

City Futures Research Centre

Arts, Design
& Architecture



UNSW
City Futures
Research Centre



UNSW
SYDNEY



Welcome from the Centre Director

Never has there been a more pressing time for City Futures to partner with government, industry and communities to help solve the social, economic and environmental challenges facing our cities and planet.

Within the Centre we conduct timely independent research and provide evidence-based inputs into contemporary urban policy debates and the planning of future cities.

Professor Chris Pettit
Director, City Futures Research Centre

What we do



Our work advances the understanding of cities focusing on people, places, policies and technologies, and the impact they have on our environment and economy

Our academics are internationally recognised experts



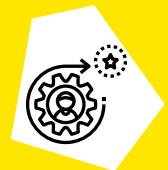
We form a key part of UNSW's ERA '5' rated ('Well above world standard') research concentration in Urban and Regional Planning

We secured nearly \$14 million grant revenue over the past five years



We partner with research institutions, industry, government and community organisations to solve the complex problems facing cities

We train the next generation of urban thinkers, shapers, and analysts



We are committed to advancing the UN Sustainable Development Goals (SDGs) with over 90% of our projects related to at least one Goal

Research strengths

We partner with more than 100 businesses, government, and community organisations in Australia and internationally across our domains of interest on specific projects, translating our research into practice and real-world impact. We are making an impact that matters with the following six research themes:

Housing

Housing research has been a key strength of the Centre since it was established by **Professor Bill Randolph**. This encompasses a wide spectrum of research, including governance, financing and development of social and affordable housing as well as the analysis of housing affordability and the operation of private housing markets.



Competitive advantages and impact

Our expertise and reputation as experts on these issues spans local, state, national and international contexts. Our numerous submissions to official inquiries at both state and Federal levels indicate our connectedness with housing policy agendas. Our analyses are cited by many official bodies including in reports emanating from the Productivity Commission and from Parliamentary inquiries. Our advice is sought by governments both in Australia and overseas. Our research findings and policy recommendations are widely cited in media.

Our partners & funders

- Australian Council of Social Service
- Australian Housing and Urban Research Institute
- Australian Research Council
- Community Housing Industry Association
- Curtin University
- Heriot-Watt University, Edinburgh
- NSW Landcom
- Launch Housing Limited
- Mission Australia
- National Shelter Incorporated
- NSW Land and Housing Corporation
- Payce Communities Pty Limited
- Queensland Shelter Incorporated
- Royal Melbourne Institute of Technology
- SGS Economics and Planning Pty Ltd
- Swinburne University of Technology
- Tenants Queensland
- Tenants Union of New South Wales
- University of Adelaide
- University of South Australia
- University of Glasgow
- University of Queensland
- University of Sydney
- University of Technology, Sydney

Theme Lead:

[Professor Hal Pawson](#)

Urban Planning

Research into urban planning policy, processes and outcomes has been a central component of City Futures' research portfolio since 2005. Over this time, our urban planning research has encompassed international and national scale issues, strategic metropolitan planning matters as well as statutory and local planning issues. This research is underpinned by a firm grounding and understanding of urban social and economic process and geo-spatial analysis.

Competitive advantages

Our planning research has been recognised in Planning Institute Australia's National Planning Awards, referenced in high level strategic and local planning reports and documentation and cited consistently in other academic studies. UNSW was awarded by Excellence in Research for Australia (ERA) with the rating of 5 'well-above world standard', the highest rating in the last three Australian Research Council (ARC) ERA assessment exercises for Urban and Regional Planning (in 2012, 2015 and 2018).

Impact

Examples of our recent impact include references in strategic policy documents including the Greater Sydney commission's 2018 Plan A *Metropolis of Three Cities* and the recent review of the NSW Affordable Rental Housing State Environmental Planning Policy by the NSW Department of Planning and Environment. Our academic team regularly makes submissions to a range of Federal and State government Inquiries on planning and city policy.



Successful applications and research highlights

Recent highlights include ARC and government funded projects on urban renewal, urban densification and broader processes of incremental urbanism which are driving urban change in cities both in Australia and internationally. Significant work on local planning issues includes research into knockdown rebuild processes, the growing significance of 'collective' sales, the provision of secondary dwellings and boarding houses in southern Sydney, mandatory inclusionary zoning and the planning aspects of short term lettings.

Our partners & funders

- Australian Housing and Urban Research Institute
- Australian Research Council
- Greater Sydney Commission
- Macquarie University
- NSW Department of Family and Community Services
- NSW Land and Housing Corporation
- St George Community Housing Limited
- Swinburne University of Technology
- Landcom
- University of Sydney
- UrbanGrowth

Theme Lead:

[Professor Simon Pinnegar](#)



Urban Analytics

Urban Analytics encompasses smart cities, big data, open data, geo-design, modelling and simulation, visualisation, and virtual reality. The City Futures Urban Analytics team established by Professor Chris Pettit develops and evaluates novel data-driven methods, tools and technologies to support city shapers in designing and planning our future cities.

Competitive advantages and impact

We have the largest research and development team in the country with expertise in urban analytics, urban modelling, artificial intelligence, machine learning, big data analytics, and digital planning tools.

Our team has created a national housing database across 90% of Australian housing stock - 13 million residential properties –comprising 1 billion data points.

Successful applications and research highlights

Rapid Analytics Interactive Scenario Explorer

- Property level digital twin – Sydney and Brisbane
- Drag and drop train station value uplift tool
- Rezoning value uplift tool
- Winner of 3 Research Awards – PIA NSW Research & Education (2021), PIA National Research & Education Award (2021), Committee for Sydney Smart Cities Award (2019)

Value Australia

- Land and Property Automated Valuation Models
- Machine learning and big data analytics
- Digital planning tools including dashboards

Australian Housing Data Analytics Platform

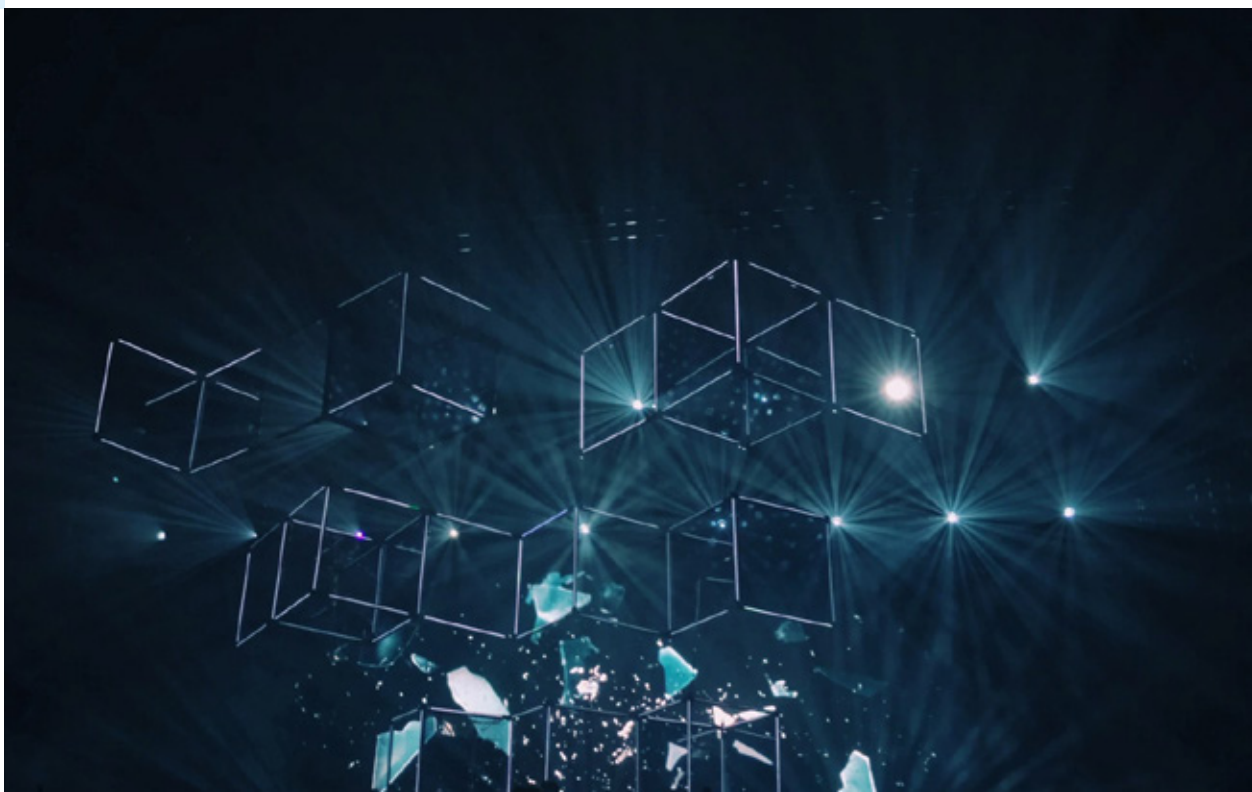
- A Platform which connects academics, government, industry and communities to the best available data, analytics and insights to assist in solving the challenges facing Australia's housing future

Our partners & funders

- Australian Housing and Urban Research Institute
- Australian Property Institute
- Australian Research Council
- Australian Research Data Commons
- Australian Urban Research Infrastructure Network
- City of Sydney
- Commonwealth Bank of Australia
- CRC for Low Carbon Living Limited
- CRC for Spatial Information
- CRC Future Food Systems
- CRC iMove
- Curtin University
- FrontierSI
- Infrastructure Australia
- Lendlease (Victoria Cross) Pty Ltd
- Monash University
- National Heart Foundation of Australia
- National Housing Finance and Investment Corporation
- NSW Department of Finance, Services and Innovation
- NSW Department of Planning and Environment
- NSW Office of Sport
- Omnilink
- Penrith City Council
- Strathfield Council
- Swinburne University of Technology
- Sydney Water Corporation
- Tetra Tech Coffey Pty Ltd
- Transport for NSW
- University of Melbourne
- University of Sydney
- University of Western Australia
- UrbanGrowth NSW
- Wollondilly Shire Council
- Wollongong 2022 Limited
- Wollongong City Council

Theme Lead:

[Professor Hoon Han](#)





Compact Cities

We have a longstanding research interest in compact city planning policy and the development, management, governance and planning implications of apartment buildings and estates. We have specialist expertise in private strata titled (condominium) development. Our research spans property title and ownership structures, estate management, new developments, urban renewal, and redevelopment, building upgrades and resident relationships.

Competitive advantages and impact

We consult with government, community and peak body stakeholders in Australia and internationally on the role of private high-density housing in the housing market, its impacts on individuals and neighbourhoods, and the experiences and needs of its residents. Our research informed reforms to the NSW Strata Schemes Management Act 2015 and Strata Schemes Development Act 2015 as well as WA's Strata Title Amendment Bill 2018.

Our work has been cited in government reports (including the Parliament of NSW Public accountability Final report on Regulation of Building Standards 2020), legal deliberations (including the Singapore Strata-Title Tribunal) and government inquiries (including written submissions to the English Leasehold Reform Inquiry). Our research is also used in professional training of strata managers in Australia and overseas.

Successful applications and research highlights

We have been conducting research on compact cities for over a decade. This has included 10 projects funded by the ARC (5 Linkage projects, 4 Discovery projects and 1 Future Fellowship), 2 projects funded by the Australian Housing and Urban Research Institute as well as a further 5 projects funded by governments and peak body organisations, including 2 bi-annual ongoing research projects.

Capabilities

Our research into compact cities has involved the development of information, tools and resources for managers and residents of strata-titled properties to improve their wellbeing and the quality of their buildings. These include interactive how to guides and information resources:

- [Navigating defects in strata](#)
- [How to implement sustainable retrofits in your strata scheme](#)
- [Managing Diversity in Strata Communities](#)

Our partners & funders

- Allen Jack + Cottier
- Australian College of Strata Lawyers
- Australian Housing and Urban Research Institute
- Australian Research Council
- City of Sydney
- Corrs Chambers Westgarth
- Cox
- CRC For Low Carbon Living Limited
- GANSW
- Griffith University
- Inner West Council
- Lannock Strata Finance
- MaxBuild
- Owners Corporation Network of Australia
- Professional Standards Council
- Queensland Department of Housing and Public Works
- Ross Taylor & Associates
- Royal Melbourne Institute of Technology
- Shelter NSW Incorporated
- SOAR
- Strata Advisory Services
- Strata Community Association Australia
- Strata Community Association NSW
- Strata Community Insurance
- Tinworth & C
- University of Sydney
- WA Department of Mines, Industry Regulation and Safety

Theme Lead: [Professor Hazel Easthope](#)



Healthy Built Environments

Healthy built environments is a rapidly evolving area of scholarship and practice embracing the disciplines of built environment and health. Our work in this field ranges across and synthesises research, curriculum development and advocacy in order to impact policy, practice and education. Our vision is that built environments will be planned, designed, developed and managed to promote and protect health for all people in their everyday lives.



Competitive advantages, and research highlights

Our involvement in healthy built environments has a long history, most notably with the establishment in 2009 of the 'Healthy Built Environments Program' (initially funded by NSW Health with \$1.5 million over five years). We have made significant contributions to the field's research evidence base, interdisciplinary educational curriculum and body of scholarship from an urban planning perspective. We have a strong record of high-level stakeholder engagement and influence in Australia and internationally, including membership of the NSW Minister for Health's Advisory Committee, NSW Cancer Institute's Shade Working Group (under the auspices of the state's Skin Cancer Prevention Strategy), the NSW Healthy Planning Expert Working Group and the International Society for Urban Health. We have a growing active transport research presence across several projects with local and state government partners.

We have contributed to the research and practice evidence demonstrating how the built environment supports health and wellbeing as part of everyday living. Highlights include:

- Establishing the 'three domains of a healthy built environment' framework for physical activity, social connection and healthy eating
- Determining a set of healthy built environment indicators across the three domains
- Building knowledge and capacity in healthy built environments of planners and public health professionals
- Writing curriculum and teaching courses in healthy built environments for UNSW
- Supporting Transport for NSW's aim to increase 'everyday' cycling, by targeting the needs of 70% of the NSW population through street design

Impact

We influence and inform the knowledge base, legislation, policy and practice in healthy built environments. Significant contributions include:

- '[Healthy Built Environment Indicators](#)' – the first set of healthy built environment indicators within the NSW policy and practice framework
- '[Healthy Built Environments](#)' [quarterly column](#) published for over a decade in the NSW Planning Institute of Australia's quarterly journal 'New Planner' – this educated and informed planners about research and practice in healthy built environments and won a PIA Award in 2019
- Recognition of the role of the built environment in various legislative and policy documents in NSW (eg. the 2013 Planning Bill; Metropolitan Strategy for Sydney) and influence over a raft of inquiries and strategies (eg. NSW Strata and Community Title Laws; Australian National Urban Policy; Victorian Parliamentary Inquiry into Built Environment and Health)
- Education and capacity building – extensive impact across the public health and planning professions and in tertiary education with the establishment of courses at undergraduate and postgraduate levels
- Contributions to NSW Government policy and design guide changes to ensure active transport is a realistic option for as many people as possible



Our partners & funders

- AECOM
- Australian Housing and Urban Research Institute
- Australian Research Council
- CRC for Low Carbon Living
- iMOVE CRC
- Landcom
- National Health and Medical Research Council
- NSW Heart Foundation
- NSW Ministry of Health
- NSW Office of Sport
- Penrith City Council
- Premier's Council for Active Living
- Transport for NSW
- Wollongong City Council
- Wollongong 2022 Limited

Theme Lead: [Professor Susan Thompson](#)





Sustainable Mobility

Sustainable mobility research examines how we move around our cities and the impact this has on environment, economics, health, and wellbeing. To achieve strategic goals in these areas, our vision is for sustainable mobility, such as walking, riding a bike, and taking public transport, to be the easiest and most obvious choice. We aim to guide policy, planning, and delivery models towards this outcome with robust research and practical applications.

Competitive advantages and impact

We are a dynamic research team consisting of diverse experts specialising in sustainable mobility. Our team members bring extensive backgrounds in urban design, architecture, urban planning, transport planning, data analysis, and modelling, enabling us to offer comprehensive insights and innovative solutions. Collaborating closely with a broad spectrum of partners across both public and private sectors, we strive to foster meaningful progress and transformative change in the realm of sustainable transport.

Successful applications and research highlights

Our research portfolio encompasses a diverse array of impactful projects. Some notable initiatives include contributing to the development of the NSW Cycleway Design Toolbox (iMOVE CRC). A key objectives of this project was to test the designs in the Toolbox with 'interested but concerned' and inform the first review and next iteration of the Toolbox. Our team has created an interactive tool for rapid assessment of cycling infrastructure scenarios, optimising the location, routing, and types of cycleways to increase investment return (ARC Linkage). Additionally, our efforts extend to establishing a national platform for cycling data and analytics (ARC LIEF). We collaborate with Canada on interventions for all ages and abilities in bicycle networks and speed management (NHMRC).



Our Partners and funders

- Australian Urban Research Infrastructure Network (AURIN)
- Australian Cycling Environmental and Health Foundation Limited
- Australian Research Council
- Australian Urban Research Infrastructure Network
- Bicycle Industries Australia
- Bicycle Network
- City of Penrith
- City of Sydney
- City of Wollongong
- Curtin University
- Cycling and Walking Australia and New Zealand
- iMOVE Australia Cooperated Research Centre
- Lendlease
- Monash University
- National Health and Medical Research Council
- NSW Office of Sport
- Transport for NSW
- Trustee for Amy Gillett Foundation Trust
- University of Queensland
- University of Western Australia
- We Ride Australia
- Wollongong City Council
- Wollongong 2022 Limited

Theme leads:

Associate Professor Brian Lee
Dr Mike Harris





State-of-the-art facilities

City Analytics Lab

The City Analytics Lab (CAL) was established in 2018 to support co-design and co-production methodologies for reimagining of equitable, sustainable, productive, liveable and resilient cities. The lab is also set up to provide a unique environment to study the decision-making processes associated with city planning and design. Since its inception it has hosted over 300 events, with about 4,000 attendees including the Federal Minister for Cities, and NSW Minister for Planning.

CAL is a hybrid space with smart equipment including:

- 6 Mobile touch screen workstations
- Augmented Reality Sandbox
- Eye Tracking and recording equipment
- 8 panel Video Wall
- Streaming and conference capabilities
- Virtual Reality equipment

The CAL is a recognised node of the ARC i-Hub network, a dedicated space designed to support collaborative city planning and user centred design. CAL supports both research (Urban Analytics) and teaching (Master of City Analytics). CAL comprises a large decision support theatre, and three dedicated Virtual Reality (VR) / Augmented (AR) Reality rooms, along with a Tangible Table sandbox and observation rooms for undertaking experiments. CAL has been established to support the envisioning of sustainable, productive, liveable and resilient cities and provides a unique opportunity to study the decision-making processes associated with city planning and design.



How to engage with us

The Centre's research depends on maintaining a strong and recurrent engagement with external stakeholders across our domains of interest. This includes more than 100 partners including private businesses, government policymakers, industry peak bodies, NGOs, and community representatives in Australia and internationally.

You can partner with us or access our expertise in several ways including:

- Contract research and consultancy
- Linkage projects and R&D projects utilising government incentives
- Technologies for licence
- User of world-class facilities
- HDR scholarship opportunities and joint PhD programs
- Short-term scholar visiting appointment
- Short courses and tailored learning solutions for individuals and organisations




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