

## Backgrounder

### AURIN: can data help secure Australia's urban future?

The Australian Urban Research Infrastructure Network (AURIN) is unlocking the knowledge and trends contained in hundreds of datasets. The result is the e-research infrastructure needed to make evidence-based decisions on Australia's cities, towns and neighbourhoods and their future development.

Australia's population is on course to double by mid-century. The vast majority of these people will live and work in just five mega-metro cities. Urban systems are complex, but analysis of their statistics—things like demographic data, economic activity, housing and housing markets, energy and water consumption, population health and wellbeing, land use, urban infrastructure and transport—can provide insights into the factors and policies that make cities liveable, viable and sustainable.

AURIN e-research infrastructure:

- brings together and streamlines access to more than 1,000 datasets previously difficult, time consuming or costly to obtain
- provides the online capability to combine data at various levels of scale from multiple sources
- delivers online access to open source e-research tools to interrogate, model and visualise data
- provides analytical capabilities, including statistical and spatial modelling, planning and simulation tools, graphing and mapping routines (including 2D and 3D visualisation)
- provides the network to facilitate collaboration, partnerships and knowledge sharing across academia, all levels of government, and the private sector.

The Australia Urban Research Infrastructure Network is an Australian Government initiative that will provide built environment and urban researchers, designers and planners with an open access, distributed network of aggregated datasets and information services to understand patterns of urban development and to model urban growth for a sustainable future.

AURIN coordinates the collection and filtering of information from a variety of archival and current data sources and provides the mechanisms and tools by which the data can be accessed, analysed and modelled. This will, in turn, enable and support research that addresses issues of national significance, cross- and multi-disciplinary research, facilitate partnerships with industry and help translate research outcomes into national benefit.

The AURIN Workbench delivers the data, facilities and tools the AURIN project has developed. Most of these are delivered through the Portal, AURIN's flagship facility. The Workbench is accessible at <http://aurin.org.au/>.

AURIN is funded through the Australian Government's [National Collaborative Research Infrastructure Strategy](#) (NCRIS) and associated programs.

## Comments on AURIN

---

*Professor Bill Randolph, Director, City Futures Research Centre, Built Environment, University of New South Wales.*

“What’s great about AURIN from my perspective as a researcher is that it brings together datasets that would have otherwise taken you ages to bring together yourself. They do the hard work for you, which allows you to concentrate on analysis.”

“Having a suite of datasets available creates a ‘data playground’ for researchers. Exposure to these diverse datasets allows us to come up with serendipitous new insights and analyses, which may not have occurred without being exposed to the information. For example, housing, health and social disadvantage are closely related. Putting the data from these areas together allows you to play with these ideas.”

*Professor Billie Giles-Corti, Director, McCaughey VicHealth Centre for the Promotion of Mental Health and Community Wellbeing, University of Melbourne*

“A major concern for governments across the developed world is the impact of inactivity and rising obesity and what that’s going to mean for major chronic diseases, such as cardiovascular disease and diabetes. The beauty of walking as a health measure is that it’s free, you can do it in most clothes, it can easily become a habit and it’s something you can do every day—to the local shops or as part of your commute to school or work. It’s easiest way to achieve recommended levels of physical activity.”

“One of the barriers to achieving a healthy level of physical activity can be the urban environment we live and work in. But despite the lip service given to the importance of walkable neighbourhoods, we’re still seeing low density, car-reliant ‘obesogenic’ new suburbs. In collaboration with colleagues at the University of Western Australia, we’ve developed data bases and tools with AURIN so that planners can check the walkability of proposed new suburbs or find opportunities to improve the walkability of existing suburbs.”

“As project leader for AURIN’s Walkability Tool, my aim was to have clean datasets, online and research-ready and a flexible tool, so that researchers and planners can measure and model walkability at the scale and region they’re interested in. The next step is to make the tool more user-friendly and to make available data from each state and territory rather than just Victoria. This will save an enormous amount in research costs and help local government and planners in their decision-making.”

*Professor Greg Johnson, Chief Executive Officer, Diabetes Australia*

Professor Johnson comments on the importance of planning for walkability.

“Type 2 diabetes is one of the biggest threats to the health and productivity of Australians. Around 280 Australians develop diabetes every day. Walking and other forms of physical activity, combined with a healthy diet and maintaining a healthy weight, is ‘just what the doctor ordered’ for both the prevention and treatment of type 2 diabetes.”

“Creating more walkable suburbs and neighbourhoods is a great investment in the prevention of type 2 diabetes. Suburbs that lack walking paths and recreational parks, rely on car use and discourage active transport are a very real health risk. From our perspective, urban planning is a vital but often overlooked part of health policy. Research tools that easily measure neighbourhood walkability are an important contribution. We hope to see them put to good use.”

*Judy Bush, PhD candidate, University of Melbourne*

“AURIN is a fantastic way for organisations to share the knowledge they have locked away and make it available for the purposes of research, as opposed to commercial purposes. With my research, this will have exciting and important outcomes for things like the urban heat island effect. It’s such a great resource for researchers, allowing us to use our time much more effectively, since AURIN has done the work of sourcing and ‘cleaning’ data and preparing it for use.”

“I particularly value the way it enables researchers from other institutions to access the same data, so that multiple collaborators aren’t badgering data sources for the same data. This is important for my research with the Cooperative Research Centre for Low Carbon Living, which is based in Adelaide and involves other universities and city councils.”

“Ultimately, the availability of urban greenery maps, land use data and climate data through AURIN has opened up the scope of what I could reasonably address within the limitations of a PhD investigation. I can allocate more time to analysis, since I don’t have to do data collection from scratch or spend extra time on ethics approvals and other lengthy research red tape.”

*Professor Kate Auty, Vice-Chancellor’s Fellow, The University of Melbourne; Member of the AURIN Management Board*

The AURIN Management Board provides strategic oversight for the AURIN Project

“We will produce environmental, economic and social co-benefits by having better more collaborative data partnerships. The work already done by AURIN in bringing data and organisations together has made linkages across disciplines that are going to have a terrific legacy. As a result of this work, we will be so much better able to plan, strategise and be tactical about the government expenditure decisions needed to achieve the desired outcomes.”

## **AURIN data providers**

---

AURIN e-research infrastructure brings together datasets from more than 30 organisations, including:

Australian Bureau of Statistics

Australian Property Monitors

Australian Financial Services Authority

Geoscience Australia

Sustainability Victoria

Centre of Full Employment and Equity

National Centre for Social and Economic Modelling

Public Health Information Development Unit

University of Queensland eResearch

Various state government authorities and departments for health, human services, primary industries, planning, education and environment.

Various local governments