greater Geelong, and I believe the other local government areas that are involved in the Great Ocean Road have a number of projects already identified that would be worthwhile being in the city deal. Equally, we've also identified within that city deal that it needs to prosper the whole region. Going back to what I talked about before, areas of disadvantage would need to be improved. We've looked at a city deal very much like that: as a deal. It's an all-encompassing deal and a strategic deal. It's not just about trying to get our hands on lots of money; it's about integrating it across the region, looking at where our competitive advantages are within the visitor economy and ensuring that the whole region prospers. City deals are really important to this region and this city.³¹

- 12.29 Cr Samantha McIntosh, Mayor of Ballarat, made a similar point about City Deals with a regional focus. She stated:

Talking about City Deals, it is really important that we look at each of the cities individually. Obviously, we all have our own personalities and our own unique gifts to offer. Ballarat connects with the Central Highlands and up to the northern Grampians. There has recently been significant commitment to the wind farms and the nectar farm, where there is a need for jobs. That is the opposite of Ballarat; we are trying to attract big government departments to bring jobs. We need to work with those regions as much as they need to work with us. When we are looking at City Deals, the big projects that we have been focusing on as a great way forward for Ballarat actually support the regions. And I know that the work they are doing with those particular recent successful bids and the delivery we will see over the next year or so will mean they need people coming to the regions. That's not going to happen unless Ballarat, the regional city, has the strength and connectivity to metro and to the regions. So it is a both-way connection. It's not just rail; it's road and it's also air. We have spent a lot of time developing our Ballarat West employment zone, which is absolutely about strengthening the regions. It is about our ability to attract the produce—we need their food—and the business is great both ways. But it goes to the metro centres and it should be going further. So that accessibility and connectivity—whether it be road, rail or freight—is

³¹ Mr Bill Mithen, Chair, G21 Geelong Region Alliance, *Committee Hansard*, 20 November 2017, pp. 12–13.

really important. Sometimes in the regional areas those facilities have absolutely been left way behind. So I think the City Deals approach is a great one—a very important one to be personalised to each of those regional cities and how they connect with their neighbouring communities, not just the metro centre but, in our case, throughout the broader region.³²

- 12.30 In its recent report, the House Select Committee on Regional Development and Decentralisation expressly recommended that ‘the Federal Government’s City Deals program should be extended to provide development and opportunity to cities, towns and regional communities.’³³ The Committee supports the recommendation.

Committee conclusions

- 12.31 The Committee is conscious that the Commonwealth’s interventions in the area of cities policy have been intermittent, without any sustained policy development or implementation. This has led to positive outcomes while programs are in place and being actively pursued, as under the Building Better Cities program. In some ways, however, the very success of such programs highlights the Commonwealth’s regular absence from cities policy.
- 12.32 The Australian Government’s City Deals program represents a new intervention. The City Deals program has excited much interest, but with so far limited results. The Committee has heard concerns that the Australian version of City Deals is a simplified version of the UK model, lacking the level of engagement with business and local communities to leverage private sector investment in the way the UK model purports to do. Nonetheless, City Deals has great potential to provide sustained and coordinated development once it has achieved a level of scale. The Committee is of the view that a strong bipartisan commitment to the City Deal concept, the development of more sophisticated interactions between the various levels of government and the private sector (including implementing more sophisticated funding methods such as value capture), and the extension of the City Deals concept to the regions in the form of Regional Deals, will provide a meaningful and sustainable mechanism for promoting urban and regional development across Australia. This will entail a significant and

³² Cr Samantha McIntosh, Mayor, City of Ballarat, *Committee Hansard*, 21 November 2017, p. 7.

³³ House Select Committee on Regional Development and Decentralisation, *Regions at the Ready: Investing in Australia’s Future*, June 2018, p. 132.

sustained increase in the resources available at the Commonwealth level for the development and implementation of City Deals. An implementation rate of only one or two per year, focussed on the funding of individual infrastructure projects, is unlikely to provide the sort of transformation required to meet the future development needs of our cities and regions.

Recommendation 29

- 12.33 The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement, provide funding and resources for a significant acceleration of the City Deals program, with a view to creating greater opportunities for cities to engage in the City Deals program, developing more sophisticated interactions between the various levels of government and the private sector—including implementing more sophisticated funding methods such as value capture—and extending the City Deals concept to the regions in the form of Regional Deals, thereby providing a meaningful and sustainable mechanism for promoting urban and regional development across Australia.**

Metropolitan Governance

- 12.34 Professor Billie Giles-Corti (RMIT) observed that one of the findings of her team’s research was that there was a need for ‘metropolitan governance’. She stated:

At the moment, different cities work in different ways and our delivery of better cities needs horizontal governance, all government departments working together to achieve livable, walkable, healthy cities as well as vertical—what local government does, what state government does and what the federal government does.³⁴

- 12.35 Dr Marcus Spiller, Principal and Partner with SGS Economics and Planning, told the Committee that there was an urgent need for new forms of city governance. He stated that we ‘know what a good metropolitan strategy looks like ... where we have a problem is taking the plans into action’:

³⁴ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 31.

Our problem is implementation and our submission suggests that Australia needs a fairly dramatic institutional change in the government space in order to correct this problem. We say that Australia needs metropolitan governments. You might think of the Greater London Authority when I use that expression. We need something like that working alongside Commonwealth, state and local governments if we are going to translate good plans into action.³⁵

- 12.36 SGS was of the view that the ‘states and the Commonwealth governments cannot do this job of effective implementation ...because, first and foremost, they do not stand for the metropolitan areas and they do not speak for the metropolitan areas’. The states and Commonwealth worked in silos, making volume delivery of services efficient, but making it ‘very difficult for them to deal with questions of metropolitan development which requires a connected up way of thinking at the level of place’. On the other hand, local government also had its limitations ‘whether they are working individually or collectively, because they stand for local communities. It is a fanciful aspiration to think that they can somehow lift their sights to the interests of the metropolitan area when they are undertaking their business.’ The solution was a system of metropolitan government:

So, metropolitan governments are necessary but we need not think of them as being a competitor to state governments. In our view they would have a relatively narrow scope of responsibilities around regional integrated planning; that is, preparing the likes of a metropolitan strategy for Sydney, or SEQ or Melbourne, regional economic development planning at that level; transport system investment and management, so that would run the public transport system and the arterial road system; regional water sustainability and maybe regional power grids; regional resource recovery; and, regional institutions and facilities like arts, culture, sporting and so on.³⁶

- 12.37 Dr Spiller noted that ‘metropolitan governments would need to be fiscally autonomous and have a credible democratic mandate. He rejected the idea that metropolitan governments would come into competition with the states. He observed that ‘the states would still be responsible for those high volume services that I spoke of earlier—education, health, policing and kindred services—which currently account for more than a third of their outlay, so

³⁵ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 1.

³⁶ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 2.

they will remain a senior and important sphere of governance. He highlighted the fact that 'Australia has had, in the past, quasi metropolitan governments', citing the example of the Melbourne and Metropolitan Board of Works:

It was in charge of metropolitan strategic planning. It was in charge of the metropolitan roads. It was in charge of metropolitan water. It was in charge of the metropolitan open space system. It was fiscally autonomous in the sense that it had an independent rate base. It issued infrastructure bonds. It had a democratic mandate insofar as the board of the Board of Works comprised elected members from constituent councils sent to the board via electoral colleges and the state government appointed other members, so the state government had a controlling interest but it was, nevertheless, an institution owned and accountable to the metropolitan constituency.³⁷

12.38 Professor Peter Newton was also critical of the role played by state and local governments in city governance. Looking at state governments, professor Newton noted that while the states had 'responsibility for urban land use planning and development ... under the Constitution', and 'uniformity in their aspirational goals' in the strategic planning of major cities, state governments had 'struggled ... to realise these goals via their recent sequence of metropolitan strategic plans and implementation mechanisms'. He continued:

There are a number of reasons for this, prime among them being a lack of capacity to undertake urban planning that is vertically and horizontally integrated. Horizontal integration is hampered by the existence of multiple ministries, each of which have roles and responsibilities in planning parts of an urban system: industry, housing, transport, energy, water, waste, education, health etc. Vertical integration involves ensuring important connections exist between state, federal and local governments, where jurisdictional and political differences frequently interfere with a 'joined up' approach to city planning and development. Until recently, the Australian government had absented itself from the 'cities' arena, despite the fact that over 80% of both the nation's population and GDP are concentrated there.³⁸

³⁷ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, pp. 2–3.

³⁸ Professor Peter Newton, *Submission 70*, pp. 13–14.

12.39 Professor Newton highlighted development industry pressures as another problem for state governments, and ‘another major reason why urban innovation and change is slow and disjointed’.³⁹

12.40 Local government also had its limitations:

As the third tier of government, municipalities have a limited source of revenue linked to levying rates on property – overseen (and capped) by state government. This translates into a comparatively weak capacity to respond to the multiple challenges associated with urban redevelopment in established suburbs. Prime among these is a general lack of ability as well as willingness to vertically align with state government’s strategic planning policy for municipalities within the metropolitan region. Council officers have difficulties with Development Approval (DA) submissions that attempt to push the envelope, frequently abdicating their responsibility and leaving it to the third party arbiter (in Melbourne the Victorian Civil and Administrative Tribunal) to adjudicate. New GPR [Greyfield Precinct Renewal] projects are exerting pressure on municipal planning officers in relation to their ability to develop and align their local development strategies, assess new medium density precinct proposals in relation to their performance on key sustainability dimensions (viz. determining the community cost-benefit) and engage with property owners and developers in this process. Given the general reluctance of residents to embrace neighbourhood change, elected municipal councillors tend to align with their ratepayer voters in resisting change to ‘neighbourhood character’ and ‘overdevelopment’. Often this is reflected in municipal government’s gaming of the state government’s residential zoning schemes to ensure housing is ‘locked up’ in minimal change zones; effectively indicating that more intensive infill housing should happen ‘somewhere else’.⁴⁰

12.41 Professor Newton observed, however, that ‘there are signs from recent decisions associated with the establishment of the Greater Sydney Commission ... of the need to be more radical and transformative in city planning metropolitan governance capacity’. He added the caveat: ‘Time will tell’.⁴¹

12.42 The Greater Sydney Commission (GSC) was established by the NSW Government in 2015. The GSC consists of four commissioners (Chief Commissioner, Economic Commissioner and Deputy Chief Commission,

³⁹ Professor Peter Newton, *Submission 70*, pp. 13–14.

⁴⁰ Professor Peter Newton, *Submission 70*, pp. 14–15.

⁴¹ Professor Peter Newton, *Submission 70*, pp. 13–14.

Environment Commissioner, and Social Commissioner); five District Commissioners (Western Sydney, Central City, Eastern City, North, and South); three ex-officio members (the Secretary of the NSW Treasury, Secretary of the NSW Department of Planning and Environment, and the Secretary of Transport for NSW); and the Chief Executive Officer.

12.43 The GSC's role 'is to coordinate and align the planning that will shape the future of Greater Sydney', by revising the regional plan for Sydney—the Greater Sydney Region Plan:

This involves a collaborative 'one government' approach, so that the GSC can lead and guide planning for development, transport and housing. The overall objective of the GSC's work is to make Greater Sydney a productive, liveable and sustainable city for all.⁴²

12.44 The GSC has proposed 'a metropolis of three cities', which 'is designed to bring residents closer to knowledge-intensive jobs, make the most efficient use of infrastructure such as transport, schools and public places, and in turn, address housing affordability'.⁴³

12.45 The three cities are:

- Western Parkland City—emerging around the Western Sydney Airport.
- Central River City—based on Greater Parramatta and the Olympic Peninsula (GPOP).
- Eastern Harbour City—based on the established Eastern harbour city.

12.46 The NSW Government stated that:

The re-direction of the existing trajectory of Greater Sydney towards the metropolis of three cities will allow land use, transport and other infrastructure to be planned around the three cities, responding to the needs to residents in all parts of Greater Sydney. This approach is consistent with a move to a '30 minute city', which will allow an increasing number of residents to be able to live within 30 minutes by public transport to their nearest city and the services and jobs that they provide.⁴⁴

12.47 Under the Greater Sydney Region Plan will sit District Plans—one for each of the five Districts of Greater Sydney:

⁴² NSW Government, *Submission 125*, p. 11.

⁴³ NSW Government, *Submission 125*, p. 11.

⁴⁴ NSW Government, *Submission 125*, p. 12.

The District Plans establish the opportunities, priorities and actions for each geographical area and provide the means by which the priorities and strategies outlined in the Greater Sydney Region Plan can be put into action at a local level. Draft District Plans were released for public comment at the end of 2016.⁴⁵

- 12.48 The NSW Government noted that the Greater Sydney Region Plan and the District Plans ‘play a key role in the hierarchy of plans in the Sydney Metropolitan region’, and that the plans are ‘statutory instruments, and are given weight in development and land use decisions made by planning authorities’. Local governments are ‘required to update their Local Environmental Plans (LEPs) for consistency with the District Plans’:

LEPs are an important tool for controlling the form and location of new development, including the location of new housing, along with protecting open space and environmentally sensitive areas. LEPs set out the zoning, building heights and densities allowed across the local government area, and play a critical role in determining what development is proposed and given consent in a given location.⁴⁶

- 12.49 The GSC has also ‘designed Growth Infrastructure Compacts which will bring government, business and the community together to match housing and jobs growth with timely and cost-effective delivery of infrastructure’. A key objective of these compacts ‘is to address the biggest concerns of communities, that there is a need for infrastructure to be provided in the right places at the right time’.

The Growth Infrastructure Compact approach will look at where significant residential and employment growth could occur, and then develops scenarios of what new and enhanced local and regional infrastructure will be needed to support growth in those areas. With an understanding of the different scenarios, the Growth Compact results in a ‘place-based’ plan for growth and infrastructure with community and industry input, with local and state government agency backing. The first Growth Compact is being trialled for the Greater Parramatta to Olympic Peninsula (GPOP) region over 2017 to 2018. This will be a world first in planning for growth linked to planning for infrastructure.⁴⁷

⁴⁵ NSW Government, *Submission 125*, p. 12.

⁴⁶ NSW Government, *Submission 125*, p. 13.

⁴⁷ NSW Government, *Submission 125*, pp. 13–14.

- 12.50 The Committee for Sydney enthusiastically endorsed the Greater Sydney Commission ‘which is exploring the key objectives of better land use and transport integration and of a closer fit of infrastructure planning and city planning’:

The GSC is Australia’s first cross government Metropolitan Planning authority, covering all of Greater Sydney. It was founded 18 months ago and having published its draft plans for Sydney’s 6 districts it is now working on the next iteration of the Plan for Sydney. It is also leading for NSW in the discussions with the Federal Government and the 8 councils involved in the emerging City Deal for Western Sydney. It is a serious attempt at cross government coordination of land use and transport planning and at creating an urban-planning led approach to infrastructure prioritisation and delivery. In a real departure from NSW history which is one of siloed governments departments determining their own infrastructure priorities according to their own perceptions of ‘need’, the GSC brings the relevant government departments to the table to collaborate, agree on priorities for the city, and determine what infrastructure should be preferred to deliver the objectives of the shared Plan for Sydney.⁴⁸

- 12.51 The Committee for Sydney noted that the Greater Sydney Commission had already improved the level of coordination in urban planning:

While these are early days, it seems clear to us that the collaboration between urban planning and transport planning is already hugely improved, with Transport for NSW indicating a much deeper commitment to ensuring their transport modes support the land use planning objectives of the GSC than we have ever seen in this State.⁴⁹

- 12.52 The Committee for Sydney regarded this development as ‘welcome though long overdue’, stating:

We cannot see how good infrastructure planning was ever feasible without such collaboration and coordination—and without the Urban Plan for Metropolitan Sydney being the basis of all key transport infrastructure appraisal and prioritisation decisions.⁵⁰

- 12.53 Taking the model beyond Sydney, the Committee for Sydney recommended that ‘for all Australian capital cities that key infrastructure priorities must be

⁴⁸ Committee for Sydney, *Submission 88*, p. 23.

⁴⁹ Committee for Sydney, *Submission 88*, p. 24.

⁵⁰ Committee for Sydney, *Submission 88*, p. 24.

based in the Urban Plan for that city and aimed at delivering its land use objectives’:

We cannot continue to have the Urban Plan for our Capital cities have but a distant link to the infrastructure choices of State governments with the consequence that the urban planning objectives of building higher density more compact cities are either not delivered by the transport infrastructure preferred by State governments or are actively undermined by them. We have in a sense ‘talked’ compact cities whilst delivering sprawl. The GSC itself is an attempt to corral all of government behind the single city strategy. We shall see how effective it will be in practice.⁵¹

- 12.54 The Committee for Sydney was optimistic about what the Greater Sydney Commission would achieve and urged the ‘Federal Government to join the State government in reviewing the success of the GSC with a view to supporting the model in other dispensations’. The Committee for Sydney also saw the Greater Sydney Commission planning model directly influencing Commonwealth Government planning and decisions:

The Federal Government should also review how outcomes have been impacted by the GSC in due course particularly as regards whether improved collaboration across government around delivering the objectives of the Metro Plan will also lead to improved and more credible bids for infrastructure spending to the federal Government via Infrastructure Australia—for projects which show with credible evidence how they will improve city outcomes rather than on poor or no evidence that such projects will reduce travel time. In the past the Federal Government has approved funding for city infrastructure projects such as major road programs on very poor evidence or on the basis of the wrong objectives. Cities are shaped and indeed misshaped by such decisions.

IA [Infrastructure Australia] itself needs to require from State bidders for infrastructure projects going forward how they conform with achieving the goals of a city’s Metropolitan Plan. IA should lead State Governments to a reformed appraisal process for infrastructure of the kind we suggest here and are developing in greater detail in our forthcoming Issues Paper.⁵²

- 12.55 EDOs of Australia was more cautious in its endorsement of the Greater Sydney Commission. It ‘welcomed aspects of the Greater Sydney Commission model—in particular, having three Commissioners with a focus

⁵¹ Committee for Sydney, *Submission 88*, p. 24.

⁵² Committee for Sydney, *Submission 88*, p. 24.

on economics, social equity and environmental protection respectively; and a more general focus on equitable access to services', but cautioned that 'whether these three areas truly integrate remains to be seen'. It noted that 'the Greater Sydney Commission's task (and that of other urban planners in NSW and across Australia) remains hampered by':

- a risk that specific economic aims will eclipse generic environmental aims;
- a lack of environmental goals, targets or data to assist decision-making;
- limited community engagement or clarity on the planning bodies' influence;
- limited coordination within and between governments on environmental goals and policies to achieve ESD; and
- a lack of institutional resources focused on the genuine integration of environmental assets and cumulative impacts in strategic planning.⁵³

12.56 Dr Spiller suggested that the Greater Sydney Commission 'would be greatly improved in my opinion if, instead of having government appointed representatives of the different districts, if those districts elected one of their number'. He stated that this would change the politics and dynamics of the Commission enormously:

When there is a contest between the metropolitan interest and the local interest, when that debate is held in the commission, if you have that kind of democratic mandate the way in which that debate is conducted will be a different kind of debate than one in which you have an institution that when push comes to shove is owned by the state government. The local constituency will hold fast and tend to fight. It is about giving up power or sharing power.⁵⁴

12.57 Professor Pascal Perez, the Director of the SMART Infrastructure Facility at the University of Wollongong, supported the work of the Greater Sydney Commission, but identified the need for it to incorporate Newcastle and Wollongong as well. He stated:

I was very excited when I saw the new plan for the three cities from the Greater Sydney Commission last week and the new plan from Infrastructure New South Wales. This is brilliant thinking and coordinated planning for infrastructure and land use. That is great. My only problem with this very good work is the fact that there is nothing yet about the five cities. Three cities

⁵³ EDOs of Australia, *Submission 91*, pp. 9–10.

⁵⁴ Dr Marcus Spiller, Principal and Partner, SGS Economics & Planning Pty Ltd, *Committee Hansard*, 29 August 2017, p. 5.

is fine. But it is an east-west corridor and the growth of Sydney cannot be on an east-west corridor only. At one stage we are going to have to come back with what I thought at the time was one of the very strong messages from the Committee for Sydney that it is not about three cities only, it is about five cities—and probably five regions. We need to bring the Hunter and the Illawarra into the planning and master planning now. I am frustrated to see a grey dotted line in all the maps going south-east and ‘we’re going to see this later’. Later will be too late.⁵⁵

- 12.58 Professor John Stanley, a consultant for the Bus Industry Confederation (BIC), thought the ‘Greater Sydney Commission model ... a really good way to approach the governance element, in particular because it gives local government a much stronger role in that regional strategic process’. He noted that ‘most Australian capital cities in particular play local government out of the strategic role in terms of city forward thinking’, that ‘they are very much at the bottom end of the pile and the state governments exercise that role’. He also believed that a closer partnership between local and state governments would promote long-term bipartisan city planning. He advocated the establishment of a similar model—the ‘Metropolitan Planning Authority model’—across all of Australia’s capital cities.⁵⁶ In its submission, the BIC stated:

Establishment of Metropolitan Planning Authorities for each of our capital cities, with responsibility for developing strategic land use, transport and related policy and planning directions, where board membership is split equally between representatives of the State government and local government, should be supportive of better planning and deliver better outcomes. The municipal representatives would generally need to be selected from sub-regions of Local government, to keep numbers manageable. A Federal government representative should also be considered ... This would require the state to give up an element of its current power but is likely to deliver better community outcomes, which is what should be important. The Board Chair would speak for the capital city on land use transport (and related) matters when a regional voice is required, Some states already have

⁵⁵ Professor Pascal Perez, Director, SMART Infrastructure Facility, University of Wollongong, *Committee Hansard*, 23 March 2018, p. 12.

⁵⁶ Professor John Stanley, Consultant, Bus Industry Confederation, *Committee Hansard*, 24 October 2018, p. 2.

entities that could be easily re-shaped to perform this role, to avoid adding a new layer of bureaucracy.⁵⁷

12.59 While acknowledging that this model did not necessarily require direct Commonwealth representation, the BIC supported ‘a more hands-on approach’ to Commonwealth involvement in the Metropolitan Planning Authorities, ‘which goes further than simply setting out its expectations and includes more active engagement around the best ways to use land use transport (and related) policies and programs in particular cities to meet national goals’. The BIC noted that under this approach, Commonwealth representation on MPA boards ‘would be appropriate’. The BIC noted that:

The stronger and more active level of federal involvement in this approach should facilitated more informed federal decision making and much easier processing of the outputs of the planning processes, including when it comes to funding issues. It seems likely to be a more efficient planning and decision-making process.⁵⁸

Committee conclusions

12.60 While the Committee does not support the creation of a fourth level of government—three is more than enough—it does support the creation of governance mechanisms that will promote city-wide integrated planning and infrastructure procurement.

12.61 The need for a permanent institutional framework to underpin coordination of the activities of all three levels of government and other stakeholders would seem to be obvious. The Greater Sydney Commission provides an example of effective city-wide planning and coordination and, while the Committee is conscious that the Greater Sydney Commission is a New South Wales Government initiative and is designed principally to promote better planning in the Greater Sydney Region, it believes the model could be usefully translated elsewhere. The BIC’s Metropolitan Planning Authority concept provides an effective model for metropolitan governance incorporating national, state and local representation.

12.62 The Committee supports the creation of city region commissions, along the lines of the Greater Sydney Commission.

⁵⁷ Bus Industry Confederation, *Submission 110*, p. 6.

⁵⁸ Bus Industry Confederation, *Submission 110*, p. 6.

Recommendation 30

- 12.63 The Committee recommends that the Australian Government encourage the State and Territory Governments to investigate city commissions, along the lines of the Greater Sydney Commission.**

Taxation policy supporting secondary centres of economic activity

- 12.64 As noted by Associate Professor Burke, ‘the need for good jobs in the suburbs is also now acute’. The metropolitan strategies of all the major cities now encourage development of suburban employment centres and secondary business districts aimed at generating employment opportunities closer to where people live. However, Associate Professor Burke suggested that these strategies are ‘not supported by many meaningful policy levers at Commonwealth or state level’:

Employment decentralisation policies are mostly absent; government worker relocation plans are sporadic and often targeted more at inter-city movements.⁵⁹

- 12.65 The benefits of agglomeration were discussed in Chapter 3-Integrating Cities. Evidence to the inquiry indicated that national taxation policy could be used to help foster secondary economic agglomeration and jobs growth in the outer suburban communities of Australian cities. The Macquarie Business Park and Westmead Health Precinct in Parramatta showcase the economic activity and employment opportunities that can be generated by the right mix of government policy, investment and cooperation with the private sector.
- 12.66 According to Mr Greg Dyer, Chief Executive Officer and General Management of the City of Parramatta Council, Westmead is now ‘the Southern Hemisphere’s largest health precinct’ and with further government support could deliver significant employment growth:

It has the capacity to produce up to 50,000 jobs over the next 20 to 25 years with just a little more co-investment from federal and state governments. It’s already slated to grow quite substantially. Today, it creates roughly 18,000 jobs, but we see that it can successfully transform into a globally renowned innovation district. It can be a precinct which could deliver 50,000 knowledge

⁵⁹ Associate Professor Matthew Burke, *Submission 98*, p. 3.

jobs—the right jobs, the smart jobs. We already have more PhDs per square kilometre here in Parramatta LGA than anywhere else in Australia and we want to continue to create that environment, that hub for high-level learning and high-level jobs.⁶⁰

- 12.67 Mr Dyer noted that growing the precinct will require ‘a concerted effort between state and federal governments’.⁶¹ Councillor Andrew Wilson, Lord Mayor of the City of Parramatta suggested that the Australian Government could use tax incentives to generate further economic activity and jobs growth:

There are many places in Australia where the federal government has effectively given tax incentives, put in someone to build submarines or whatever. Every job you put into Parramatta, I would argue, gives you a far better return on tax, other employment and the whole way that the city works than just about anywhere else you could put it. If we are really serious than we've got to get this city working.⁶²

- 12.68 Professor Billie Giles-Corti, Director of the Healthy, Liveable Cities Group at RMIT University also noted the potential of national taxation policy as a driver of economic development in secondary city locations. She acknowledged that research in this area is insufficient, but suggested that things like payroll tax, lower land taxes or lower tax rates may be deployable to attract businesses out of the CBD:

How do we redistribute employment across the city, and what would the mechanisms be for doing it? ...I do think that that's a major issue, on which at this stage I wouldn't regard myself as an expert, but certainly it's something where we've been discussing how we do that, because there's a lot of discussion amongst policymakers in the city about how we do that to be able to produce a better result.⁶³

⁶⁰ Mr Greg Dyer, Chief Executive Officer General Management, City of Parramatta Council, *Committee Hansard*, 13 November 2017, p. 10

⁶¹ Mr Greg Dyer, Chief Executive Officer General Management, City of Parramatta Council, *Committee Hansard*, 13 November 2017, p. 10

⁶² Councillor Andrew Wilson, Lord Mayor, City of Parramatta Council, *Committee Hansard*, 13 November 2017, p. 13.

⁶³ Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University, *Committee Hansard*, 21 November 2017, p. 38.

- 12.69 RMIT subsequently recommended that the Australian Government ‘explore mechanisms (e.g., tax) for redistributing employment across cities’.⁶⁴
- 12.70 NGAA also urged the Australian Government to use all of the levers at their disposal expand employment options in outer suburban communities, including ‘tax incentives’.⁶⁵
- 12.71 Evidence to the inquiry also indicated that targeted federal investment in outer suburban economies, where the bulk of population growth is occurring, is needed to generate employment opportunities closer to where Australians live. The Council of Mayors SE Qld argued that the Australian Government should take ‘a lead role in employment generation, and mitigating misalignment between labour demand and labour supply’ because ‘giving new residents the opportunity to work locally would be a fundamental objective for the creation of sustainable cities’. It suggested that it should fund ‘key enabling infrastructure’ or relocate federal public agencies.⁶⁶
- 12.72 NGAA suggested that the Australian Government should facilitate the establishment of ‘innovation districts in in the fast growing outer suburbs – tailored to each area’s unique opportunities and industries’. Innovation districts co-locate research, industry and education facilities, such as TAFEs to generate employment and provide a ‘more robust school-to-work pipeline’. NGAA argued that ‘innovation districts would provide the mutual benefit of connecting these students with real-world training and connections to potential future employers – with a reduction on transport infrastructure and congestion, as jobs and education would be more local’.⁶⁷
- 12.73 NGAA noted that the Australian Government’s 2011, Suburban Jobs Program provided \$45 million of grants and successfully supported a number of new employment opportunities in the outer suburbs of Melbourne and Sydney. It described the program as a ‘watershed [moment] for fast growing outer suburbs’ in terms of the employment opportunities generated⁶⁸ and advocated for the reintroduction of a similar initiative, ‘focussed on the jobs of the future, innovation, partnerships with research

⁶⁴ RMIT, *Submission 15*, p. 3.

⁶⁵ National Growth Areas Alliance, *Submission 15*, p. 15.

⁶⁶ Council of Mayors SE Qld, *Submission 5*, p. 4.

⁶⁷ National Growth Areas Alliance, *Submission 4*, p. 15.

⁶⁸ National Growth Areas Alliance, *Submission 4*, pp. 11–12.

institutions and support for small to medium enterprises'.⁶⁹ Lead West agreed that fast-growing outer suburbs should be viewed as investment sites for economic hubs'.⁷⁰

Committee conclusions

- 12.74 It is the Committee's view that addressing the impacts of economic agglomeration, changing demographics and climate change will also require a national policy to coordinate the initiatives of all levels of government and different government agencies.
- 12.75 Inquiry stakeholders have suggested that this should include national taxation policy aimed at facilitating secondary CBDs in Australia's major cities. Although the Committee appreciates the need to bring jobs closer to where people live, it is conscious that agglomeration provides businesses with a number of benefits and is absolutely critical as Australia transitions to a knowledge and services focussed economy. It believes that further investigation is needed to ensure any such policy facilitates the clustering of mutually supportive businesses in strategic locations and avoids scattergun decentralisation with the potential to negative impact economic growth.

Recommendation 31

- 12.76 The Committee recommends that the Australian Government investigate the provision of spatially and industry targeted tax incentives to drive strategic secondary economic agglomeration in major cities.**
- 12.77 Throughout the inquiry, a number of outer suburban stakeholders advocated for the reinstatement of grants programs to support projects aimed at generating employment growth outside of the CBD, for example the Suburban Jobs Program. Given the success of this program and the importance of improving Australians access to employment, the Committee believes a similar initiative is needed.
- 12.78 There was also general consensus amongst submitters and witnesses that targeted Commonwealth investment in outer suburban economies can catalyse employment growth, particularly in relation to transport infrastructure or research, innovation and education precincts. The

⁶⁹ National Growth Areas Alliance, *Submission 4*, p. 15.

⁷⁰ Lead West, *Submission 146*, p. 7.

Australian Government's role in transport infrastructure investment is considered further in Chapter 6, Urban connectivity.

Recommendation 32

- 12.79 The Committee recommends that the Australian Government, as part of the system of master planning under the national plan of settlement, provide financial support, in the form of grants, to projects with demonstrated potential to generate significant employment growth in the rapidly expanding, outer suburban communities of Australian cities.**

13. Infrastructure procurement

13.1 Infrastructure procurement is a key element in the development of Australia's cities and regions. Without effective procurement processes, the provision of infrastructure is less likely to meet the economic, social and environmental needs of the Australian people, or provide for the successful integration of the nation's cities and regions. This chapter will look at the need to:

- refine procurement methods;
- procure for innovation;
- develop procurement skills;
- engage with Tier 2 and 3 businesses;
- refine appraisal methods; and
- pursue financing and funding innovation.

Refining procurement methods

13.2 The Australasian Railway Association (ARA) observed that 'the procurement process in Australia had been criticised as costly and time consuming', and that 'tendering costs in Australia are estimated to be around 1-2% of a project's total cost, which are high compared with world benchmarks of 0.5%'. The ARA believed 'that significant benefits could be realised if improvements were made to current Australian commonwealth and state government procurement practices', and suggested that:

There is opportunity for government to implement a more simplified and transparent tendering process with improved risk mitigation practices and contracting arrangements. Harmonisation of standards, having a clear and smooth pipeline of projects, improved feedback sessions and better infrastructure planning would facilitate improved investment and innovation; reducing tendering costs and whole of life projects costs for both the contractor and the procurer.¹

- 13.3 Mr Tim Williams, Chief Executive Officer of the Committee for Sydney, also highlighted the need for rethinking the infrastructure procurement process—particularly appraisal processes—if we are to create better cities. He observed that ‘there are some very bad infrastructure appraisal practices out there’, and that ‘bad cities result from the wrong processes that we are implementing’. He stated:

We think you can’t get great sustainable cities without improvements to governance but also improvements to infrastructure appraisal. We literally think some of the un-evidenced ways in which, frankly, some of the infrastructure appraisal process is undertaken—poorly evidenced cases are put forward to the feds—have been for federal funding, some of them not even requiring, for example, assumptions around induced demand to be made on the road programs which actually do change the business case ratio significantly.²

- 13.4 Mr Adam Beck, Executive Director of the Smart Cities Council Australia New Zealand, believed that Australia was ‘at a really early stage of our maturity in terms of smart cities and smart infrastructure’, and that ‘the opportunities that come with aggregating demand, streamlining procurement and, indeed, piloting new financing models and benchmarking the results of that program are critically important’. He suggested that ‘the federal government has a fundamental role in helping steer that in a way that it can supercharge prosperity for the nation’.³

¹ Australasian Railway Association, *Submission 49*, p. 13.

² Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 41.

³ Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 18.

Procuring for innovation

- 13.5 A key element of refining the procurement process was procuring for innovation. Mr Jeff Sharpe, General Manager, Technology and Innovation, for the Downer Group, argued for a whole-of-life approach to infrastructure procurement—that infrastructure procurement should be looking at ‘what’s the best value for whole of life’, rather than the lowest cost design and construct bid. He noted that ‘traditional contracts don’t really allow for that, and we would love to help drive more of the thinking into how we best create value for taxpayers and best use those funds to build better cities’.⁴
- 13.6 Ms Megan Motto, Chief Executive Officer of Consult Australia, urged ‘a much more flexible system of procurement that allows for better collaboration and is better for the whole-of-project outcomes or whole-of-precinct outcomes’, stating that ‘we are not seeing the true collaboration that will then provide that innovation’. She identified management of risk as a factor undermining innovation, stating that ‘we have governments that shift risk down the supply chain to the lowest common denominator and then we wonder why we’re not getting innovative solutions’. She also advocated stronger community engagement:

We need to stop telling the community how we’re designing their built environment and we need to start engaging with them in how we are building their built environment. We need to include the community. We need to consult much more strongly with the community and bring them on the journey with us so that we can change the landscape of our cities with their not just appreciation but absolute approval and support.⁵

- 13.7 She also urged a shift from short-term thinking to long-term thinking in infrastructure procurement:

When we design our cities, we’re not designing a building that’s going to be an asset cost. We heard about the split incentive issue that exists in the residential sector, for example, where the builder of the asset is building to sell. So there is no long-term incentive to make that building more sustainable because they’re going to sell it and that will become someone else’s problem. Similarly, our state governments and our local governments can be short term in their approach. We seek to rush towards a solution as opposed to really

⁴ Mr Jeff Sharpe, General Manager, Technology and Innovation, Downer Group, *Committee Hansard*, 22 August 2017, p. 34.

⁵ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 13.

defining what the problem is, identifying multiple solutions, doing scenario testing and looking at the different ways that we can deliver the built environment in a better form.⁶

13.8 In its submission, Consult Australia outlined a number of concrete proposals for improving infrastructure procurement, including:

- Improving project briefs
- Improving risk allocation
- Procuring for innovation
- Reducing bid costs
- Creating a procurement centre of excellence.⁷

13.9 Consult Australia noted that:

At a time when public finances are stretched, better procurement offers government the chance to build more for less, achieving better project outcomes with fewer delays. It also makes government agencies a more desirable client for industry to do business with, which in turn will lead to more firms competing to provide their services to government.⁸

13.10 It observed that ‘project briefs are frequently unclear or inadequately thought out’ and that ‘this creates risks for industry partners, who aren’t sure what the client wants, and they respond by either pricing that risk into their bid or deciding not to bid for the project, thereby reducing competition’.⁹

13.11 With regard to risk allocation, Consult Australia stated:

The practice of offloading risk according to bargaining power rather than the appropriateness and/or capacity of individual parties to manage that risk (this includes the practice in some states of contracting out of proportionate liability obligations), automatically means that risks won’t be properly managed. It also means that professional indemnity insurance may not respond to claims made. It is important that the laws across Australia be harmonised regarding contracting out of proportionate liability and the practice of contracting out be prohibited in each jurisdiction.

⁶ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 13.

⁷ Consult Australia, *Submission 61*, pp. 10–14.

⁸ Consult Australia, *Submission 61*, p. 10.

⁹ Consult Australia, *Submission 61*, p. 11.

While firms may respond to this practice by taking a commercial risk, many enter into contracts unaware of the insurance implications of doing so, while other firms respond either by pricing that risk into their bid, or deciding not to bid for work.

All of the private sector responses to this issue point to projects costing more, having delays, and less desirable project outcomes being realised.¹⁰

13.12 Consult Australia found that ‘the cost of bidding for work can be prohibitive, and represents a major inefficiency in the development of infrastructure’, and that ‘there are two major drivers behind unnecessarily high bid costs’:

Firstly, firms are often put in a situation of being shortlisted for a project when only one bidder has a realistic chance of success. Being “strung along” adds to the cost of bidding, when a quick “no” would be preferable. Secondly, in the course of bidding, firms are required to demonstrate a wide range of competencies through compliance checks. When the final bid is submitted, these checks regularly comprise a substantial proportion of their bid documents, when compared to their proposal as to how they actually plan to go about the work.¹¹

13.13 This was a problem also identified by the Downer Group who told the Committee:

Those costs are built into prices, too. The government is paying, ultimately, for the losing tender’s work. Sometimes at Downer we will spend up to \$15 million or \$20 million on a proposal that is not accepted. Then we have to write off that money. That is painful to our shareholders and disappointing to staff. It doesn’t drive innovation. It drives conservatism.¹²

13.14 In addition, Consult Australia recommended other improvements to procurement practices, including:

- Government commitment to being a ‘model client,’ in line with its commitment to be a model litigant.
- Government investment in the skills of its procurement professionals. We have previously suggested the establishment of a Centre for Procurement

¹⁰ Consult Australia, *Submission 61*, p. 11.

¹¹ Consult Australia, *Submission 61*, p. 11.

¹² Mr Jeff Sharpe, General Manager, Technology and Innovation, Downer Group, *Committee Hansard*, 22 August 2017, p. 39.

Excellence to develop public sector procurement skills. A Commissioning Academy exists in the UK for exactly this purpose.

- The right mix of skills exists on procurement teams.
- Early engagement and collaboration with industry, so that government can understand what's possible, and where risks lie. This includes developing better, verified briefs and reallocating resources to the front end of a project.
- The willingness of government agencies to explain why they are following a particular procurement practice. This allows for service providers to better understand the needs of their client, and increases empathy. It also forces clients to examine whether a particular practice is really necessary, given that it may cost them more.
- The accountability of agency heads for the procurement performance of their agency, and performance management of contract managers reluctant to try newer and better ways of doing things.
- Streamlined compliance processes, for example through a central register of competencies, to reduce bid costs.
- Develop and apply limited liability guidelines to provide industry with certainty.
- The awareness of governments of the implications of onerous risk allocation/shifting, and the costs involved in developing contractual agreements for every project, resulting in protracted contract negotiation. Governments should adopt a standard form agreement to reduce cost and increase efficiency in the procurement process. Consult Australia recommends that Australian Standard AS4122-2010 be the standard form adopted across all government procurement for the engagement of consultants.¹³

13.15 Another key element of procurement is data management. Increasingly, the construction and management of infrastructure is related to data. Mr Michael Comninos, Chair of the Smart Cities Committee for the Internet of Things Alliance Australia observed that 'one of the risks is having vendor lockout'. He stated:

One of the big risks is having uninformed procurement processes where the client isn't clear what they want. The vendor is trying to minimise risk by

¹³ Consult Australia, *Submission 61*, pp. 13–14.

protecting data as intellectual property, which then makes it harder to have interoperability and provide enhancements to some of these products¹⁴.

- 13.16 His colleague Mr Frank Zeichner, Chief Executive Officer of the Internet of Things Alliance Australia, argued that ‘data ought to be able to be shared’. He noted that currently ‘that data is locked not just within the department but often within the companies who deliver those services to whom they have been outsourced by’. He observed that ‘in fact, a lot of those sensors that are built, when you are building projects, then get ripped out because they are only there for the contractual purposes of the contract. Stupid!’ he stated:

Sensing in an Internet world means you use the data for many, many purposes so that then the value really increases. It could be for the city. It could be for the water. It could be for the local business innovator—whatever. That sort of sharing capability, the city has a role in creating it. No, you are not owning the data. Maybe there are other models. But certainly in facilitating and managing, the federal government should also be a part of sharing their data.¹⁵

- 13.17 In its submission, buildingSMART Australia urged the adoption of Building Information Modelling (BIM) as a standard for infrastructure procurement. It noted that the Government of the United Kingdom had ‘announced that BIM is now a minimum required by government from 2016’, and that ‘other overseas jurisdictions that already require the use of BIM for government building procurements include the United States, Norway, Finland and Denmark’. China, South Korea and Singapore had also ‘taken steps to achieve BIM implementation through a planned approach’, with the Singaporean Government ‘offering incentives to those willing to be the early pathfinders towards a goal of increased industry adoption, and ultimately full BIM submissions’. The UK was ‘expecting to achieve a 20% reduction in procurement costs for government buildings compared with traditional practice through the introduction of its requirement for full 3D collaborative BIM to be used on government building procurements’.¹⁶

¹⁴ Mr Michael Comminos, Chair, Smart Cities Committee, Internet of Things Alliance Australia, *Committee Hansard*, 22 August 2017, p. 51.

¹⁵ Mr Frank Zeichner, Chief Executive Officer, Internet of Things Alliance Australia, *Committee Hansard*, 22 August 2017, pp. 51–2.

¹⁶ buildingSMART Australia, *Submission 3*, p. 4.

13.18 The Australasian Railway Association (ARA) urged coordination of procurement of rollingstock, stating:

Australian passenger rail networks require the continued purchase of rollingstock to replace their ageing fleets and accommodate growing and forecast patronage numbers. Rollingstock procurement tends to be volatile, high profile, complex and influenced by political and operating considerations. Procurement challenges are seeing the cost to deliver rollingstock increase year-on-year, a cost incurred by governments.¹⁷

13.19 The ARA noted that ‘there is currently no national collaboration to achieve economies of scale’ and that ‘this lack of cohesion has resulted in procurement inefficiencies, creating a sporadic investment cycle and a “lumpy” flow of orders which hinders the growth of Australia’s rail manufacturing sector and ultimately increases the cost to government’. The ARA estimated that ‘approximately \$15.5 billion in economic activity could be maintained should coordinated planning result in the demand for rollingstock being smoothed’. It stated that the ‘harmonisation of rollingstock standards and procurement is a priority that will benefit industry and governments’.¹⁸ The ARA concluded:

Given the significant amount of rail infrastructure development and rollingstock procurement forecast for the next 30 years, failure to implement better procurement practices could mean a considerable portion of domestic economic activity lost not to mention the risk to local jobs, skills, capability, rail infrastructure efficiencies. It’s vital that the procurement process does not create unnecessary, adverse effects when planning the project that would impact the whole life performance of the asset. Significant cost savings are available if the procurement process is streamlined, simplified and transparent.¹⁹

Developing procurement skills

13.20 The Committee heard that improved procurement skills would increase innovative solutions and promote value for money. Consult Australia found that ‘that public sector clients weren’t always open to innovative ideas when proposing solutions to projects, despite the possibility of that innovative idea saving money, or driving the existing funding to allow for a better

¹⁷ Australasian Railway Association, *Submission 49*, p. 14.

¹⁸ Australasian Railway Association, *Submission 49*, p. 14.

¹⁹ Australasian Railway Association, *Submission 49*, pp. 14–15.

project outcome'. It noted that 'while probity concerns are a major impediment to innovation', other inhibiting factors included 'a lack of understanding around the budget impact, or risk transfer pushing designers to over-engineer their design'. Consult Australia observed that 'better procurement can drive greater innovation, which in turn will save money and lead to better project outcomes'.²⁰

13.21 Consult Australia recommended 'establishing an independent Procurement Centre of Excellence to develop and implement best practice procurement and deliver value for money', observing that 'to buy wisely you need wise buyers'.²¹ The Centre 'would be tasked with building a stronger relationship between government and business and supporting best practice procurement in Australia at all levels of government'; and would:

- be established as independent of government;
- build stronger linkages between government and with industry sectors;
- provide transparent expert advice to all levels of government; and
- develop guidelines, build capability and improve standards.²²

13.22 The need to develop procurement skills was also identified by Ms Pru Sanderson, Regional City Executive for Roads Australia, who knew 'how hard it is to be a good client, a procurer of services. It is a skill set very much of its own.' She observed that 'a lot of technical specialists don't want to be the client. They want to design and do the stuff. They don't want to be the person in charge of the contract.' She argued for procurement being recognised as a 'a separate skill set of its own'. She stated:

There's a skilling up, rather than you happening to find yourself as a client by osmosis. You can't turn around and say, 'Let's get the best people,' as this conversation is recognising, without having a very educated client who not only understands talent when they see it but also knows what procurement and contractual basis would be best to achieve that.²³

13.23 The importance of the 'educated client' was emphasised by Mr Peter Hill, Honorary Secretary of the Town and Country Planning Association, and Ms

²⁰ Consult Australia, *Submission 61*, p. 11.

²¹ Consult Australia, *Submission 61*, p. 12.

²² Consult Australia, *Submission 61*, p. 13.

²³ Ms Prudence Sanderson, Regional City Executive, Roads Australia, *Committee Hansard*, 21 November 2017, p. 21.

Gerry McLoughlin, Secretary of the Inner Melbourne Planning Alliance, both with extensive experience in planning and procurement.²⁴

Engaging with Tier 2 and 3 businesses directly

- 13.24 Getting governments to engage with small and medium enterprises in procurement was another issue raised during the inquiry. Dr Chris Hale observed that ‘the Australian planning, infrastructure and transport sectors involve substantive and real barriers that limit the ability of legitimate small and medium enterprises (SMEs) to win government business’. He suggested that ‘over-reliance on large or multinational firms comprises a real limitation to innovation, and intellectual and technical diversity, as well as economic development (given the foundational role of SMEs in the Australian economy)’. He urged that the Australian Government should ‘actively review the outcomes of recent work allocations to firms of different scale and ownership type’, and that ‘if an over-concentration of particular companies or company types is identified, then active steps must be taken to alter these outcomes and remedy any processes that contributed to them’. He argued:

Beyond prime contractor roles, it should not be considered legitimate, desirable or workable that federal (or other levels of government) would actively exclude SMEs from winning government contracts due to artificial procurement hurdles that are not related to skill or capability. Indeed, these practices are legally dubious where they exist—and the federal government should move in a timely manner to address any such concerns. The federal government may wish to consider inviting Australian Competition and Consumer Commission (ACCC) or some other relevant independent organisation to review procurement practices and outcomes with regard to SME involvement, or over-concentration of work allocations—across federal, state and local procurement within the urban infrastructure advisory and planning sectors.²⁵

- 13.25 Allowing access to infrastructure contracts was particularly important in regional centres. Mrs Kylie Warne, Chair of the Barwon Regional Partnership, thought that ‘all levels of government should be supporting businesses in rural and regional areas’ and suggested that ‘in terms of the

²⁴ Mr Peter Hill, Honorary Secretary, Town and Country Planning Association, *Committee Hansard*, 21 November 2017, p. 20; Ms Gerry McLoughlin, Secretary, Inner Melbourne Planning Alliance, *Committee Hansard*, 21 November 2017, p. 21

²⁵ Dr Chris Hale, *Submission 8*, p. 3.

decentralisation of government procurement and actually giving a way in for rural and regional-based private companies, small businesses and even start-ups, there could be different policy approaches'.²⁶ Mrs Warne believed that 'the whole return-on-investment model could be recast to really look at how we can actually have a downstream effect, more deeply than what we currently have'.²⁷ She suggested that 'both state and federal government procurement could really recast what is considered to be return on investment, because I think at the moment it's very much cost driven'; and that 'the private sector has a role to play in that in terms of having accountabilities, in terms of reporting accountabilities to demonstrate that they are actually working in partnership with government to bring about those consequences that are maybe not quite traditional'.²⁸

- 13.26 Mr Bill Mithen, Chair of the G21 Geelong Region Alliance, also highlighted the capacity of procurement practices to target disadvantage, citing 'a project called GROW, which is the Geelong Region Opportunities for Work, to look at entrenched disadvantage and, if the city prospered and the region prospered, ways that everyone could prosper'. He observed that 'one of the ways to do that is around procurement, social procurement', and cited findings that within the overall context of government procurement 'that just a small shift of seven per cent of procurement activity would lead to a billion dollars of economic activity in the local economy. It would create 2½ thousand jobs, and our goal would be to have 500 of those 2½ thousand jobs in disadvantaged areas'. Mr Mithen stated:

Through the GROW project, the Give Where You Live Foundation has worked actively in implementing this project and now has a compact with 70 organisations, whereby they have signed that compact and are starting to look at shifts in how they can procure goods and services and employ people from disadvantaged areas.²⁹

- 13.27 Mr Craig Rowley, Chief Executive Officer of LeadWest, highlighted the value of linking the Victorian Industry Participation Policy with procurement:

²⁶ Mrs Kylie Warne, Chair, Barwon Regional Partnership, *Committee Hansard*, 20 November 2017, p. 36.

²⁷ Mrs Kylie Warne, Chair, Barwon Regional Partnership, *Committee Hansard*, 20 November 2017, p. 33.

²⁸ Mrs Kylie Warne, Chair, Barwon Regional Partnership, *Committee Hansard*, 20 November 2017, p. 32.

²⁹ Mr Bill Mithen, Chair, G21 Geelong Region Alliance, *Committee Hansard*, 20 November 2017, p. 6.

Recently the Victorian government has made announcements about what was called the Outer Suburban Arterial Roads Program; it's now called, I think, the western roads project. Projects like the level crossing removals, the Melbourne Metro and the Ballarat line upgrade are being delivered. I was recently chair of the Ravenhall Prison Project community liaison group. All of these projects have taken from the Victorian Industry Participation Policy, and then we've met with bidders, constructors and so forth to make them see the wisdom in interpreting that policy where 'local' really means local. As you can understand, the policy is that 'local' means anything in Australia or New Zealand, but we are particularly eager for these entities to employ local young people in apprenticeships and traineeships, as well as people who are dealing with disadvantage—people from culturally and linguistically diverse backgrounds, people with disabilities and people who have been on unemployment for a longer time—to provide the opportunity for them, through this social procurement measure, to change their lives and be able to participate more fully.³⁰

Refining appraisal methods

13.28 The need to refine infrastructure appraisal methods was stressed in the evidence presented to the Committee. In particular, the role of cost-benefit analysis was subjected to scrutiny. Ms Megan Motto, Chief Executive Officer of Consult Australia, noted that currently 'cost-benefit analysis on projects tends to be very defined around the direct economic impacts', and that there was not 'particularly well-defined methodologies for assessing some of those broader implications' of projects, such as technology, employment, sustainability and liveability'.³¹ In its submission, Consult Australia stated:

Critical in assessing the merits of public investment in infrastructure and the development of cities is the application of broad cost-benefit-analysis. Increasingly infrastructure projects are assessed individually, over relatively short time-frames and viewed as 'ready to proceed' only where utilisation is close to capacity.

The benefits of a longer-term view of infrastructure investment, and governments' vital role in facilitating those longer-term benefits as part of a vision for our cities and regions, needs to be re-established. Governments need

³⁰ Mr Craig Rowley, Chief Executive Officer, LeadWest, *Committee Hansard*, 20 November 2017, p. 19.

³¹ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, p. 16.

to consider less easily quantified benefits that come with some forms of infrastructure investment.³²

13.29 Consult Australia argued that ‘where appropriate, cost-benefit-analysis should be conducted across multiple projects, and have regard to wider economic benefits that come through agglomeration, jobs growth, and the delivery of more sustainable and liveable communities’. It cited the successful application of this approach internationally, ‘for example in London through the delivery of the Crossrail project, and which has resulted in significant new private sector investment’.³³

13.30 Consult Australia believed that ‘one of the major challenges in infrastructure delivery is the shortage of investment-ready projects developed through robust integrated strategic planning, community engagement and participation, environmental impact analysis and business case development’. It stated:

Too often the early design of projects is rushed to market, developed reactively against pre-made decisions only when funds are made available for construction. Consequent compromises in design, or poor overall business case development lead to information asymmetries in decisions to proceed, and/or a failure to achieve social licence to operate, and in some cases project cancellation and a perception of increased sovereign risk with potential investors.³⁴

13.31 It argued that ‘infrastructure decisions should reflect long-term infrastructure planning’, citing Infrastructure Australia’s 15-year Infrastructure Plan ‘that is evidence based and free of politicisation’. It advocated funding ‘to support feasibility studies, community engagement and public participation, business case development, cost-benefit-analysis (including assessments of wider economic benefits) and environmental impact analysis’. It suggested that ‘without this investment in the long-term infrastructure pipeline, at the earliest stages of project conception and development, the ability for governments to identify investment ready projects when funds become available is significantly diminished’. Consult Australia recommended:

³² Consult Australia, *Submission 61*, p. 5.

³³ Consult Australia, *Submission 61*, p. 5.

³⁴ Consult Australia, *Submission 61*, pp. 5–6.

... a dedicated innovation fund, separated from pre-determined infrastructure projects, to support the development of new investment-ready infrastructure through: feasibility studies, community engagement and public participation, business case development, cost-benefit-analysis (including assessments of wider economic benefits) and environmental impact analysis.³⁵

13.32 It concluded that ‘a deep pipe-line of projects ready for investment and construction as soon as the funds are available will deliver a powerful economic tool in the event of a more significant economic downturn’.³⁶

13.33 The Committee for Sydney argued that the current approach to infrastructure appraisal was:

... modally siloed and gives too much weight in the selection criteria to claimed travel time reductions for transport users which have little empirical basis, while giving too little weight to the evidenced impact on land uses, values and densities brought about by transport investment.³⁷

13.34 It noted that ‘rail projects, for example, bring a value uplift to homes near stations and enable higher density development—but neither outcome is properly accounted for in our appraisal process’. It stated:

The traditional ‘welfare benefits’ metrics on which transport Cost Benefit Analysis is based simply don’t provide an adequate guide to which mode we should be selecting and what the priorities should be for our city. City shaping infrastructure projects need to be assessed against wider criteria than just the traditional cost-benefit analysis and requires a change from the traditional and modally siloed approach from our transport agencies.³⁸

13.35 The Committee for Sydney sought an infrastructure appraisal process that would assess projects ‘from the perspective of what they will do to meet cities’ economic, social and environmental needs’:

It should be based on integrated land use and transport strategies for cities and appraise projects in terms of how they will contribute to meeting the key objectives of the city strategy; how, for example, they improve or increase its

³⁵ Consult Australia, *Submission 61*, p. 6.

³⁶ Consult Australia, *Submission 61*, p. 6.

³⁷ Committee for Sydney, *Submission 88*, p. 34.

³⁸ Committee for Sydney, *Submission 88*, p. 34.

productivity, liveability, inclusivity, housing delivery and other strategic city shaping aims.³⁹

- 13.36 Another concern about traditional cost-benefit analysis was its inherent bias in favour of metropolitan centres at the expense of regions. Professor Sue Holliday stated:

On the whole, regional centres do not have the information required, the population required, nor the arguments to make that meet Treasury requirements and can compete with cost/benefit ratios in the major cities and their regions. The methodology is stacked against them. It is critical that regional centres compete against other regional centres in this resource 'game' so that they have as level a playing field as possible to make their case.⁴⁰

- 13.37 The importance of factoring in wider benefits was highlighted by the National Heart Foundation. It cited Queensland Government evidence showing that cycling links have 'have very high cost-benefit ratios once health benefits/disbenefits are included in evaluations'.⁴¹ Professor Anna Timperio, representing the National Heart Foundation, observed that 'there are air pollution related costs and benefits, there are health related benefits, there are physical activity related benefits and there are quality-of-life benefits that need to be costed as well', but that these benefits were not necessarily being considered in cost-benefit analysis, despite being 'quite critical and obviously very pertinent to livability'.⁴²

- 13.38 Mr Stephen Hodge, Government Relations Manager for the Australian Cycling Promotion Foundation Ltd, noted that 'in the area of transport, the cost-benefits have been done on travel time savings—the level of service—but that clearly doesn't help the modes that you might want to look at from a policy perspective for all the other benefits and for decongestion' He observed that in the past we have not looked at decongestion as a positive benefit, or 'the fact that you're lowering the health budget when you get more people physically active'. Things were, however, starting to change:

³⁹ Committee for Sydney, *Submission 88*, p. 34.

⁴⁰ Professor Sue Holliday, *Submission 31*, p. 5.

⁴¹ The National Heart Foundation, *Submission 113*, p. 5.

⁴² Professor Anna Timperio, Research Fellow, Institute for Physical Activity and Nutrition, Deakin University; and Member, Physical Activity Committee and Future Leader Fellow, National Heart Foundation of Australia, *Committee Hansard*, 21 November 2017, p. 32.

We started looking at the cost analysis framework for roads, which was the National guidelines for transport system management up until 2016. It went through a review. We started commenting on papers in 2012. In 2014 a huge revision paper came out, which looked at inputting things like parameter values for active travel—benefits you get out of active travel and walking and so on. It's taken years and years to get there. Even now—it's now called ATAP, the Australian Transport Assessment and Planning program—we're going through a process where a couple of chapters come out each month and they're reviewed publicly. They will go into a new framework which will, for the very first time, start to allow like-for-like decisions to be made on an objective basis. There are decongestion indices in there and parameters. So they're starting, but we should've been able to do this years ago. We are getting to the point now where, for some of the big decisions that are made around transport, for instance—because that has such a reach down into everything that we do in our cities and our communities—we're now going to be able to start to actually see some real differences in outcomes for a whole lot more meaningful reasons than we could before just for roads.⁴³

- 13.39 Mr Jonathan Cartledge, Chair of the Cities Task Group at ASBEC, believed that 'this is really a space where there's such a great, easy opportunity for federal leadership, through the statement of expectations to Infrastructure Australia, to deliver some guidelines in this area'. He suggested that 'there's a great opportunity here for IA to build capability across the state and territory agencies through national guidelines that make for better decisions'.⁴⁴ Research by ASBEC identified a number of flaws in business case development for infrastructure projects, including the setting of the discount rate at seven per cent, despite interest rates being low for a number of years, and a lack of methodology for measuring externalities such as jobs growth, environmental benefits of social benefits. Mr Cartledge concluded:

So some of these flaws in the methodology of business case development have real impacts on the number that is delivered at the end and the fact that that number is the overwhelming decision maker—that ratio of the cost-benefit analysis is the overwhelming decision maker—for whether or not a project proceeds, rather than the fuller business case that sits behind it. It is also that that number is the sole criterion often by which the public actually evaluates the method or the benefits of the particular piece of infrastructure. So our

⁴³ Mr Stephen Hodge, Government Relations Manager, Australian Cycling Promotion Foundation Ltd, *Committee Hansard*, 21 November 2017, p. 32.

⁴⁴ Mr Jonathan Cartledge, Chair, Cities Task Group, ASBEC, *Committee Hansard*, 14 November 2017, p. 21.

recommendations try to overcome some of those factors and provide some new opportunities, particularly for Infrastructure Australia to take a lead role in national consistency in business case development best practice around Australia.⁴⁵

- 13.40 The Green Building Council of Australia (GBCA) identified other means for promoting wider benefits relating to infrastructure investment, including City Deals and the use of development authorities/corporations to promote integrated planning and procurement. The GBCA welcomed City Deals as ‘an important breakthrough in helping deliver integrated strategic planning and coordination across levels of government. In bringing the strategic vision that underpins city deals to reality, effective governance will be critical.’ It recommended that ‘the Australian Government incentivise the creation of independent development corporations to support the delivery of city deals across Australia’, stating:

The establishment of statutorily independent development corporations to guide development, manage procurement, engage effectively with the community and industry will be beneficial in delivering what are likely to be major, complex infrastructure and urban renewal projects. The success of agencies like the Fisherman’s Bend Taskforce, the Barangaroo Delivery Authority and the Sydney Olympic Park Authority are powerful models to consider as mechanisms to drive effective city and economic development and renewal. The creation of the Townsville Development Corporation as part of the Townsville City Deal is a good example of this governance being implemented in the first of the Government’s city deals.⁴⁶

- 13.41 The Committee witnessed first hand the building and precinct scale innovation encapsulated in Sydney’s Barangaroo development, which is regarded as a model of urban development. As Ms Romilly Madew, Chief Executive Officer of the GBCA, explained, this outcome was very much the result of a carefully considered and clear procurement process:

Barangaroo Delivery Authority outlined some clear guidelines and principles for central Barangaroo. The bidders had to respond to that. Lendlease obviously did, and met the requirements, but also the innovation that has come out of Barangaroo is clear. You saw that yesterday—they have led the industry. The industry has learned so many lessons from Barangaroo. The

⁴⁵ Mr Jonathan Cartledge, Chair, Cities Task Group, ASBEC, *Committee Hansard*, 14 November 2017, p. 17.

⁴⁶ Green Building Council of Australia, *Submission 99*, p. 10.

Barangaroo delivery was very clear: 'You need to meet this, this, this and this.' But other things have come out of Barangaroo that I do not think anyone expected. One of them was the Barangaroo Skills Exchange, the indigenous skills exchange. I don't know whether you saw the indigenous skills exchange that was created. People were trained on-site. The resilience and adaptation framework they developed no-one had seen before. They put that on line, which the industry has learned from. The sustainability innovation no-one expected, and we have all learned from that. That all came out of the Barangaroo Delivery Authority initially outlining: 'These are the targets you need to meet'.⁴⁷

- 13.42 Another example of successful and far-sighted procurement cited in the evidence was that of the Waratah Trains. Mr Jeff Sharp, Group Manager, Technology and Innovation for the Downer Group, explained:

I have used the same example twice. It is not our only one, but it is a really good one and it is local here. It is the trains in Sydney, the Waratah trains that were built 10 years ago. When we signed that contract with the New South Wales government it included a 30-year maintenance contract. We are actually paid based on the availability of trains. I wasn't involved back then, but the people who designed those trains put all those sensors on the trains. 'Internet of things' is a buzz phrase we hear today, but it has been around for a long time. They weren't all connected, but the sensors are there. We collect something like two terabytes of data a day off each train, and they are 10 years old. That's the sort of foresight, rather than the cheapest train and not putting those sensors on. To actually have that data is really valuable.⁴⁸

- 13.43 Another concern raised about procurement, however, was that 'few government regulators stipulate that the impacts of global warming be included in either the environmental impact statements or cost benefit analyses that are required by law at the time of seeking government approval'.⁴⁹ Similarly, in its submission, the Organisation Sunshine Coast Association of Residents (OSCAR) identified a lack of connection between planning and procurement regimes and the anticipated impacts of climate change, particularly development in river catchments and on floodplains. It urged 'a holistic consideration of the river catchments and floodplain

⁴⁷ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 6.

⁴⁸ Mr Jeff Sharp, Group Manager, Technology and Innovation, Downer Group, *Committee Hansard*, 22 August 2017, p. 35.

⁴⁹ The Middle Way, *Submission 80*, p. 5.

management' given 'the dynamic interconnectedness of our natural environment and our communities' vulnerable locations'.⁵⁰

Long-term perspectives

13.44 The need for a long-term perspective in infrastructure procurement was also emphasised in the evidence presented to the Committee. This had implications not only for planning, but for the procurement process itself. Transport expert Dr Philip Laird urged governments to 'take a long-term view of investments—longer than perhaps they have in the past', suggesting that 'we should, perhaps, be looking out for at least 50 years'. He also questioned the use of a seven per cent discount rate in evaluating the cost-benefit ratio, indicating that 'four per cent would be more realistic'. He noted that by reshaping 'those two parameters—discount rates and horizon—you get different results'. He cited the example of the Maldon-Dombarton rail link: 'As a study for the Illawarra business council showed, at four per cent it's looking much better than a seven per cent discount rate'.⁵¹

13.45 The SMART Infrastructure Facility at the University of Wollongong made an identical point about the same railway line—known as the South-West Illawarra Rail Link (SWIRL). It stated:

In SMART'S view, there are substantial net economic benefits that would accrue, in particular to the Illawarra and southwest Sydney regions, from completing the \$1.7 billion SWIRL. We have estimated a benefit-cost ratio [BCR] for a passenger-freight SWIRL to be between 1.02 and 1.24, with our central estimate at the standard 7% discount rate being 1.13. At a 4% discount rate, which is the standard lower-bound estimate but in our view a more appropriate measure in the post-GFC world, our BCR central estimate is 1.56.⁵²

13.46 The SMART Infrastructure Facility estimated the economic impact on the Illawarra region of completing the SWIRL:

Our detailed economic modelling indicates the benefit to the Illawarra region would be \$2.6 billion [in NPV terms at the standard 7%] and over 1,100

⁵⁰ OSCAR, *Submission 167*, p. 1.

⁵¹ Dr Philip Laird, *Committee Hansard*, 13 November 2017, p. 20.

⁵² SMART Infrastructure Facility, University of Wollongong, *Submission 164*, pp. 5–6.

additional jobs per year on average [in FTE terms]. This indicates the return to the Illawarra would be \$1.84 for each \$1 invested in the SWIRL.⁵³

- 13.47 Mr Brendan Nelson, President of the Planning Institute of Australia, questioned whether ‘the Sydney Harbour Bridge would meet a BCR now that would allow it to be built under the current approaches’, observing that as a piece of infrastructure it had ‘stood the test time for the best part of a century’. He argued that ‘the lens that we need to apply to infrastructure investment needs to be far broader than simply ticking the economic benefits in a very shortened period’.⁵⁴
- 13.48 Ms Romilly Madew, Chief Executive Officer of the Green Building Council of Australia, made the point that ‘cities function over generations and as systems’, and that procurement practices needed to account for this. She noted that ‘costs will not always be evident at point in time decisions about how we develop our cities or in the cost-benefit analysis of individual projects’. She expressed frustration at the fact that while ‘we try to overcome the greatest challenges and grapple with the significant policy issues’, we are ‘at the same time making them worse by repeating the same mistakes that gave rise to these problems in the first place’.⁵⁵
- 13.49 Ms Julianna Walton, Convenor of Action for Public Transport NSW, emphasised the benefits of forward thinking, observing that putting in infrastructure changes land use. She stated:
- It’s complete nonsense to keep opposing these projects on the basis that the people aren’t there. I’m not talking about putting a train line along the Birdsville Track, where there isn’t anybody and no-one planned, but it’s just, frankly, silly. We’ve had no end of carping about the Leppington line — ‘Oh, it’s in a field, so why would you build that?’ or, ‘It’s a waste of money,’ and so on. Meanwhile, coming up the tracks are I’m not sure how many thousands of people, but it’s a lot.⁵⁶

⁵³ SMART Infrastructure Facility, University of Wollongong, *Submission 164*, pp. 5–6.

⁵⁴ Mr Brendan Nelson, President, Planning Institute of Australia, *Committee Hansard*, 13 November 2017, p. 35.

⁵⁵ Ms Romilly Madew, Chief Executive Officer, Green Building Council of Australia, *Committee Hansard*, 22 August 2017, p. 1.

⁵⁶ Ms Julianna Walton, Convenor, Action for Public Transport NSW, *Committee Hansard*, 22 March 2018, p. 43.

- 13.50 Professor Sue Holliday emphasised the perils of a lack of long-term planning, highlighting infrastructure projects where ‘from the time they were planned, the growth has far exceeded the capacity originally identified as being needed’:

So the Eastern suburbs rail line for example is almost 150% over the target capacity of the original projections. The Chatswood to Epping line is approximately 250% over the original predicted capacity! As many drivers from the North West know, the M2 takes almost 130% more vehicles per day than originally planned.⁵⁷

- 13.51 She noted that ‘these infrastructures are failing us not because they are not good enough, but because they have not been created to accommodate the next growth phase of the city’. This indicated ‘that most of these big pieces of infrastructure are funded for a shorter horizon than the 30–50 year time frame we now need’. Professor Holliday concluded that ‘while the financial imperatives are clear (only spend what is absolutely necessary) the opportunity cost of failing to invest for the 30–50 year horizon is enormous’.⁵⁸

Financing and funding innovation

- 13.52 Innovation in financing and funding for infrastructure was seen as a key element in the planning and development of cities. Budgetary constraints combined with a high level of demand for new and upgraded infrastructure meant that finding new ways of financing infrastructure is essential. Consult Australia observed that ‘overcoming institutional resistance to more innovative policy solutions will be critical to delivering new financing mechanisms’. While noting that ‘not every tool available to governments will be appropriate for every project’, Consult Australia endorsed ensuring ‘all options are available so they can be used where appropriate’.⁵⁹
- 13.53 An essential innovation was value capture—using the uplift in property value associated with the provision of infrastructure to help pay for that infrastructure. Associate Professor Hussein Dia, from the Department of Civil and Construction Engineering at the Swinburne University of Technology, argued that ‘the option of value capture to complement public

⁵⁷ Professor Sue Holliday, *Submission 31*, from the Utzon Lecture 2015, p. 4.

⁵⁸ Professor Sue Holliday, *Submission 31*, from the Utzon Lecture 2015, p. 4.

⁵⁹ Consult Australia, *Submission 61*, pp. 15–16.

funding should be examined to generate sustainable funding streams'. He observed that 'besides being a politically appealing option, this funding model also reinforces the link between land use and transport'.⁶⁰ Mr Adam Beck, Executive Director of the Smart Cities Council Australia New Zealand, stressed the urgency of pursuing innovation:

We don't have the luxury of two decades to work out how to build better cities, how to build more sustainable cities, to work out what value capture means. We are really on the clock, and Australia needs to embrace and move beyond individual pilots. Whilst they're fantastic, we need to really supercharge and accelerate and move from lab and piloting to scale and replication very quickly, because we're a rapidly urbanising nation⁶¹.

13.54 Mr Beck saw opportunities in programs such as City Deals and the *Smart Cities Plan* but emphasised the slow pace of innovation. He told the Committee:

We're starting to join up some of those things. Just the theory of Smart Cities alone is a good one, that all three tiers of government would work together and align resources. It's very novel, but I was at a conference this morning in Brisbane—Urbanity 2017—and I've just come out of a panel on City Deals. A question was raised to the panel. We currently have three City Deals in Australia—Townsville, Launceston and Western Sydney—and the Prime Minister wants one in each capital city, in the near term. But the comment came that we don't have the capacity to do that. We don't have capacity to get one in every city because the Department of the Prime Minister and Cabinet don't have enough resources.⁶²

13.55 He also stressed the need to move quickly on issues surrounding capacity building and innovative financing for sustainable urban development—particularly value capture:

Our Prime Minister announced that we have an energy crisis. He announced that, publicly, last December. We have a housing affordability crisis. We have a climate crisis. We have our back up against the wall now and we don't have

⁶⁰ Associate Professor Hussein Dia, *Submission 82*, p. 12.

⁶¹ Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 22.

⁶² Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 22.

the luxury of time to explore and finally understand that value capture is great and we might try and pilot it here and there.⁶³

13.56 In its own research, Consult Australia had ‘identified numerous opportunities and lessons that can be learned from overseas experience in successfully implementing value capture mechanisms’; and urged the Australian Government to ‘continue its consideration of opportunities to incentivise value capture mechanisms as an element of infrastructure financing to deliver new infrastructure and urban regeneration’. It believed that the main barriers to the implementation of value capture were ‘institutional resistance, and/or a lack of awareness of potential benefits’.⁶⁴

13.57 The University of Melbourne stated that ‘decades of academic research justify financing future transit projects through value uplift associated with those transit projects’; and that ‘the extensive literature on transit-related value capture provides conclusive evidence that government investment in transit infrastructure raises land and property values’. It cited an international review where ‘Canadian scholars recently found rail transit increased land or property values by an average of 20% across 23 previous studies on the topic’. One Australian study identified land value uplift of up to 40% in Perth’s housing market in 2014; while another found a 4% increase in property values in 2015 associated with Brisbane ferries.⁶⁵

13.58 The Committee for Sydney has published an issues paper, *Are we there yet: Value capture and the future of public transport in Sydney*, which ‘identified a best practice approach to value capture, concentrating on models that will work for the Australian context’. It found ‘that value capture offers the “best option to solving the funding conundrum” facing public transport infrastructure’, but that ‘to get community buy-in, a clear nexus between the additional cost and the provided benefit is central to success’. The Committee for Sydney noted, however, that ‘there is a still a lack of coherent and clear policy direction on how it should be implemented and which model should be adopted’. This policy vacuum had resulted in lost opportunities:

⁶³ Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand, *Committee Hansard*, 29 September 2017, p. 22.

⁶⁴ Consult Australia, *Submission 61*, pp. 15–16.

⁶⁵ University of Melbourne, *Submission 106.1*, p. 1.

It is widely accepted now, for example, that a value capture approach should have been implemented in relation to the building of the North-West Rail Link (now Sydney Metro) as the costs of this massive project were carried by the public sector but the returns were privatised by land owners. We must avoid similar unearned private uplift to land values around the Western Sydney Airport arising from public intervention as rezoning there provides a real opportunity to introduce value capture with widespread public support. The same can be said of the Sydenham to Bankstown extension of the Metro: we must avoid history repeating itself and the government depriving the community of a significant and justified return.⁶⁶

13.59 The Committee for Sydney stated that:

Value capture or sharing approaches can be applied as a contribution to the cost of the infrastructure itself, or to ensure that appropriate community infrastructure is in place to meet the needs of an expanded population enabled by, for example, a new rail link. There is an array of potential initiatives of this kind to be explored. They are, with road pricing/user charge strategies, variants of a 'beneficiary pays' approach.⁶⁷

13.60 It concluded:

Policy innovation and a politically mature conversation with the community on such approaches is vital as 'business as usual' will not deliver the investment required. This discussion is needed because it's not just federal funding that Sydney needs; to some extent it needs to tax itself if it is to fund the infrastructure demands of a city of 8 million people. That requires both new funding mechanisms and renewed community involvement.⁶⁸

13.61 The potential and the importance of value capture was illustrated in two examples provided by Mr Tim Williams, Chief Executive Officer of the Committee for Sydney. In relation to the tremendous property value uplift brought about by the extension of the railway to Castle Hill in Sydney, he stated:

The official position of the Committee for Sydney is that we should never make the mistake we made at Castle Hill ever again, because if we are going to create fortunes like that, if we had just as a government gone to people there and said, 'By the way, we are going to bring some tremendous value uplift. Can we share some of it?', they would have said yes. So I don't think we need

⁶⁶ Committee for Sydney, *Submission 88*, pp. 34–5.

⁶⁷ Committee for Sydney, *Submission 88*, pp. 34–5.

⁶⁸ Committee for Sydney, *Submission 88*, pp. 34–5.

to make that error again. We just need to be a bit more confident about the value that we know we are creating. There is a fairness out there, I think, that the public sector should get some return for that.⁶⁹

- 13.62 He also cited the example of the Crossrail in London as a case where more could have been done to capture the value of property uplift:

I was involved 10 years ago in the case for Crossrail in London. There are two things about this. One is that it does have a modest value-capture element to it, which is the business rates side of it. But we missed completely — mea culpa — the value uplift in residential development that was coming around the stations. If you go there now — even though they are not open yet — people living within 800 metres of the new stations are seeing twice the value uplift of those that are farthest away. I don't think people would consider it an unfair conversation to say, 'We are going to create some great value for you. Can we have a share back?' I think that moment has come in the Australian discussion.⁷⁰

- 13.63 The City of Sydney stated that 'value capture mechanisms can fund infrastructure by capturing optional land-value uplift resulting from rezonings and big infrastructure improvements'; and that 'value capture (contributions charge in exchange for the option of taking up a rezoning) can be potentially applied by all levels of government to raise the necessary funds to invest in infrastructure'. It argued that value capture was 'effective in delivering equitable social outcomes because it enables the value created by urban renewal to be shared between government and the private sector'. It suggested that value capture 'ensures that planning gain resulting from a change to planning controls is equitably distributed between the private landowner and the public provider of infrastructure improving the feasibility of delivery of a project, which in itself, may be a societal benefit'.

- 13.64 The City of Sydney rejected concerns from the development industry that value capture 'increased costs and even impacts on housing affordability':

The City's approach is to capture only a portion of the land value increase in value resulting from an optional rezoning. This preserves the construction profit for development projects to ensure they remain viable. Developers price

⁶⁹ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 41.

⁷⁰ Mr Tim Williams, Chief Executive Officer, Committee for Sydney, *Committee Hansard*, 22 August 2017, p. 43.

in any levy into what they pay for the land component reducing the windfall profit to the unimproved land owner.⁷¹

- 13.65 The City of Sydney noted that ‘this method underpins contributions for community infrastructure in Green Square within the City of Sydney Local Government Area, and is being used to deliver affordable housing in two investigation areas of the City of Sydney Southern Employment Lands’. Focussing on policy at the national level, the City of Sydney stated:

Successful implementation of value capture systems in Australia will require the coordination and cooperation of all three tiers of Government. The City Deals program recently initiated by the Federal Government involves agreements between the three tiers of government to achieve specific outcomes, and it is expected that most City Deals would include a value capture component, depending on its viability.⁷²

- 13.66 The City of Sydney supported the recommendations of the Committee’s report on the role of transport connectivity on stimulating development and economic activity, *Harnessing Value, Delivering Infrastructure*, which included a number of recommendations on value capture.⁷³

- 13.67 Associate Professor Matthew Burke urged the exploration of value capture mechanisms for funding infrastructure. He noted that:

The Commonwealth has encouraged the states to consider value capture/value sharing funding and financing. Options such as tax increment financing, which applies levies on future increments in property value within a designated area around a station, and special assessment districts, where authorities apply a more blanket charge in a designated area, need to be considered more often, and not just on a project-by-project basis.⁷⁴

- 13.68 He identified barriers to the uptake of value capture, including:

... a lack of understanding of the size, shape and timing of property value impacts from public transport projects, stakeholder support, community willingness-to-pay/accept, and the many detailed policy and legislative issues that need to be resolved at state and local government level. It is also more

⁷¹ City of Sydney, *Submission 100*, p. 14.

⁷² City of Sydney, *Submission 100*, p. 14.

⁷³ City of Sydney, *Submission 100*, p. 14.

⁷⁴ Associate Professor Matthew Burke, *Submission 98*, p. 4.

difficult for agencies in certain states to consider specific approaches when they do not use broad-based land taxation.⁷⁵

13.69 He argued that ‘shifting to a broad-based land tax would offer the states significant advantages, capturing more of the value gains that come from rezonings or infrastructure investments’.⁷⁶

13.70 Mr Philip Davies, Chief Executive of Infrastructure Australia, stressed the importance of explicitly linking financing methods and planning. He noted that ‘the more joined up we can make the planning the better. I think the problem at the moment is people are pursuing value capture where we’ve already got hard hats and boots on-site, and it’s way too late.’⁷⁷ He highlighted the opportuning to develop integrated planning and financing around value capture in the development of High Speed Rail in eastern Australia:

The high-speed rail corridor is a good example because it cuts through a number of jurisdictions on the east coast. One thing with that corridor is that we need to see some alignment of planning and value capture policies across the states. Again, I think that’s a role for the federal government. Maybe it needs incentivising. One would have thought that, in preserving that corridor for the future, these kinds of things could be put into the package to say: as an outcome of this exercise we want to align some of our planning policies; we want to align our principles around value capture. That would have a broader impact than just the high-speed rail corridor, but it would be a way for the federal government to get some proper process and proper policy in place around value capture.⁷⁸

13.71 Australasian Railway Association made a similar point, noting that ‘early acquisition of properties for the purpose of corridor protection can also be an important platform for value capture’. The ARA believed that governments could reduce their direct financial investment ‘by introducing funding mechanisms such as value capture along the route and around stations’, including by ‘acquiring larger parcels of land than is required for the corridor and selling the land back to developers, as well as encouraging

⁷⁵ Associate Professor Matthew Burke, *Submission 98*, p. 4.

⁷⁶ Associate Professor Matthew Burke, *Submission 98*, p. 4.

⁷⁷ Mr Philip Davies, Chief Executive, Infrastructure Australia, *Committee Hansard*, 22 March 2018, p. 50.

⁷⁸ Mr Philip Davies, Chief Executive, Infrastructure Australia, *Committee Hansard*, 22 March 2018, p. 51.

Transit-Oriented Developments’. It observed, however, that ‘the first step requires the preservation of the land for the route’.⁷⁹

- 13.72 Ms Megan Motto, Chief Executive Officer of Consult Australia, saw a significant role for value capture, ‘not only in funding the infrastructure assets we need and in adding that layer of value onto just pure patronage payment, but also, for example, in opening up regional communities and allowing more teleworking and more capacity for people to come from regional centres into the city to where the jobs are — there’s a huge array of opportunity there’. Her only caveat was that ‘we need to be careful about having the methodology for understanding that business case’. There needed to be ‘rigour in how we identify the costs that will be incurred and the value that’s going to be created, in a realistic way’.⁸⁰
- 13.73 Professor Sue Holliday supported value capture ‘as long as it is valuable in linking into existing infrastructure and not wasteful in terms of being speculative, because that’s what it is if it is just buying up farms in the middle of nowhere, away from existing towns and infrastructure’.⁸¹
- 13.74 SGS Economics and Planning linked value capture to metropolitan governance (see Chapter 13), stating that ‘to properly fulfil the subsidiarity principle, a metropolitan government should be able to act autonomously on the matters within its jurisdiction’:

This means independent access to a sufficient tax base, and a process of democratic accountability for how this tax base is deployed in the service of the metropolitan constituency. Working on the presumption that the overall tax burden on the community will be kept within bounds, the institution of genuine metropolitan government would entail some reallocation of existing tax revenues (for example GST), retirement or reduction of some distortive or otherwise unhelpful taxes (such as payroll taxes and several transaction taxes) and the introduction of market reforms which can simultaneously generate substantial revenues and play a part in optimising metropolitan economies and growth patterns. The latter could include the creation of metropolitan markets in development rights, as currently occurs in the ACT under that jurisdiction’s leasehold system.⁸²

⁷⁹ Australasian Railway Association, *Submission 49*, p. 5.

⁸⁰ Ms Megan Motto, Chief Executive Officer, Consult Australia, *Committee Hansard*, 22 August 2017, pp. 18–19.

⁸¹ Professor Sue Holliday, *Committee Hansard*, 22 August 2017, p. 23.

⁸² SGS Economics and Planning, *Submission 51*, p. 4.

- 13.75 SGS argued that ‘this would make value capture a consistent, substantial, predictable and transparent source of base load funds, as distinct from its sporadic and opportunistic use in part funding individual infrastructure projects’. It cited research that ‘conservatively estimates that value capture through a system of development licence fees could generate upwards of half a billion dollars per annum in Victoria’.⁸³
- 13.76 Not everyone agreed with the concept of value capture. The Shopping Centre Council of Australia (SCCA) was ‘sceptical of the use of ‘value capture’’. The SCCA was of the view that ‘there is no credible method to properly isolate and quantify the contribution made by an infrastructure project, let alone a proposed future infrastructure project (e.g. under a “cities plan”), to an asset’s land value’. It argued that ‘, value is driven by many factors beyond the mere presence of a piece of infrastructure’.⁸⁴
- 13.77 Mr Brendan Lyon, outgoing Chief Executive Officer of Infrastructure Partnerships Australia, was also critical of the concept of value capture. One risk in value capture was that it would be another impost on the cost of housing. Mr Lyon stated:
- If there is an additional cost that is imposed at the front, that won’t be donated by the development companies, I shouldn’t have thought; it will be passed through as one of the input costs on the production of that new housing. Value capture can take on a sort of mystical tone when some of the advocates are talking about it. It does make a practical, logical sense to think of, but the next piece is what happens to that land with that additional input cost that’s been put on it. It’s turned into housing. We are trying to get costs down so that we don’t see the flight of key workers out of the major capital cities. So I think there is some practical limitation to the role that value capture can play.⁸⁵
- 13.78 Mr Lyon referred to value capture as ‘a hard way to raise not very much money’, and suggested that ‘that’s why we haven’t seen it implemented—it is because it does create losers. In my observation, the wins, in terms of additional revenue, are not practically material in terms of the overall capital cost.’ He saw value capture more as ‘a planning tool to align governments and align land use planning towards the sort of outcomes you would want’. He suggested that it was ‘very hard to make multi-billion-dollar

⁸³ SGS Economics and Planning, *Submission 51*, p. 4.

⁸⁴ Shopping Centre Council of Australia, *Submission 68*, p. 4.

⁸⁵ Mr Brendan Lyon, Chief Executive Officer, Infrastructure Partnerships Australia, *Committee Hansard*, 22 March 2018, p. 4.

infrastructure pay for itself'; and 'even harder to put onto the release of new housing in an already hot property market'. He thought it made sense, however, for 'the Commonwealth to look at how it can use its power and influence to help the states to make the best land use planning decisions and to consider the options and so forth'.⁸⁶ He stated that 'the overall limitation on innovative finance is that we are still collecting it from the community, in another form, and that's where it should be considered alongside the overall burden that people face'.⁸⁷ He concluded:

With regard to some of the earlier discussion we had, you are in fact talking about multi-tiers of government and about using the land taxing provisions or the value capture provisions to make the overall process and tax burden more efficient. That is exactly the point I was making before: that these things should not be considered in isolation from everything else; that it needs to be considered within the overall tax mix and tax burden on the economy and the incentives created.⁸⁸

13.79 The GPT Group expressed similar sentiments, arguing that value capture 'is limited when it is considered simply as a short-term capital recovery strategy, derived from collecting funds from land owners in the immediate vicinity of a piece of infrastructure'. Such methods would impact project viability, increasing 'the cost of development on prime sites, thus generating an unintended outcome of making marginal sites more attractive for development at the expense of better located sites'. GPT stated that:

The challenge is to review thinking around value capture, and view it as a long-term idea that focuses on supporting transport and infrastructure outcomes at a metropolitan level rather than solely through a land uplift framework...

By thinking about value capture or return on investment (ROI) from a long-term perspective, ROI can instead be achieved by government through increased future tax revenue collected over an entire metropolitan catchment. As Australian cities continue to become among the most liveable in the world; they will continue to attract new investment in jobs and housing. As a result,

⁸⁶ Mr Brendan Lyon, Chief Executive Officer, Infrastructure Partnerships Australia, *Committee Hansard*, 22 March 2018, p. 4.

⁸⁷ Mr Brendan Lyon, Chief Executive Officer, Infrastructure Partnerships Australia, *Committee Hansard*, 22 March 2018, p. 4.

⁸⁸ Mr Brendan Lyon, Chief Executive Officer, Infrastructure Partnerships Australia, *Committee Hansard*, 22 March 2018, p. 4.

total tax revenue would increase. This alternative framework for conceptualising ROI for infrastructure spending would allow the best possible transport outcomes to be delivered.⁸⁹

- 13.80 GPT proposed the Australian Government taking leadership ‘in reforming property taxes to create an ongoing capital recovery mechanism for the gradual rise, over time, in the value of property located close to desirable infrastructure’. This contrasted with ‘the current situation where property taxes are levied by all three levels of government, which creates uncertainty when it comes to investment’. GPT proposed a mechanism by which the three levels of government would ‘reach agreement at the outset of the urban renewal project so that private developers have certainty about what will be required of them’. This would allow ‘parks, schools, cultural and other infrastructure required to make the development successful can be delivered in a timely manner with investment certainty for all parties’.⁹⁰
- 13.81 Another concern raised was the different potential for value capture between urban and regional centres. RDA Tasmania noted that ‘Australia has a dispersed population across a large land mass which creates massive variation in the capacity of our different regions to capture value’. It was concerned that ‘infrastructure projects with a high potential for value capture may be prioritised by the Australian Government at the expense of projects in more dispersed and regional locations that have less or no capacity for value capture’. RDA Tasmania feared that ‘this could further exacerbate the disadvantage and divide that already exists’.⁹¹
- 13.82 The Department of the Prime Minister and Cabinet noted that the Australian Government released a discussion paper—*Using Value Capture to Help Deliver Major Land Transport Infrastructure: Roles for the Australian Government*—that highlighted ‘the challenges and opportunities value capture presents to help deliver land transport infrastructure in November 2016’. The Department observed that the Australian Government ‘has a strong interest in making greater use of value capture to provide for a more efficient and equitable approach to infrastructure development and delivery’.⁹²

⁸⁹ The GPT Group, *Submission 72*, p. 8.

⁹⁰ The GPT Group, *Submission 72*, p. 9.

⁹¹ RDA Tasmania, *Submission 89*, p. 13.

⁹² The Department of the Prime Minister and Cabinet, *Submission 95*, p. 7.

Committee conclusions

- 13.83 The evidence presented to the Committee highlighted the need to refine infrastructure procurement methods and bring them more closely into line with planning mechanisms. In particular, there was an identified need to align procurement with innovation, creating innovative outcomes underpinned by innovation in financing and funding methods.
- 13.84 The Committee endorses adopting a ‘whole-of-life’ approach to procurement. This approach would assess the creation of infrastructure in terms not only of what it will cost to build, but in terms of:
- costs and benefits across the conceivable service life of a piece of infrastructure (keeping in mind that some rail lines, for example, have been in service for over a century);
 - how well it fits into long-term planning frameworks (i.e. how well it connects with other infrastructure to meet long-term goals); and
 - how well it meets other objectives in terms of economic, social and environmental sustainability.

Recommendation 33

- 13.85 The Committee recommends that the Australian Government adopt infrastructure procurement practices that require a ‘whole-of-life’ approach to infrastructure procurement which look at costs and benefits across the service life of any given piece of infrastructure, its place within long-term planning frameworks, and how well it meets objectives in terms of economic, social and environmental sustainability.**
- 13.86 In order to achieve desired outcomes, government must be an informed client when procuring infrastructure. Procurement skills are essential to good procurement outcomes. Stakeholders stressed the importance of government purchasers knowing what they want and working in collaboration with contractors and other stakeholders to achieve outcomes.
- 13.87 The Barangaroo development was presented as a model of good government procurement, with the Barangaroo Delivery Authority defining the objectives of the project in a way which ensured positive economic, social and environmental outcomes. The Authority also worked collaboratively with the principal contractor to maximise the benefits of their expertise and innovation. Such independent development corporations are

an ideal mechanism for promoting innovative and sustainable development. Other important elements of informed procurement are: maximising the potential of technological innovation and data collection; achieving economies of scale through coordinated procurement; and engaging with Tier 2 & Tier 3 contractors—sourcing their innovation and expertise, not just relying on single sources of information or expertise. This is particularly important in regional communities where local expertise is likely to reside in smaller businesses and where the employment benefits of engaging with tier 2 & 3 contractors is likely to be significant.

- 13.88 The Committee believes the use of independent development corporations to manage the procurement and development of infrastructure projects has the potential to ensure that infrastructure meets a range of relevant and viable objectives other than just cost-benefit ratio, promoting sustainable and innovative development.
- 13.89 The Committee also supports the concept of a procurement training program to develop and promote good procurement skills and practice at all levels of government. The Committee believes that technical innovation should be a fundamental goal of infrastructure procurement, and that data collection and management are an essential part of this. The Committee also endorses government procurement practices which support and engage with Tier 2 & 3 contractors.

Recommendation 34

13.90 The Committee recommends that the Australian Government adopt an approach to infrastructure procurement that:

- **where appropriate, utilises independent development corporations to manage the procurement and development of infrastructure projects;**
- **promotes technical innovation; and**
- **supports and engages with Tier 2 & 3 contractors.**

Recommendation 35

13.91 The Committee recommends that the Australian Government, in conjunction with State and Territory Governments, establish a national training program for public sector infrastructure procurement.

- 13.92 One of the most important issues identified in the evidence was the need to refine appraisal methods. Concerns were raised that assessing individual infrastructure projects in isolation, focussing narrowly on the return of investment within artificial timeframes, and using discount rates significantly higher than official interest rates without regard to wider benefits, was skewing the field in favour of certain outcomes (for example, road over rail) and producing potentially unproductive and perverse outcomes (for example, facilitating urban sprawl rather than densification). The Committee heard that project appraisal methods should be consistent with a broader and more sophisticated view of procurement, that return on investment should be calculated over the life of the infrastructure, that discount rates should reflect both current interest rates and the probable life of the infrastructure, and that cost-benefit analysis should be required to take into account wider economic, social and environmental benefits associated with individual infrastructure projects within a broader planning framework.
- 13.93 The Committee believes that innovation in project appraisal is essential to successful urban development, and that individual infrastructure projects should be assessed not only in terms of the cost-benefit ratio, but also in terms of how well it integrates with long-term planning requirements; the wider benefits—economic, social and environmental—it produces; its contribution to innovation; and its potential to continue producing benefits beyond the immediate scope of the project. The Committee also believes that project costings should take account of the whole-of-life costs and benefits over the anticipated working life of the infrastructure and be assessed at a discount rate of four per cent.

Recommendation 36

- 13.94 The Committee recommends that the Australian Government should adopt an approach to infrastructure project appraisal that includes assessment of:**
- wider economic, social and environmental benefits;
 - costs and returns over the life of the infrastructure; and
 - cost of the project using a discount rate of 4 per cent.

- 13.95 The need for innovative financing and funding was highlighted in the evidence presented to the Committee. In particular, the potential role of value capture as a mechanism for financing the development of infrastructure and funding its ongoing operation was stressed by a number of witnesses and submissions. Value capture is employed successfully by MTR in Hong Kong. Under the 'rail and property model', rail projects are assessed in terms of their capital and operating costs over the life of the line. Revenue is estimated and the gap between the two identified. An assessment of development right is then used to fill the funding gap, with a land premium going to the government to meet pay for this development right. In conjunction with private developers, MTR invests in property development in and above the station precinct, creating an ongoing profit stream. The benefits to government include a free transport service, the land premium from lease of land, and an ongoing dividend from MTR's profit (HK\$4 billion per annum). The rail and property projects are implemented together in a coordinated way creating multiple uses of the same land; station areas including offices, shopping and residential within the airspace covering the station footprint. The outcome is rapid and coordinated development of infrastructure and commercial and residential space.
- 13.96 The potential for value capture to contribute to the development of infrastructure was discussed at length in the Committee's previous report, *Harnessing Value, Delivering Infrastructure*. The Committee considers that the recommendations in that report are still relevant, and should be adopted by the Australian Government.
- 13.97 The Committee is conscious that there are significant opportunities to apply value capture to the development of infrastructure. Value capture should be part of the conception of any infrastructure project. It should be incorporated organically into its planning and development. Suitable value capture mechanisms should be identified and applied from the outset. Ideally, this should involve coordination between different levels of government and project developers to ensure a maximum return on investment on the beneficiary pays principle consistent with project viability. The development of value capture as an organising principle of infrastructure planning and procurement, and the reform of the taxation system to match its requirements, are fundamental to the significant investment in infrastructure required to ensure the efficient growth and functioning of Australia's cities and regions.

Recommendation 37

13.98 The Committee recommends that the Australian Government develop a system of value capture as an organising principle of infrastructure planning and procurement, and progress the reform of the taxation system to match the requirements of value capture, in conjunction with State and Territory Governments, to provide a single, seamless, transparent system of taxes, charges and contributions, which allows for the costs of infrastructure development, where appropriate, to be met on the beneficiary pays principle.

**Mr John Alexander OAM, MP
Chair
11 September 2018**

A. List of Submissions

- 1 Latrobe City Council
- 2 Miss Roisin Kelly
- 3 buildingSMART Australasia
- 4 National Growth Areas Alliance
- 5 Council of Mayors (South East Queensland)
- 6 Total Environment Centre
- 7 Office of the Mayor - Goulburn Mulwaree Council
- 8 Dr Chris Hale
- 9 Mr Jon Strachan and Ms Cathy Hall
- 10 G21- Geelong Region Alliance
- 11 Regional Universities Network
- 12 Property Council of Australia
- 13 Nokia
- 14 Queensland University of Technology
- 15 NHMRC Centre for Research Excellence in Healthy Liveable Communities, RMIT
- 16 City of Fremantle

- 16.1 Supplementary to submission 16

17 Australian Academy of Technology and Engineering

18 Downer Group

19 Homelessness NSW

20 Association for the Study of Peak Oil (Australia)

21 Southern Downs Regional Council

22 National Transport Commission

23 City of Ballarat

24 Smithson Planning

25 Australian Health Policy Collaboration

26 Greater Shepparton City Council

27 Horsham Rural City Council

28 Curtin University Sustainability Policy Institute

- 28.1 Supplementary to submission 28

29 Professor Barbara Norman

30 White Label Personal Clouds

31 Ms Sue Holliday

32 Sustainable Population Australia

33 The Chapel Group (AUST) Pty Ltd

34 Sustainable Transport Coalition of WA

35 Centre for Urban Research - RMIT University

36 Ms Marianne Richards

37 IoT Alliance Australia

38 City of Greater Geelong

39 Wicked Lab

40 Port Macquarie-Hastings Council

41 Coffs Harbour City Council

42 Coffs Harbour City Council & Port Macquarie-Hastings Council

43 Lake Macquarie City Council

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- 44 Standards Australia
- 44.1 Supplementary to submission 44
- 45 Engineers Australia
- 46 Urbis Pty Ltd
- 47 City of Whittlesea
- 48 Master Builders Australia
- 49 Australasian Railway Association
- 50 Northern Alliance for Greenhouse Action
- 51 SGS Economics and Planning
- 52 Australian Logistics Council
- 52.1 Supplementary to submission 52
- 53 Water Services Association of Australia
- 53.1 Supplementary to submission 53
- 54 Australian Nuclear Science and Technology Organisation (ANSTO)
- 55 Town & Country Planning Association Inc.
- 56 Uber
- 57 Professor Paul Burton
- 58 Committee for Geelong
- 59 Bathurst Regional Council
- 60 Wollongong City Council
- 61 Consult Australia
- 62 Smart Cities Council Australia New Zealand
- 63 Regional Australia Institute
- 64 Eastern Transport Coalition
- 65 City of Wagga Wagga
- 66 Newcastle City Council
- 67 UTS
- 68 Shopping Centre Council of Australia
- 69 GoGet

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- 70 Prof Peter Newton
- 71 Synergetics
- 72 The GPT Group
- 73 Financial-Architects.Asia
- 73.1 Supplementary to submission 73
- 74 The Warren Centre for Advanced Engineering
- 75 Prof. Marcus Foth
- 76 Action for Public Transport (NSW) Inc
- 77 Dr Jaz Hee-jeong Choi
- 78 EAROPH Australia
- 79 Wyndham City
- 80 The Middle Way Pty Ltd
- 81 Queensland Tourism Industry Council
- 82 Associate Professor Hussein Dia
- 83 Australian Local Government Association
- 84 Business Council of Co-operatives and Mutuals
- 85 Housing Industry Association Ltd
- 86 Regional Development Australia Far North
- 87 AGL Energy Limited
- 88 Committee for Sydney
- 89 RDA Tasmania
- 90 Autodesk Australia
- 91 EDOs of Australia
- 92 Roads Australia
- 93 Regional Capitals Australia
- 94 Department of Infrastructure and Regional Development
- 95 The Department of the Prime Minister and Cabinet
- 96 Northern Territory Government
- 97 PwC

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- 98 A/Prof Matthew Burke
- 99 Green Building Council of Australia
- 100 City of Sydney
- 101 AURIN
- 102 ACT Government
- 103 Council of Capital City Lord Mayors
- 104 Tweed Shire Council
- 105 Ms Christie Gardiner
- 106 The University of Melbourne
- 106.1 Supplementary to submission 106
- 107 City of Melbourne
- 108 Ports Australia
- 109 Townsville City Council
- 110 Bus Industry Confederation (BIC)
- 111 Australian Sustainable Built Environment Council
- 112 Local Government Association of South Australia
- 113 The National Heart Foundation of Australia
- 113.1 Supplementary to submission 113
 - 113.2 Supplementary to submission 113
- 114 NSW Ports
- 115 Associate Professor Russell Thompson
- 116 Penrith City Council
- 117 City of Launceston
- 118 Lendlease
- 119 Dr Bob Webb
- 120 The Australian Cycling Promotion Foundation
- 120.1 Supplementary to submission 120
- 121 CSIRO
- 122 Infrastructure Partnerships Australia

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- 123 Inner Melbourne Planning Alliance Inc
- 124 Albury City Council
- 125 NSW Government
- 126 Ms Jan Horton
- 127 Ms Estelle Ross
- 128 Mr Leigh Murrell
- 129 Dr Ian M Kidd
- 130 Dr Jillian Koshin
- 131 Tasmanian Ratepayers Association Inc
- 132 Urban Taskforce Australia
- 133 Mr Christopher Penna
- 134 SAP Australia Pty Ltd & Regional Australia Institute
- 135 Government of Western Australia
- 136 Planning Institute of Australia
- 137 Queensland Government
- 138 Healthy Cities Illawarra Inc
- 139 The Institute of Digital Design Australia
- 140 Department of Agriculture and Water Resources
- 141 Associate Professor Philip Laird
- 141.1 Supplementary to submission 141
- 142 Mr Dominic Wy Kanak
- 143 University of Wollongong (AUSCCER) - University of Sydney (Architecture, Design & Planning)
- 144 Queensland Walks
- 145 Dr Lyn Phillipson & Dr Chris Brennan-Horley, University of Wollongong
- 146 LeadWest
- 147 Assistive Technology Suppliers Australasia (ATSA)
- 148 Victorian Government
- 149 Department of the Environment and Energy

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- 150** Geelong Chamber of Commerce
- 151** MacroPlan Dimasi
- 152** Central Coast Council
- 153** Mackay Regional Council
- 154** City of Adelaide
- 155** Cairns Regional Council
- 156** Sunshine Coast Council
- 156.1 Supplementary to submission 156
 - 156.2 Supplementary to submission 156
- 157** Mr David Bailey
- 158** Australian Institute of Landscape Architecture
- 158.1 Supplementary to submission 158
- 159** Australian Chamber
- 160** Hon Peter Gutwein MP, Minister for Planning and Local Government, Tasmania
- 161** Townsville Enterprise Limited
- 162** Compass Housing Services
- 163** Infrastructure Australia
- 164** SMART Infrastructure Facility, University of Wollongong
- 165** The University of Queensland
- 166** Bunbury Wellington Economic Alliance
- 167** OSCAR
- 167.1 Supplementary to submission 167
- 168** Sunshine Coast Airport Pty Ltd
- 169** Professor Glen Withers
- 170** Academy of the Social Sciences in Australia (ASSA)
- 171** Mr Roy Jorgensen
- 172** University of Newcastle
- 173** E. J. Nye & Associates Pty Ltd

174 Mr Peter Knight

B. List of Exhibits

- 1(a) *Building and Construction industry Forecasts: Australia*, June 2017, received from Master Builders Australia 11/08/2017
- 1 (b) *Building and Construction industry Forecasts: NSW*, June 2017, received from Master Builders Australia 11/08/2017
- 1 (c) *Building and Construction industry Forecasts: Victoria*, June 2017, received from Master Builders Australia 11/08/2017
- 1 (d) *Building and Construction industry Forecasts: Queensland*, June 2017, received from Master Builders Australia 11/08/2017
- 1 (e) *Building and Construction industry Forecasts: SA*, June 2017, received from Master Builders Australia 11/08/2017
- 1 (f) *Building and Construction industry Forecasts: WA*, June 2017, received from Master Builders Australia 11/08/2017
- 1 (g) *Building and Construction industry Forecasts: Tasmania*, June 2017, received from Master Builders Australia 11/08/2017
- 1 (h) *Building and Construction industry Forecasts: ACT*, June 2017, received from Master Builders Australia 11/08/2017
- 1 (i) *Building and Construction industry Forecasts: NT*, June 2017, received from Master Builders Australia 11/08/2017
- 2 *Freight Doesn't Vote* (August 2017), received from the Australian Logistics Council 11/08/2017

- 3 *Regional Australia – Driving Our Economy 2017-18*, Statement by the Minister for Agriculture and Water Resources, received from DIRD 11/08/2017
- 4 *The Evolution of Australian Towns: Report 136*, produced by the Bureau of Infrastructure, Transport and Regional Economics, received from DIRD 11/08/2017
- 5 *Australian Infrastructure Statistics: Yearbook 2016* (December 2016), produced by the Bureau of Infrastructure, Transport and Regional Economics, received from DIRD 11/08/2017
- 6 *Bridges Renewal Programme (BRP) Round Three: Programme Information* (March 2017), received from DIRD 11/08/2017
- 7 *Building Better Regions Fund Community Investments Stream: Program Guidelines* (November 2016), received from DIRD 11/08/2017
- 8 *Building Better Regions Fund Infrastructure Projects Stream: Program Guidelines* (November 2016), received from DIRD 11/08/2017
- 9 *Community Development Grants Programme: Grant Programme Guidelines*, received from DIRD 11/08/2017
- 10 *Freight Rates in Australia* (July 2017), produced by the Bureau of Infrastructure, Transport and Regional Economics, received from DIRD 11/08/2017
- 11 *The National Rail Program: Investing in rail networks for our cities and regions*, produced by the Australian Government, received from DIRD 28/08/2017
- 12 *Regional Jobs and Investment Packages: Program Guidelines* (March 2017), received from DIRD 28/08/2017
- 13 *Regions 2030: Unlocking Opportunity*, produced by the Australian Government, received from DIRD 28/08/2017
- 14 *Spending by Australian Households on Owning and Operating Vehicles* (May 2017), produced by the Bureau of Infrastructure, Transport and Regional Economics, received from DIRD 28/08/2017
- 15 *Linking Transport and Development: Some Experiences from London and Beyond* (September 2016), produced by ARUP, received from the Committee for Sydney 29/08/2017

- 16 *Housing Constraints and Spatial Misallocation* (May 2017), Produced by Chang-Tai Hsieh and Enrico Moretti, received from the Committee for Sydney 29/08/2017
- 17 *Investing in Australian Cities: The Legacy of the Better Cities Program*, received from Property Council Queensland 29/09/2017
- 18 *Why is Light Rail Starting to Dominate Bus Rapid Transit Yet Again?* (2016), produced by David A. Hensher and received from the Bus Industry Confederation 24/10/2017
- 19 *Rapid Transport: Investing in Australia's Transport Future* (March 2014), produced by Infrastructure Australia and received from the Bus Industry Confederation 24/10/2017
- 20 *Providing a Choice for Gold Coast Transport Options* (May 2017), produced by Monash University Engineering and received from the Bus Industry Confederation 24/10/2017
- 21 *The Copper Technology Roadmap 2030*, received from the Warren Centre 13/11/17
- 22 *Through the Lens: megatrends shaping our future* (2016), received from the Planning Institute of Australia 13/11/17
- 23 *A Clever and Creative Future* (2017), received from the Greater City of Geelong 20/11/2017
- 24 *The Geelong Region Plan: A Sustainable Growth Strategy* (2007), received from G21 Region Alliance 20/11/2017
- 25 *Geelong Economic Futures* (2016), produced by Deakin University, received from G21 Region Alliance 20/11/2017
- 26 *G21 Regional Growth Plan* (April 2013), received from G21 Region Alliance 20/11/2017
- 27 *Western Rail: Linking Western Victorian Communities: Connecting our Communities*, received from Horsham Rural City Council 20/11/2017
- 28 *Melbourne's West*, received from LeadWest 20/11/2017
- 29 *Policy Priority: A Centre for Parenting Excellence in Melbourne's West*, received from LeadWest 20/11/2017
- 30 *Regional Jobs and Infrastructure Fund Policy Proposal* (May 2017), produced by Warrnambool City Council, received from Regional Development Australia Barwon South West 20/11/2017

- 31 *Chasing Urban Mobility: Moving Towards a connected Sustainable Future* (2017), produced by ARCADIS, received from Roads Australia 21/11/2017
- 32 *Creating Liveable Cities in Australia: Mapping Urban Policy Implementation and Evidence-Based National Liveability Indicators* (October 2017), received from Centre for Urban Research, RMIT 21/11/2017
- 33 *Living Liveable: The Impact of a Liveable Neighbourhoods Policy on the Health and Wellbeing of Residents*, produced by Centre for the Built Environment and Health, University of Western Australia and received from the Centre for Urban Research, RMIT 21/11/2017
- 34 *In Brief: A Report Card on Liveability in Our Cities* (October 2017), received from the Centre for Urban Research, RMIT 21/11/2017
- 35 *Policy Priority: A City Deal for Melbourne*, received from LeadWest 20/11/2017
- 36 *Policy Priority: Melbourne Airport Rail Link*, received from LeadWest 20/11/2017
- 37 *Winning from Second*, received from the Committee for Geelong 20/11/2017
- 38 *Policy Priority: A Social Impact Investment Prospectus*, received from LeadWest 20/11/2017
- 39 *Low Density Development* (2014), produced by the Heart Foundation and received from Professor Billie Giles-Corti, Centre for Urban Research, RMIT 21/11/2017
- 40 *Increasing density in Australia* (2012), produced by the Heart Foundation and received from Professor Billie Giles-Corti, Centre for Urban Research, RMIT 21/11/2017
- 41 *Air Pollutants and Dementia* (2015), received from Professor Billie Giles Corti, Centre for Urban Research, RMIT 21/11/2017
- 42 *Air Pollution and Cognitive Functioning* (2016), received from Professor Billie Giles-Corti, Centre for Urban Research, RMIT 21/11/2017
- 43 *Traffic-Related Air Pollution and Dementia* (2016), received from Professor Billie Giles-Corti, Centre for Urban Research, RMIT 21/11/2017
- 44 *Circulation* (2010) produced by Heart Foundation and received from Professor Billie Giles-Corti, Centre for Urban Research, RMIT 21/11/2017

- 45 *Cardiovascular Mortality and Long-Term Exposure to Particulate Air Pollution* (2003), received from Professor Billie Giles-Corti, Centre for Urban Research, RMIT 21/11/2017
- 46 *Parramatta—Smart City Masterplan* (2015), received from the City of Parramatta 5/12/17
- 47 *City of Parramatta: Night Time Economy Research—2017*, received from the City of Parramatta 5/12/2017
- 48 *Travel by mode and purpose—Sydney Inner City 2015–16*, received from the City of Parramatta 5/12/2017
- 49 *Travel by mode and purpose—Parramatta 2015–16*, received from the City of Parramatta 5/12/2017
- 50 *Building Western Sydney’s Cultural Arts Economy—a key to Sydney’s success* (2015) received from the City of Parramatta 5/12/2017
- 51 *Value of Rail* (2017), produced by Deloitte and received from Australasian Railway Association 13/2/2018
- 52 *Terms of Reference for the Review into Improving Australian Coastal Shipping*, received from Ports Australia 22/03/2018
- 53 *The Role of Local Government in Local and Regional Economic Development*, received from Mr Peter Francis, Dantia 4/4/2018
- 54 *Value-added by Industry, Lake Macquarie and Hunter Region, 2017*, received from Mr Peter Francis, Dantia 4/4/2018
- 55 Reserve Bank of Australia, *The Effect of Zoning on Housing Prices*, received from Mr Peter Francis, Dantia 4/4/2018
- 56 *The world loves Sydney—Australians aren’t that fussed*, received from Mr Peter Francis, Dantia 4/4/2018
- 57 *Soaring house prices push teachers, cops and nurses to the Hunter*, received from Mr Peter Francis, Dantia 4/4/2018
- 58 *Roadmap for advanced metering standards*, received from Standards Australia 16/04/2018
- 59 *The role of standards and innovation for driving APEC’s silver economy*, received from Standards Australia 16/04/2018

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- 60 *Next Gen Urban Water – The role of urban water in vibrant and prosperous communities*, received from the Water Services Association of Australia 23/03/2018
- 61 *Tasmanian Housing Summit Directions Paper*, received from the University of Tasmania 12/04/2018
- 62 *Insight 3: A blueprint for improving housing outcomes in Tasmania*, received from the University of Tasmania 12/04/2018
- 63 Australian Housing and Urban Research Institute: *Pathways to state property tax reform*, received from the University of Tasmania 12/04/2018
- 64 *UN General Assembly, New Urban Agenda*, received from Greg Budworth, Compass Housing 5/3/2018
- 65 *New Urban Agenda for Housing*, received from Greg Budworth, Compass Housing 5/3/18
- 66 *2017 Budget Submission – Lake Macquarie Transport Interchange Project*, Lake Macquarie City Council 7/3/2018
- 67 *Perth as a ‘big’ city: Reflections on Urban Growth*, received from Peter Newman, CUSP 13/3/2018
- 68 Glazebrook and Newman, *The City of the Future*, received from Peter Newman, CUSP 13/3/2018
- 69 *James Cook University – Economic and Human Capital Impact*, received from James Cook University 2/5/2018
- 70 *Water for Townsville Action Group – Report and Recommendations April 2017*, received from Dr Linda Ashton, Water for Townsville Action Group 2/5/2018

C. List of public hearings and witnesses

Friday, 11 August 2017 - Canberra

Department of Infrastructure and Regional Development

Ms Cathryn Geiger, General Manager, Regional Economic Policy

Ms Jessica Hall, Acting Executive Director, Infrastructure Investment Division

Ms Philippa Power, Executive Director, Policy and Research Division

Master Builders Australia

Mr Matthew Pollock, National Manager, Economics and Housing

Mrs Denita Wawn, Chief Executive Officer

Australian Logistics Council

Mr Kerry Corke, Policy Consultant

Mr Benjamin Damiano, Policy Officer

Housing Industry Association

Ms Kristin Brookfield, Chief Executive, Industry Policy

Mr Graham Wolfe, Deputy Managing Director

Tuesday, 15 August 2017 - Canberra

The Department of the Prime Minister and Cabinet

Dr Steven Kennedy, Deputy Secretary

Mrs Kate Lynch, Assistant Secretary, Cities Division

Mrs Margaret Makeham-Kirchner, Director, Director, IPFA

Mr John O'Neil, Interim Chief Executive Officer, IPFA

Mr Oliver Richards, Assistant Secretary, Cities Division

Mrs Paula Svarcas, Acting Assistant Secretary, Cities Division

Mrs Mary Wiley-Smith, First Assistant Secretary, Cities Division

Tuesday, 22 August 2017 - Sydney

Green Building Council of Australia

Mr Johnathan Cartledge, Head of Public Affairs

Ms Romilly Madew, Chief Executive officer

Consult Australia

Ms Megan Motto, Chief Executive Officer

Private Capacity

Professor Sue Holliday

Total Environment Centre

Mr Jeffrey Angel, Director

Downer Group

Mr Sasha Grebe, Head of Government Relations

Mr Jeff Sharp, Group Manager, Technology and Innovation

Committee for Sydney

Ms Rebecca Mouy, Policy Officer

Mr Tim Williams, Chief Executive Officer

IoT Alliance Australia

Mr Michael Comninos, Chair, Smart Cities Committee

Mr Frank Zeichner, Chief Executive Officer

Tuesday, 29 August 2017 - Melbourne

SGS Economics and Planning

Dr Marcus Spiller, Principal and Partner

Centre for Urban Research - RMIT University

Professor Jago Dodson, Director

Centre for Urban Transitions, Swinburne University of Technology

Professor Peter Newton, Research Professor in Sustainable Urbanism

National Transport Commission

Dr Geoff Allan, Chief Operating Officer

Dr Jeff Potter, Director, Productivity and Safety

National Growth Areas Alliance

Ms Ruth Spielman, Executive Officer

Department of Civil and Construction, Swinburne University of Technology

Associate Professor Hussein Dia

University of Melbourne

Professor Lars Coenen, City of Melbourne Chair of Resilient Cities

Dr Julie Wells, Vice-Principal, Policy and Projects

Professor Carolyn Whitzman, Urban Planning, Faculty of Architecture, Building and Planning

Professor Stephan Winter, Spatial Information Science, Department of Infrastructure Engineering

City of Melbourne

Mr Ben Rimmer, Chief Executive Officer

Tuesday, 5 September 2017 - Canberra

CSIRO

Mr Guy Barnett, Principal Research Consultant

Dr Craig James, Research Program Director

Tuesday, 12 September 2017 - Canberra

Professor Barbara Norman, Foundation Chair of Urban and Regional Planning, University of Canberra

Friday, 29 September 2017 - Brisbane

Roundtable 1

Associate Professor Matthew Burke, Principal Research Fellow, Cities Research Institute, Griffith University

Professor Paul Burton, Director, Cities Research Institute, Griffith University

Mr Anthony Marklund, Principal ESD Engineer, Floth Sustainable Building Consultants

Mr Warren Rowe, Planner in Residence, University of Queensland

Ms Jen Williams, Deputy Queensland Executive Director, Property Council of Australia

Roundtable 2

Mr Adam Beck, Executive Director, Smart Cities Council Australia New Zealand

Dr Jaz Choi, Director, Urban Informatics Research Lab, QUT

Professor Marcus Foth, Professor of Urban Informatics, QUT Design Lab, QUT

Mr Stephan Kanowski, Partner, Deloitte Access Economics

Roundtable 3

Ms Giselle Benitez, Senior Policy Officer, Strategic Planning and Urban Design, Tweed Shire Council

Councillor Neil Meiklejohn, Councillor, Southern Downs Regional Council

Mr Matthew Zenkteler, Acting Unit Coordinator, Strategic Planning and Urban Design, Tweed Shire Council

Roundtable 4

Mr Timothy Riley, Founder, Property Collectives

Dr Andrea Sharam, Senior Lecturer, RMIT University

Tuesday, 17 October 2017 - Canberra

Regional Australia Institute

Mr Jack Archer, Chief Executive Officer

Dr Leonie Pearson, Leader, Major Projects (Economist)

Tuesday, 24 October 2017 - Canberra

Bus Industry Confederation

Mr Michael Apps, Executive Director

Professor John Stanley, Adjunct Professor, University of Sydney; Consultant

Monday, 13 November 2017 - Parramatta

ANSTO

Ms Karyn Laxale, Government and Strategic Programs Advisor

Dr Adi Paterson, Chief Executive Officer

City of Parramatta

Mr Greg Dyer, Chief Executive Officer

Mr Geoff King, City Strategy Manager

Sue Weatherley, Director Strategic Outcome & Development

Councillor Andrew Wilson, Lord Mayor

Private Capacity

Dr Philip Laird

The Warren Centre for Advanced Engineering Ltd

Mr Ashley Brinson, Executive Director

Homelessness NSW

Mr Digby Hughes, Senior Policy and Research Officer

Planning Institute of Australia

Mr John Brockhoff, Principal Policy Officer

Mr Brendan Nelson, President

Tuesday, 14 November 2017 - Sydney

GoGet Carshare

Mr Joshua Brydges, Locations and Transport Planner

Mr Tristan Sender, Chief Executive Officer

Mr Christopher Vanneste, Head, Locations and Partnerships

Urban Taskforce

Mr Chris Johnson, Chief Executive Officer

ASBEC

Mr Johnathan Cartledge, Chair, Cities Task Group

Ms Suzanne Toumbourou, Executive Director

University of Technology Sydney

Professor Stuart White, Director, Institute for Sustainable Futures

Sydney Water

Mr Philip Davies, Head of Regulatory Economics

Ms Kaia Hodge, Project Lead, Long Term Strategy

URBIS Pty Ltd

Mr John Wynne, National Director of Planning

Uber

Ms Jessika Loefstedt, Head of Public Policy (Australia and New Zealand)

Monday, 20 November 2017 - Geelong

Roundtable 1

Mrs Rebecca Casson, Chief Executive Officer, Committee for Geelong

Mr Timothy Hellsten, Manager, Planning Strategy and Urban Growth, City of Greater Geelong

Ms Kirsten Kilpatrick, Board Member and Chairperson, Winning from Second Subcommittee, Committee for Geelong

Mr Geoff Lawler, Acting Director, Planning and Development, City of Greater Geelong

Mr Bill Mithen, Chair, G21 Geelong Regional Alliance

Mr Dan Simmonds, Chairperson, Committee for Geelong

Ms Bernadette Uzelac, Chief Executive Officer, Geelong Chamber of Commerce

Roundtable 2

Mr Ben Bowring, Advocacy Projects Manager, LeadWest

Mr Aaron Chiles, Manager, Urban Futures, Wyndham City Council

Ms Angela Murphy, Director, Planning and Economic, Horsham Rural City Country

Mr Darren Ray, Council and Government Relationships Lead, Wyndham City Council

Mr Craig Rowley, Chief Executive Officer, LeadWest

Roundtable 3

Mr Bruce Anson, Chair, Barwon South West, Regional Development Australia

Mr Greg Bursill, Chair, Geelong Region Committee, Urban Development Institute of Australia

Mrs Kylie Warne, Chair, Barwon Regional Partnership

Roundtable 4

Mr Todd Denham, Researcher/Consultant, UN Global Compact Cities Programme

Professor Louise Johnson, private capacity

Tuesday, 21 November 2017 - Melbourne*Roundtable 1*

Mr Justine Linley, Chief Executive Officer, City of Ballarat

Councillor Samantha McIntosh, Mayor, City of Ballarat

Councillor Colin Murray, Deputy Chair, Regional Capital Cities

Ms Rachael Sweeney, Secretariat, Regional Capital Cities

Mr Gary Van Driel, Chief Operating Officer, Latrobe City Council

Roundtable 2

Professor Peter Graham, Member, Inner Melbourne Planning Alliance

Dr Chris Hale, Chief Executive Officer and Founder, Hale Infra Strategy Pty Ltd

Mr Peter Hill, Honorary Secretary, Town and Country Planning Association

Ms Gerry McLoughlin, Secretary, Inner Melbourne Planning Alliance

Ms Marianne Richards, Executive Committee Member, Town and Country Planning Association

Ms Prudence Sanderson, Regional City Executive, Roads Australia

Roundtable 3

Dr Jonathan Arundel, Senior Research Fellow, Centre of Research Excellence in Healthy, Liveable Communities, RMIT University

Dr Hannah Badland, Principal Research Fellow, Centre of Research Excellence in Healthy, Liveable Communities, RMIT University

Professor Billie Giles-Corti, Director, Urban Futures Enabling Capability Platform; Director, Healthy, Liveable Cities Group; and Lead Investigator, NHMRC Centre of Research Excellence in Healthy, Liveable Communities, RMIT University

Dr Lucy Dubrelle Gunn, Research Fellow, Centre of Research Excellence in Healthy, Liveable Communities, RMIT University

Mr Stephen Hodge, Government Relations Manager, Australian Cycling Promotion Foundation Ltd

Dr Melanie Lowe, Lecturer in Public Health, Australian Catholic University; and Centre of Research Excellence in Healthy, Liveable Communities, RMIT University

Professor Anna Timperio, Research Fellow, Institute for Physical Activity and Nutrition, Deakin University; and Member, Physical Activity Committee and Future Leader Fellow, National Heart Foundation of Australia

Tuesday, 5 December 2017 - Canberra

MacroPlan Dimasi

Mr Brian Haratsis, Chairman

Mr Joel Taylor, General Manager, Victoria

Tuesday, 6 February 2018 - Canberra

Engineers Australia

Mr Jonathan Russell, National Manager, Public Affairs

Friday, 9 February 2018 - Canberra

Council of Capital City Lord Mayors

Mr Geoffrey Rutledge, Secretary

Ms Deborah Wilkinson, Executive Director

Australian Institute of Landscape Architects

Mr Tim Arnold, Chief Executive Officer

Associate Professor Linda Corkery, National President

Sustainable Population Australia

Mr Michael Bayliss, Communications Manager

Tuesday, 13 February 2018 - Canberra

Australasian Railway Association

Mr Duncan Sheppard, General Manager, Freight and Contractors

Mrs Emma Woods, General Manager, Passenger and Corporate Services

Tuesday, 27 February 2018 - Canberra

SAP Australia Pty Ltd & Regional Australia Institute

Dr Kim Houghton, General Manager, Research and Policy, Regional Australia Institute

Miss Natalie Kenny, Industry Value Engineer, SAP Australia Pty Ltd

Mr Chris Peck, General Manager, Public Services, Australia, SAP Australia Pty Ltd

Mr John Trabinger, Director, Business Development, SAP Australia Pty Ltd

Friday, 2 March 2018 - Newcastle

University of Newcastle

Professor Caroline McMillen, Vice-Chancellor and President

Hunter Research Foundation Centre

Dr Anthea Bill, Lead Economist

Professor Will Rifkin, Director and Chair, Applied Regional Economics

Centre for Urban and Regional Studies, University of Newcastle

Associate Professor Kathy Mee, Deputy Director

City of Newcastle

Councillor Nuatali Nelmes, Lord Mayor

Roundtable 1

Mr Anthony Farrell, Director, City Strategy, Lake Macquarie City Council

Dr Alice Howe, Executive Manager, External Engagement, Lake Macquarie City Council

Mr Stephen Punch, Principal Planner, Urban Growth, Maitland City Council

Roundtable 2

Mr Jim Bentley, Managing Director, Hunter Water Corporation

Mr Michael Perry Cassel, Chief Executive Officer, Hunter Development Corporation

Dr Peter Cock, Chief Executive Officer, Newcastle Airport Pty Limited

Roundtable 3

Mrs Anita Hugo, Policy and Public Affairs Manager, Hunter Business Chamber

Mr Jon Novoselac, Member Liaison and Communications Officer, Hunter Business Chamber

Mr Greg Budworth, Group Managing Director, Compass Housing Services Co. Ltd

Mr Peter Francis, CEO, Dantia

Thursday, 22 March 2018 - Sydney

Infrastructure Partnerships Australia

Mr Brendan Lyon, Chief Executive Officer

Miss Lydia Robertson, Senior Policy Advisor

Water Services Association of Australia

Ms Sandi Kolbe, Communications Manager

Mr Stuart Wilson, Deputy Executive Director

Ports Australia

The Hon. Michael Gallacher, Chief Executive Officer

Mr Ashween Sinha, Policy Director

Standards Australia

Dr Bronwyn Evans, Chief Executive Officer

Dr Jed Horner, Policy Manager

Financial-Architects.Asia Pty Ltd

Mr Ian Bell, Director

Action for Public Transport NSW

Ms Julianna Walton, Convener

Infrastructure Australia

Mr Rory Butler, Policy and Research Adviser

Ms Ashleigh Cormack, Senior Adviser, Policy and Research

Mr Philip Davies, Chief Executive

Friday, 23 March 2018 - Wollongong

Wollongong City Council

Mr Gordon Bradbery AM, Lord Mayor

Mr David Farmer, General Manager

SMART Infrastructure Facility, University of Wollongong

Professor Pascal Perez, Director

Regional Development Australia - Illawarra

Ms Debra Murphy, Chief Executive Officer

Healthy Cities Illawarra

Ms Sandra McCarthy, President

Mr Justin Placek, General Manager

University of Wollongong (1)

Dr Lyn Phillipson, NHMRC-ARC Dementia Fellow, University of Wollongong and Australian Health Services Research Institute

Professor Richard Fleming, Professorial Fellow, Faculty of Science, Medicine and Health

Dr Chris Brennan-Horley, Lecturer, School of Geography

University of Wollongong (2)

Ms Chantel Carr, Research Fellow

Professor Robyn Dowling, Associate Dean, Research, University of Sydney

Professor Pauline McGuirk, Director, Australian Centre for Cultural Environmental Research

Thursday, 12 April 2018 - Hobart

Infrastructure Tasmania

Mr Allan Garcia, Chief Executive Officer

Hobart City Council

Alderman Jeff Briscoe, Chairman, City Planning Committee

Mr Neil Noye, Director, City Planning Committee

Regional Development Australia Tasmania

Mr Craig Perkins, Chief Executive Officer and Director, Regional Development

Ms Jen Newman, Regional Development (South)

University of Tasmania

Professor David Adams, Pro Vice-Chancellor, Community, Partnerships and Regional Development

Professor Rufus Black, Vice-Chancellor

Professor Richard Eccleston, Director, Institute for the Study of Social Change

City of Launceston

Ms Korinda Shelton, Project Manager, City Deal

Mr Michael Stretton, General Manager

Dr Bruce Williams, Senior Economic Advisor

Tasmanian Chamber of Commerce and Industry

Mr Michael Bailey, Chief Executive Officer

Miss Susan Parr, Chair of the Board

Friday, 13 April 2018 - Perth*Government of Western Australia*

Mr Lance Glare, Director, Infrastructure Policy and Governance, Department of the Premier and Cabinet

Ms Gail McGowan, Director General, Department of Planning, Lands and Heritage

Mr David MacLennan, Acting Assistant Director General, Department of Planning, Lands and Heritage

Mr Richard Sellers, Director General, Department of Transport

City of Fremantle

Mr Paul Garbett, Director of Strategic Planning and Projects

Councillor Ingrid Waltham, Deputy Mayor

Curtin University Sustainability Policy Institute

Mr Sebastian Davies-Slate, PhD Candidate

Sustainable Transport Coalition of WA

Mr David Rice, Committee Member

Dr David Worth, Treasurer

Private Capacity

Mr Jon Strachan

Ms Cathy Hall

City of Perth

Mr Robert Farley, Manager, City Planning

Mr Martin Mileham, Chief Executive Officer

Mr Christopher Watts, Manager, Transport

Wednesday, 2 May 2018 – Townsville

James Cook University

Ms Patricia Brand, Deputy Vice Chancellor, Services and Resources

Mr Alan Carpenter, Director, Discovery Rise project

Mackay Regional Council

Mr David John McKendry, Executive Officer

Mr Michael St Clair, Principal Economic Development Officer

Cairns Regional Council

Mr Angelo Finocchiaro, Program Leader Economic Development

Mr Nicholas Masasso, Executive Project Officer

City of Townsville Roundtable

Mr Brett Brogan, General Manager, Future Cities, Townsville City Council

Paul Johnston, Team Manager, Planning, Townsville City Council

Councillor Leslie Walker, Deputy Mayor, Townsville City Council

Mr Michael McMillian, Director, Policy and Investment, Townsville Enterprise

Water for Townsville Action Group

Dr Linda Ashton, Convenor and Leader

Infrastructure Roundtable

Mr Frank Beveridge, Chair, RDA – Townsville & North West Qld

Ms Isabelle Heywood-Yates, General Manager Commercial, Townsville Airport Pty Ltd

Mrs Claudia Brumme-Smith, General Manager Business Development, Port of Townsville

Thursday, 3 May 2018 – Sunshine Coast

Sunshine Coast Council

Dr Graham Fraine, Chief Strategy Officer

Mr Craig Matheson, Chief of Staff, Office of the Mayor

Mr Michael Whittaker, Chief Executive Officer

Mr John Knaggs, Chief Executive Officer, SunCentral Maroochydore

University of the Sunshine Coast

Dr Scott Snyder, Chief Operating Officer

Roundtable 1

Mr Andrew Elvin, Chief Executive Officer, Coast2Bay Housing Coop

Mr Ben Simpson, Regional Manager, Stockland Development

Mrs Kathryn Hyman, Executive Member, OSCAR

Roundtable 2

Dr Steven Boyd, Member, Sunshine Coast Chamber Alliance and President, Noosa Chamber of Commerce and Industry

Mr Brad Williams, Member, Sunshine Coast Business Council

Ms Sandra Zubrinich, Chair, Sunshine Coast Business Council

Mr Simon Latchford, Chief Executive Officer, Visit Sunshine Coast

Roundtable 3

Mr Jeffrey Addison, Sunshine Coast Spokesperson, Rail Back on Track

Mr Simon Kinchington, General Manager Property and Planning, Sunshine Coast Airport