



# Creating healthy liveable neighbourhoods

**The project:** Reconnecting urban planning with health – The development and validation of national liveability indicators associated with chronic disease risk factors and health outcomes

**Project lead:** Professor Billie Giles-Corti, RMIT University (formerly University of Melbourne); Dr Hannah Badland, academic lead; and Dr Suzanne Mavoa, GIS lead.

**Project start:** June 2014 **Project end:** September 2016

## Key messages

- This project aimed to improve understanding of how the design of urban environments can help deliver better health outcomes. Previously, there was little research into how liveability influenced health and wellbeing, and even less on how best to measure the liveability of cities.
- It reviewed relevant state-based urban planning policies across five liveability domains (alcohol, food, public open space, transport, walkability) and explored the relationships between these policies and health outcomes.
- The project was the first in the world to explore associations between access to alcohol and self-rated health, and it developed a new way of measuring access to both healthy and unhealthy food.
- The team created liveability measures across the five domains that policy makers can use to plan urban areas that promote health, for example:
  - The recommended ratio to promote health is no more than one fast food outlet for every four supermarkets/green grocers
  - Public transport stops within 400m of homes and with at least two services per hour were associated with greater levels of walking for transport.
- The project developed a set of indicators that can be used to benchmark and monitor progress towards creating liveable communities that promote health and reduce health inequities.
- This set of measures is intended to be a tool for anyone involved in creating healthy neighbourhoods, such as governments, developers, public health planners, and researchers.

The design of  
urban environments  
can deliver better  
health outcomes



The project explored  
state policies across:  
alcohol, food,  
public open space,  
transport, walkability

We identified a  
set of indicators  
that can  
measure the  
liveability of  
neighbourhoods



## Why is this issue important?

The link between city design and public health was highlighted in 19th Century England, when it was discovered that contaminated water from sewerage caused epidemics of intestinal diseases such as cholera. Over recent years, there has been a renewed focus on city design and health, this time with the aim of preventing the modern epidemic of chronic disease.

For some years, Professor Billie Giles-Corti and her team have been developing ways to measure the key factors that make our cities healthy and liveable.

In previous work they identified seven domains of liveability that are likely contribute to health and wellbeing: employment, food, housing, public open space, social infrastructure, transport and walkability.

Until recently, there has been limited systematic research into the influence of liveability on health and wellbeing, and even less attention has been paid to how best to measure liveability in an urban planning policy context. Consequently, there is little understanding of how the design of urban environments can help deliver better health outcomes.

A national set of policy-relevant urban planning indicators would allow us to measure different aspects of liveability. For example, what is the optimal amount of green space in an urban community for good health?

Understanding which urban planning policies and interventions reduce the risk factors that affect lifestyle choices and promote health and wellbeing provides a valuable policy tool.

## What did we do?

The team comprised researchers from University of Melbourne (now at RMIT University), University of Western Australia, Queensland University of Technology (now at Australian Catholic University), Western Sydney University, University of Wollongong and the University of Canberra.

They began by looking at Victoria, NSW, ACT, WA and Queensland to identify relevant spatial urban planning policies for five aspects of liveability: public open space, access to alcohol, healthy food, walkability and transport.

Spatial policies incorporate information on the natural or constructed features within an area, such as parks, shops, services and streets.

The team used geographic information system (GIS) software to map the policies to urban areas and to link these policies with residents' health data.

Combining this information allowed the project to establish ground-breaking methods. It was the first in the world to explore associations between access to alcohol and self-rated health, and the first to examine and demonstrate associations between public transport service frequency and walking as a form of transport.

It developed a new measure to assess access to both healthy and unhealthy food, and developed two new measures to assess the mix of neighbourhood destinations: a daily living and local living index.

The project also revealed the benefits of co-produced research involving interdisciplinary research teams as well as policy makers and practitioners in each stage of the project. This design provided substantial state-specific understanding of the different policy areas across each liveability domain.



“You can't have a walkable neighbourhood if you haven't got anywhere to walk to – we need 'the butcher, the baker, and the candlestick maker'. It's the mix of destinations that is really important but the first thing is to have connected streets.”

**Professor Billie Giles-Corti**  
Lead investigator

## What did we find?

The project found that promoting health and wellbeing was not an objective or requirement in most urban planning legislation of Australian states. There were policy gaps in the alcohol and food domains. The project identified the following policy-relevant liveability measures below.

## Measuring the liveability of your neighbourhood



### Public open space

- People who lived in suburbs where 95% of homes were within 400m of a public open space were just over three times more likely to do moderate-to-vigorous physical activity than those who did not have access
- People who had access to a local park within 400m were about 20% more likely to do moderate-to-vigorous physical activity than those who did not have access



### Walkability

- Two key factors were found to encourage walking for transport: the connectivity of streets (more intersections, fewer big blocks) and a high number of local living destinations, such as supermarkets, shops, parks and public transport, within 1600m
- The local living destinations measure showed stronger associations than seen in previous research between a walkable environment and walking.



### Alcohol outlets

- People in disadvantaged areas were more likely than people from well-off areas to rate their health as poor if there was an on-licence alcohol outlet, such as a pub or restaurant, within 400m, or a bottle shop within 800m
- There is a need to further develop state policies to regulate the location of alcohol outlets to create safer and healthier communities, especially for disadvantaged communities



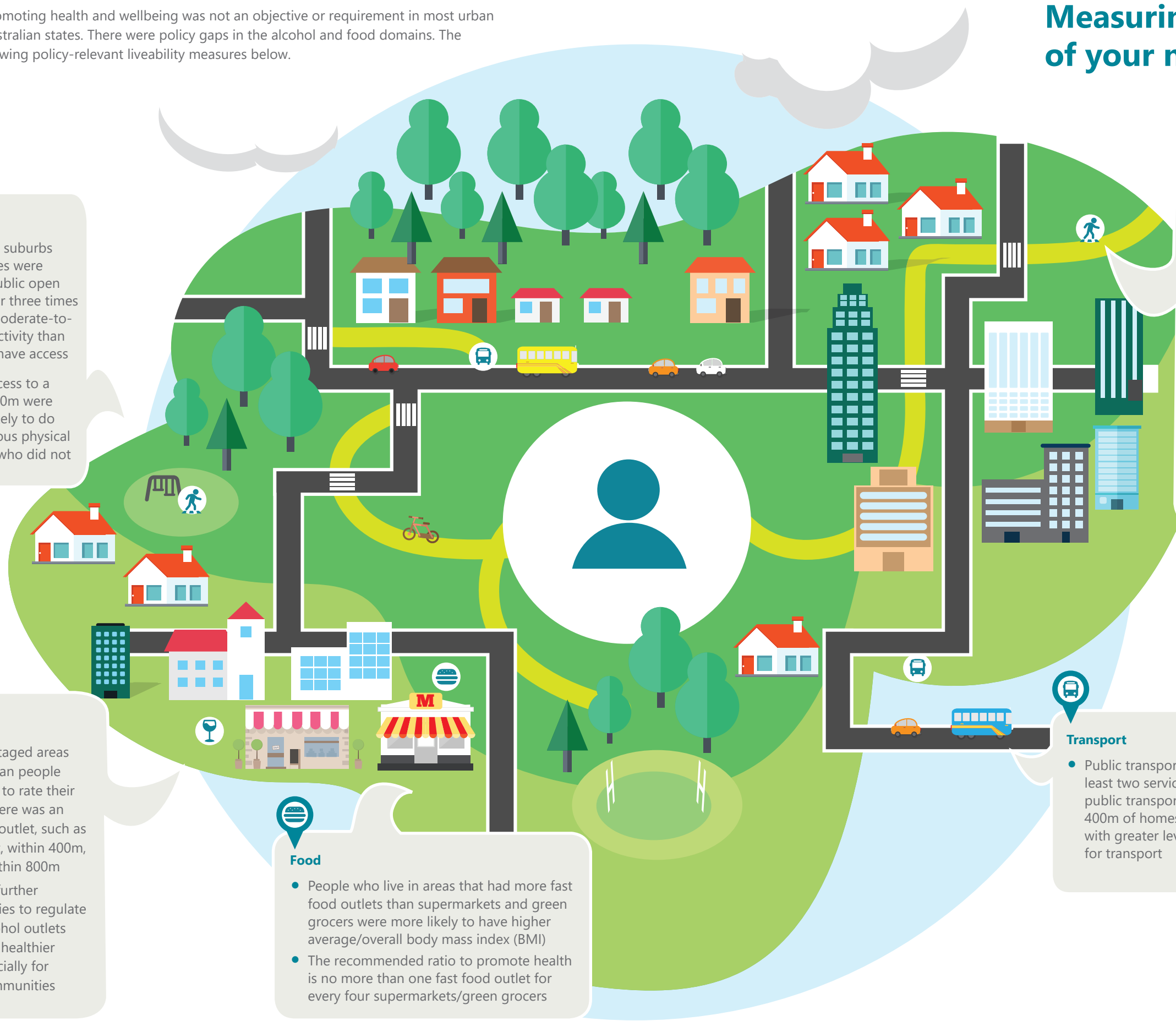
### Food

- People who live in areas that had more fast food outlets than supermarkets and green grocers were more likely to have higher average/overall body mass index (BMI)
- The recommended ratio to promote health is no more than one fast food outlet for every four supermarkets/green grocers



### Transport

- Public transport stops with at least two services per hour and public transport stops within 400m of homes were associated with greater levels of walking for transport



## What did we produce?

- The Australian National Liveability Study developed a set of indicators that can be used to benchmark and monitor progress towards creating liveable communities that promote health and reduce health inequities.
- Five papers published in peer-reviewed journals, nine presentations at conferences, and 12 media reports. Additionally, five papers are under peer-review in scientific journals.
- The findings were presented to the ACT Department of Health and discussed with the Cities Division within the Department of Prime Minister and Cabinet.
- The geospatial team has provided methodological advice to the Australian Bureau of Statistics (ABS), which has since calculated a measure of access to public open space developed in this study and linked it to Australian Health Survey data. This measure will now be available to Australian Health Survey data users.

## Why does it matter?

The study revealed that promoting health and wellbeing is not an objective in most States' planning legislation. Changing this focus is a priority to ensure that local government planners have a legislative tool to support them to create healthy, liveable local communities.

The gaps in food and alcohol policies represent an opportunity for more research in this area to help define appropriate spatial policies, and for Prevention Centre stakeholders to advocate for spatially specific alcohol and food planning policies.

The national liveability indicators will be a standard that can be used to measure which built environments work best for health and which don't. They can also be used to measure liveability differences within and between cities, where progress is being made and where there is room for improvement.

This set of measures is intended to be a tool for anyone involved in creating healthy neighbourhoods, such as governments, developers, public health planners, and researchers wanting to understand how neighbourhoods impact health and wellbeing.

## Next steps

The next task is to ensure the liveability indicators are useful. The second part of the Australian National Liveability Study, also supported by the Prevention Centre, is now focusing on upscaling the findings to urban areas nationally and disseminating the indicators to urban planning and health system disciplines.

## Project team

Suzanne Mavoia (University of Melbourne), Hannah Badland (University of Melbourne), Vincent Lernihan (University of Canberra), Bryan Boruff (University of Western Australia), Chris Pettit (University of NSW), Thomas Astell-Burt (University of Wollongong), Xiaoqi Feng (University of Wollongong), Paula Hooper (University of Western Australia), Jerome Rachele (Australian Catholic University), Serryn Eagleson (University of Melbourne), Stephanie David (University of Melbourne), Billie Giles-Corti (University of Melbourne).

## Publications

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### The Australian Prevention Partnership Centre

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