

Municipal Public Health and Wellbeing Planning 2021-2025

Guidance Note

December 2020



USING THE AUO TO PREPARE MUNICIPAL PUBLIC HEALTH AND WELL-BEING PLANS FOR 2021-25

What is the Australian Urban Observatory?

The Australian Urban Observatory (AUO) is an important new **digital planning tool** that maps **liveability** indicators across **Australia's 21 largest cities**. We cover 170 **Local Government Areas**, 3,101 **Suburbs** and 39,967 **Neighbourhoods** (ABS SA1s). You can download an up-to-date list of all AUO Indicators [here](#).

The AUO's liveability indicators are underpinned by years of **policy-relevant urban research** by **RMIT University**. Research that connects the **built environment** with **public health, social equity, sustainability** with all indicators aligned to the UN **Sustainable Development Goals**.

The AUO has **two levels of accessibility**. All LGA indicators, as well as the Liveability and Social Infrastructure Indices for Suburbs and Neighbourhoods, are available without charge. All other detailed indicators are available through [AUO Paid Partnerships](#).

Goal Setting, Monitoring, Evaluation, and Advocacy

All of our indicators are linked to specific and **measurable targets** to help you prepare MPHWP. Our indicators show where the liveability strengths and weaknesses are in your community, supporting **partnership, engagement and advocacy**, and giving direction for **future infrastructure investment**.

The AUO indicators are currently calculated from 2018 data. In the coming months we will be releasing 2019 and 2020 liveability measures, enabling organisations to **monitor and evaluate** change over time and see improvements, or deterioration, of local liveability issues. Additional demographic indicators will also be released in 2021.

Our purpose is to provide decision-makers and everyday citizens with the very best **indicators** to promote **health and wellbeing** in their communities and help them **prioritise actions** that support healthy liveable cities.

Founded in the Social Determinants of Health

At the AUO we are guided by our understanding that health is influenced by **individual** personal factors, social and **community supports** and broader socioeconomic, cultural and environmental **conditions** – known collectively as the **social determinants of health**.

Our **definition of liveability**, adopted into the Victorian Government Public Health and Wellbeing Plans (2015-2019 and 2020-2023) considers the **underlying conditions that support health**. We focus on **equity** and recognise that where you live is an important predictor of health outcomes and life expectancy.

USING THE AUO TO MEET REQUIREMENTS OF THE LOCAL GOVERNMENT ACT

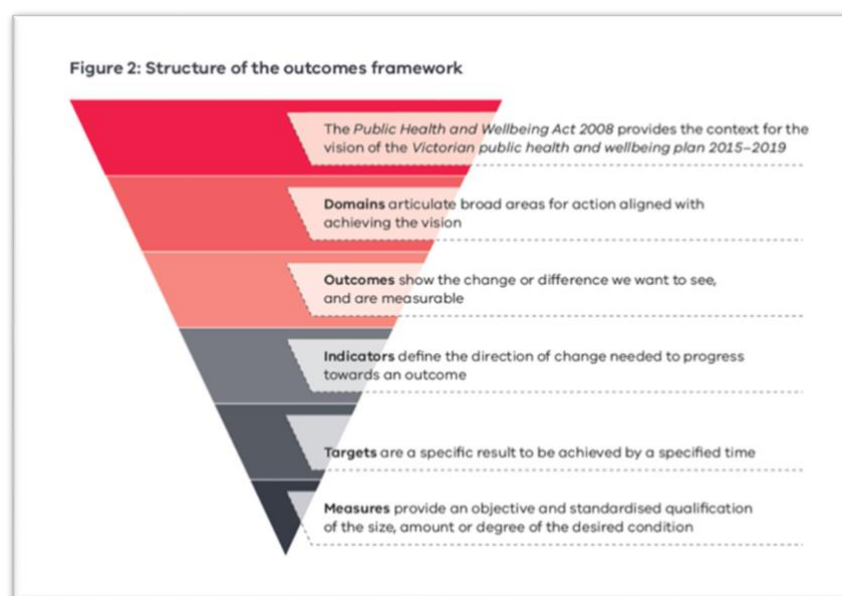
Section 26 of the *Public Health and Wellbeing Act 2008* specifies that the following must be included in a Municipal Public Health and Wellbeing Plan:

- An examination of **evidence and data** about health status and **health determinants** in the municipal district;
- Identify **goals** and strategies based on **available evidence** for creating a local community in which people can achieve **maximum health and wellbeing**;
- Specify measures to prevent family violence and respond to the needs of victims of family violence in the local community;
- Provide for the **involvement of people in the local community** in the development, implementation and evaluation of the public health and wellbeing plan;
- Specify how the council will work in **partnership** with the Department of Health and Human Services and **other agencies** undertaking public health initiatives, projects and programs to **accomplish the goals and strategies** identified in the public health and wellbeing plan.

The objective of the Act is to promote and protect the public health and wellbeing of people in Victoria, through the promotion and protection of public health while reducing health inequalities.

The Australian Urban Observatory mirrors the [Victorian Public Health and Wellbeing Outcomes Framework](#) providing *Domains of Liveability* and *Indicators* for monitoring and evaluation that are directly linked to health outcomes. Our indicators support many of the key long-term Targets described in the Framework. (See Increasing Active Living below.)

- AUO indicators can be applied to develop **clear goals** for improvement in these social determinants of health.
- AUO indicators can be applied to develop **shared measurement for collective impact**. We refer you to our [Cardinia Shire Case Study](#) for further information on using our indicators to support public health, partnership, liveability and integrated planning practice.
- AUO indicators, definitions and understanding of environmental social determinants of health, can be applied to support **partnership** development with a range of local **stakeholders** and Victorian Government **agencies** and support **evidence-based advocacy**. This work can be found in various policy documents including the DHHS [Victorian Public Health and Wellbeing Plan 2019–2023](#) and the DELWP [20-Minute Neighbourhoods](#) policy.



Victorian State Government, DHHS, [Victorian Public Health and Wellbeing Outcomes Framework](#)

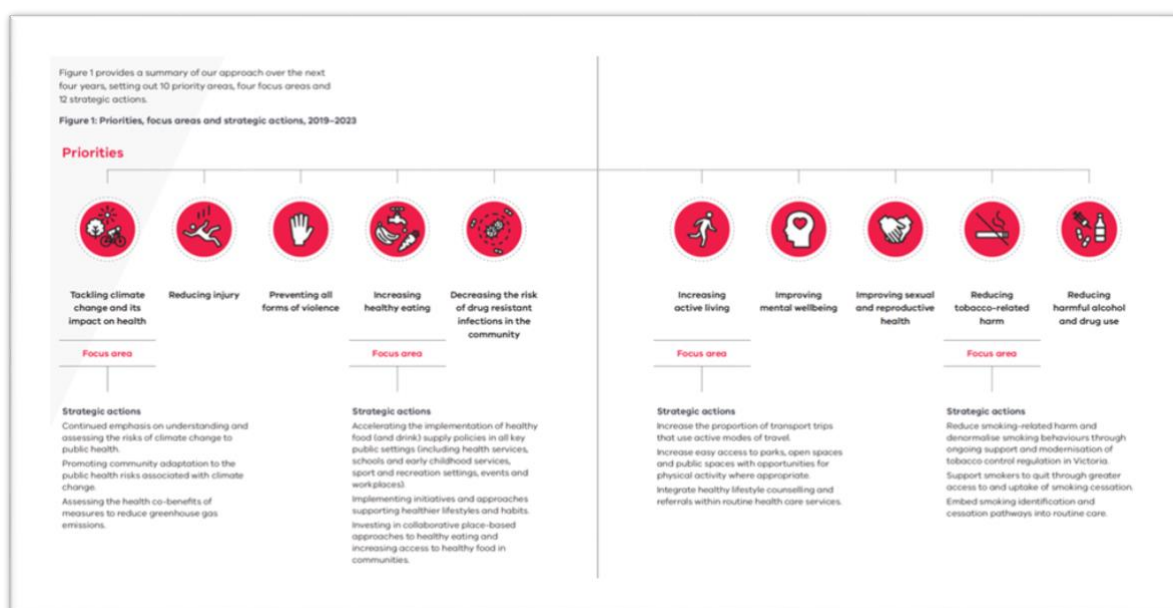
VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITIES

10 Priorities are identified in the Victorian Public Health and Wellbeing Plan (VPHP) 2020-2023:

- **Tackling climate change and its impact on health**
- Reducing injury
- Preventing all forms of violence
- **Increasing healthy eating**
- Decreasing the risk of drug resistant infections in the community
- **Increasing active living**
- Improving mental wellbeing
- Improving sexual and reproductive health
- **Reducing tobacco-related harm**
- Reducing harmful alcohol and drug use

Of which four, highlighted above, are of particular focus in this MPWHP cycle.

The AUO includes built environment indicators that support tackling climate change and its impact on health, increasing healthy eating, increasing active living, as well as preventing all forms of violence, improving mental wellbeing and reducing harmful alcohol and drug use, each of these areas are described in detail in the following sections of this Guidance Note.



Victorian State Government, DHHS, [Victorian Public Health and Wellbeing Plan 2019–2023](#)

VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITY TACKLING CLIMATE CHANGE AND ITS IMPACT ON HEALTH

Strategic actions:

- Continued emphasis on understanding and assessing the risks of climate change to public health.
- Promoting **community adaptation** to the public health risks associated with climate change.
- Assessing the health co-benefits of **measures to reduce greenhouse gas emissions**.

7 AUO domains of liveability connect the AUO to Tackling Climate Change and its Impact on Health – Liveability, Walkability, Transport, Public Open Space, Social Infrastructure, Food and Employment.



Use of Active Transport, access to Public Open Spaces and Local Daily Needs, enabling a reduction of car usage, are all elements of community climate change action. See our references below demonstrating links between the Built Environment with Public Health and Wellbeing.



Victorian State Government, DHHS, [Tackling Climate Change and Its Impacts On Health Through Municipal Public Health and Wellbeing Planning: Guidance For Local Government, 2020](#)

VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITY TACKLING CLIMATE CHANGE AND ITS IMPACT ON HEALTH

Liveability Index

Liveability

The Liveability Index is a composite score based on measures related to aspects of liveability including Social Infrastructure, Walkability, Public Transport, Public Open Space, Housing Affordability, and Local Employment.

Active Transport

Walkability

Our key '**Walkability for Transport**' indicator is calculated based on three key factors – a) something to walk to (land use mix and services of daily living), b) a way to get there (street connectivity) and c) dwelling density

In addition to 'Walkability for Transport' our Walkability indicators enable you to break down these factors for a deeper understanding of what is driving Walkability rates in your community:

- Average dwelling density per hectare
- Average street connectivity per square kilometre
- Average number of daily living destinations present (0-3) within 1600 m
- Average distance to closest activity centre

Transport

In Transport we measure active mobility through our '**Percentage of Employed Persons aged 15 and over using Active Transport to Travel to Work**' indicator.

In addition to this active mobility measure, we have nine other Transport indicators covering access to public transport and private vehicle use. Use of public transport has been shown to improve health and wellbeing through associated incidental exercise.

- Average distance to closest public transport stop
- % of dwellings within 400 m of a bus stop
- % of dwellings within 400 m of public transport with a regular 30-minute weekday service (7am and 7pm)
- Average distance to closest train station
- Average distance to closest bus stop with a regular 15-min weekday service
- Average distance to closest bus stop with a regular 30-min weekday service
- Average distance to closest bus stop with a regular 45-min weekday service
- % of employed persons using active transport (walking/cycling) as main mode of travel to work
- % of employed persons using public transport as main mode of travel to work
- % of employed persons using a private vehicle as main mode of travel to work

Public Open Space

Public Open Space

Our Public Open Space indicators are:

- Average distance to closest public open space
- % of dwellings within 400 m or less of public open space
- Average distance to closest public open space larger than 1.5 hectares
- % of dwellings within 400 m of public open space larger than 1.5 hectares
- % of dwellings within 400 m or less distance of any local park (> 0.4 to. <= 1 ha)
- % of dwellings within 800 m of less distance of any neighbourhood park (>1 ha to <= 5 ha)
- % of dwellings within 400 m of less distance of a neighbourhood recreation park (> 0.5 ha)
- Average distance to closest public open space with a nearby public toilet (within 100 m)

Access to Local Daily Needs

Other indicators that measure proximity to local daily needs are:

Social Infrastructure

- Social Infrastructure Index
- Average distance to closest playground

Food

Our Food indicators are:

- % of dwellings without any food outlet within 3.2km
- % of dwellings within 1km of a supermarket
- Average distance to closest healthy food outlet (supermarket or greengrocer)
- Average distance to closest fast food outlet
- Average count of fruit and vegetable grocers within 1.6km
- Average count of fast food outlets within 1.6km
- Average distance to closest café, restaurant or hotel

Employment

Our Employment indicators are:

- % of employed persons living and working in the same area

VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITY INCREASING HEALTHY EATING

Strategic actions:

- Accelerating the implementation of healthy food (supply policies in all key public settings.
- Implementing initiatives and approaches supporting **healthier lifestyles and habits**.
- Investing in collaborative place-based approaches to healthy eating and increasing **access to healthy food in communities**.

4 of our domains of liveability connect the AUO to Increasing Healthy Eating – Food, Alcohol, Walkability and Transport.



The Heart Foundation's [Healthy Active by Design](#) website highlights how best-practice planning and design of buildings, streets, towns and cities can improve Australians' heart health. The website provides information on health impacts, evidence, case studies, checklists, policies and international examples on a range of topics that describe the link between the Built Environment and Health. These topics include Public Open Space, Community Facilities, Buildings, Destinations, Movement Networks, Housing Diversity, Sense of Place and Healthy Food.



Heart Foundation, [Healthy Active by Design](#)

VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITY

INCREASING HEALTHY EATING

Increasing access to Fresh Food

Food

Access to fresh food provides residents with the opportunity to purchase nutritional foods which support healthy eating behaviours and lifestyles. Additionally, living within easy walking distance of fresh food stores encourages and enables people to walk or cycle instead of driving and hence, reduces their risk of chronic disease.

Our Food indicators are:

- % of dwellings without any food outlet within 3.2km
- % of dwellings within 1km of a supermarket
- Average distance to closest healthy food outlet (supermarket or greengrocer)
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- Average count of fruit and vegetable grocers within 1.6km
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- Average distance to closest café, restaurant or hotel

Reducing access to Alcohol

Alcohol

Long term and excessive use of alcohol can cause extreme harm to the physical and mental health of individuals, families and communities and is strongly associated with liver disease, stroke, numerous types of cancer and depression.

Excessive alcohol abuse can also lead to injury and death through accident, suicide and violence and is often connected to family violence, assault and homicide. These physical and social costs increase the burden of preventable disease on Australia's health care system.

Our Alcohol indicators are:

- Average number of on-licence alcohol outlets within 400m
- Average number of off-licence alcohol outlet within 800m
- Average distance to closest on-licence alcohol outlet
- Average distance to closest off-licence alcohol outlet

Improved Transportation Access

Improving walkability and transport creating accessibility to healthy food options promotes healthy eating, particularly for the disadvantaged.

Walkability

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In addition to 'Walkability for Transport' our Walkability indicators enable you to break down these factors for a deeper understanding of what is driving Walkability rates in your community:

- Average dwelling density per hectare
- Average street connectivity per square kilometre
- Average number of daily living destinations present (0-3) within 1600 m
- Average distance to closest activity centre

Transport

We have ten Transport indicators covering access to public transport, active mobility and private vehicle use.

- Average distance to closest public transport stop
- % of dwellings within 400 m of a bus stop
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VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITY INCREASING ACTIVE LIVING

Strategic actions:

- Increase the proportion of transport trips that use **active modes** of travel.
- Increase easy access to **parks, open spaces and public spaces** with opportunities for physical activity where appropriate.
- Integrate healthy lifestyle counselling and referrals within routine health care services.

Key Indicators

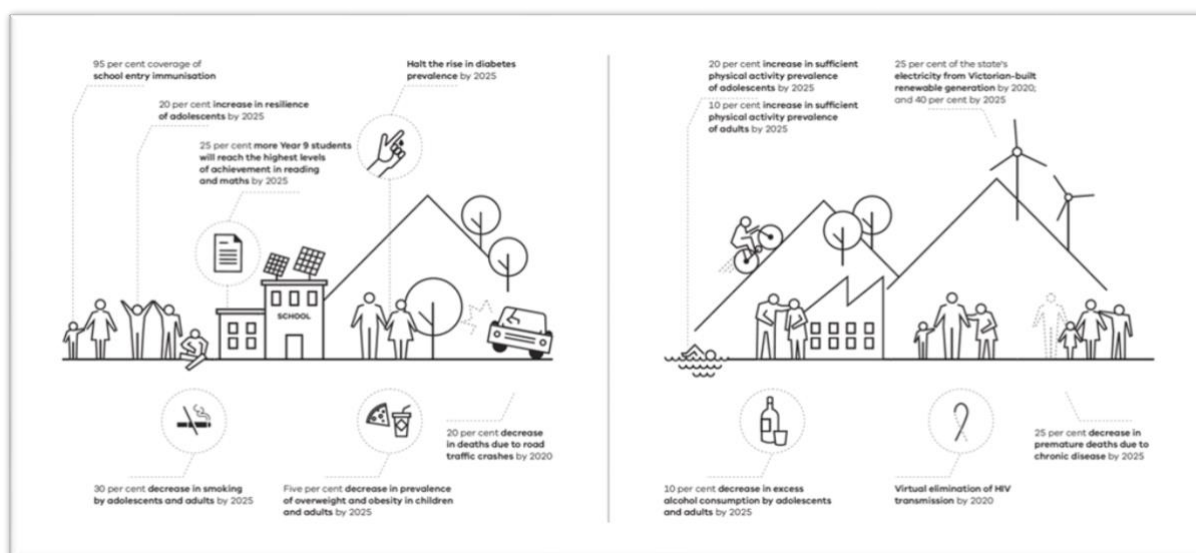
7 of our domains of liveability connect the AUO to Increasing Active Living – Liveability, Walkability, Transport, Public Open Space, Social Infrastructure, Food and Employment.



Our Walkability indicators measure the key ingredients for Liveable neighbourhoods which support active living. Access to public transport, public open space and local daily needs are all measures that can also be used to support healthy, active lifestyles.

Active Living is aligned to many of the key long-term health and wellbeing targets set by the Victorian State Government including:

- Halt the **rise in diabetes** prevalence by 2025
- 5% decrease in prevalence of **overweight and obesity in children and adults** by 2025
- 20% decrease in **deaths due to road traffic crashes** by 2025
- 20% increase in **resilience of adolescents** by 2025
- 20% **increase in sufficient physical activity prevalence of adolescents** by 2025
- 10% **increase in sufficient physical activity prevalence of adults** by 2025
- 25% **decrease in premature deaths due to chronic disease** by 2025



Key Long-Term Targets for Victorians

Victorian State Government, DHHS, [Victorian Public Health and Wellbeing Outcomes Framework](#)

VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITY

INCREASING ACTIVE LIVING

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Access to Local Daily Needs

Other indicators that measure proximity to local daily needs are:

Social Infrastructure

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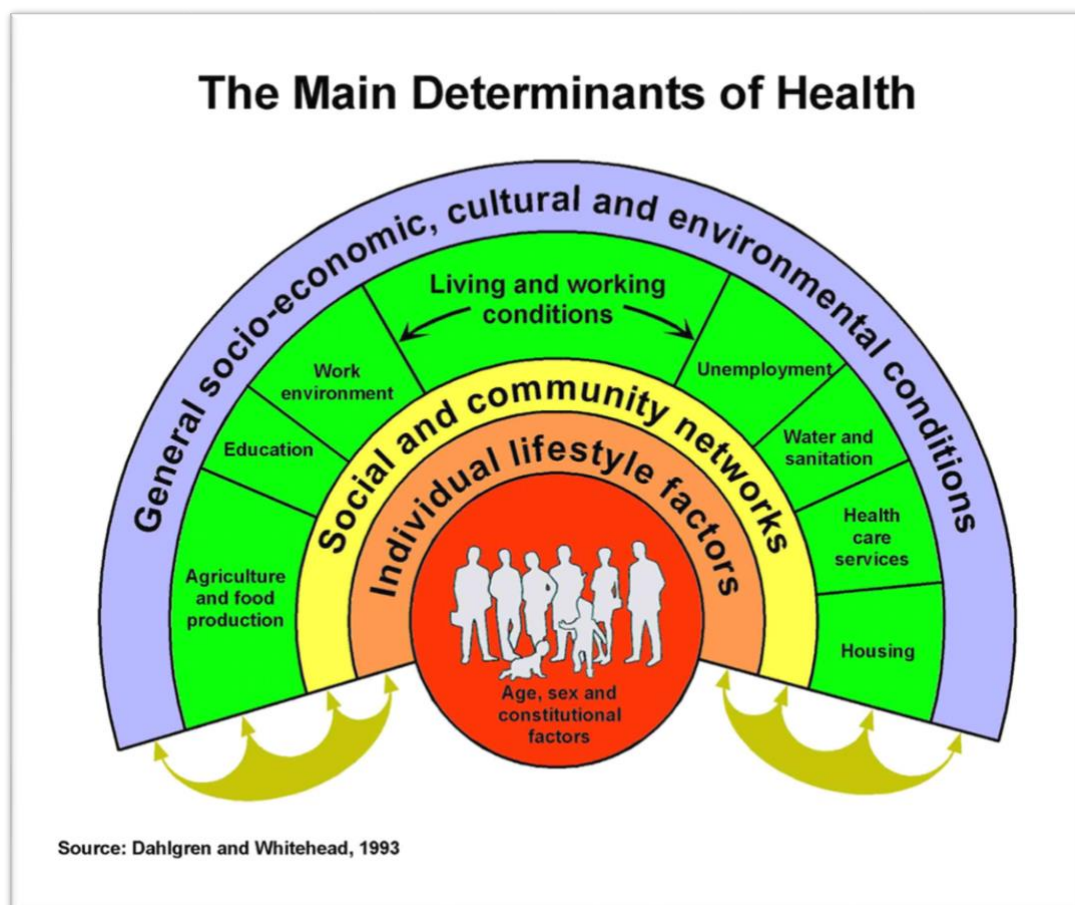
VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITY PREVENTING ALL FORMS OF VIOLENCE, IMPROVING MENTAL WELLBEING & REDUCING HARMFUL ALCOHOL AND DRUG USE

Key Indicators

8 of our domains of liveability connect the AUO to Preventing All Forms of Violence, Improving Mental Wellbeing + Reducing Harmful Alcohol and Drug Use – Liveability, Walkability, Transport, Public Open Space, Social Infrastructure, Employment, Food and Alcohol.



Reducing long term and excessive use of alcohol can limit the extreme harm to the physical and mental health of individuals, families and communities associated with its use. Walkable neighbourhoods with good access to public transport, social infrastructure, services and local employment all support community connection and a reduction in violence. All of AUO indicators are founded in the Social Determinants of Health and are linked to improvements in mental as well as physical health.



Social Determinants of Health

VICTORIAN PUBLIC HEALTH AND WELLBEING PLAN PRIORITY PREVENTING ALL FORMS OF VIOLENCE, IMPROVING MENTAL WELLBEING & REDUCING HARMFUL ALCOHOL AND DRUG USE

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Access to Public Open Space

🌳 Public Open Space

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Employment

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AUO REFERENCES LINKING THE BUILT ENVIRONMENT WITH PUBLIC HEALTH AND WELLBEING

✓ Liveability

Arundel J, Lowe M, Hooper P, Roberts R, Rozek J, Higgs C, Giles-Corti B. (2017) [Creating liveable cities in Australia: Mapping urban policy implementation and evidence-based national liveability indicators](#). Centre for Urban Research (CUR). RMIT University.

Badland H, Whitzman C, Lowe L, Davern M, Aye L, Butterworth I, Hes D, Giles-Corti B. (2014). [Urban liveability: Emerging lessons from Australia for exploring the potential for indicators to measure the social determinants of health](#). Social Science & Medicine. 111: p. 64-73

Higgs C, Badland H, Simons K, Knibbs LD, Giles-Corti B. (2019). [The Urban Liveability Index: developing a policy-relevant urban liveability composite measure and evaluating associations with transport mode choice](#). International Journal of Health Geographics. 18(1):14

Lowe M, Arundel J, Hooper P, Rozek J, Higgs C, Roberts R, Giles-Corti B. (2020) [Liveability aspirations and realities: Implementation of urban policies designed to create healthy cities in Australia](#). Social Science & Medicine. Vol 245.

🚶 Walkability

Boulange C, Gunn L, Giles-Corti B, Pettit CJ, Badland H. (2017). [Examining associations between urban design attributes and transport mode choices for walking, cycling, public transport and private motor vehicle trips](#). J Transport and Health

Giles-Corti, B., Mavoa, S., Eagleson, S., Davern, M., Roberts B., Badland, H.M., (2014). [Transport Walkability Index: Melbourne](#). McCaughey VicHealth Centre for Community Wellbeing, Melbourne: The University of Melbourne.

Giles-Corti B, Macaulay G, Middleton N, Boruff B, Bull F, Butterworth I, Badland H, Mavoa S, Roberts R, Christian H. (2014). [Developing a research and practice tool to measure walkability: a demonstration project](#). Health promotion journal of Australia : official journal of Australian Association of Health Promotion Professionals. 25(3): 160-6

Saelens BE, Handy SL. (2008). [Built environment correlates of walking: A review](#). MSSE. 40: S550-66

Saelens BE, Sallis JF, Black JB, Chen D. (2003). [Neighborhood-based differences in physical activity: an environment scale evaluation](#). American journal of public health, 93(9), 1552–1558.

Access to Services of Daily Living

Davern M, Roberts R, Higgs C. (2018). [Neighbourhood Liveability in Benalla: Using Indicators to understand and plan for liveability in the town of Benalla](#). RMIT University, Melbourne, Australia

Higgs C, Badland H, Simons K, Knibbs LD, Giles-Corti B. (2019). [The Urban Liveability Index: developing a policy-relevant urban liveability composite measure and evaluating associations with transport mode choice](#). International Journal of Health Geographics. 18(1):14

Dwelling Density

Forsyth A, Oakes J, Schmitz K, Hearst M. (2007). [Does residential density increase walking and other physical activity?](#) Urban Studies. 44:679–97

Giles-Corti B, Ryan K, Foster S. (2012). [Increasing Density in Australia: Maximising the Health Benefits and Minimising Harm](#). Perth, Western Australia: National Heart Foundation of Australia

Glazier RH, Creatore MI, Weyman JT, Fazli G, Matheson FI, Gozdyra P, Moineddin R, Shriqui VK, Booth GL. (2014). [Density, destinations or both? A comparison of measures of walkability in relation to transportation behaviors, obesity and diabetes in Toronto, Canada](#). Plos One. 9(1):9

Street Connectivity

Cerin E, Nathan A, van Cauwenberg J, Barnett DW, Barnett A, Council on Environment and Physical Activity (CEPA) – Older Adults working group. (2017). [The neighbourhood physical environment and active travel in older adults: a systematic review and meta-analysis](#). Int J Behav Nutr Phys Act, 14(1): p. 15

Kamruzzaman M, Washington S, Baker D, Brown W, Giles-Corti B, Turrell G. (2016). [Built environment impacts on walking for transport in Brisbane, Australia](#). Transportation, 43(1): p. 53-77

Koohsari MJ, Sugiyama T, Lamb KE, Villanueva K, Owen N. (2014). [Street connectivity and walking for transport: Role of neighbourhood destinations](#). Preventative Medicine

Transport

Badland H, Mavoa S, Villanueva K, Roberts R, Davern M, Giles-Corti B. (2015). [The development of policy-relevant transport indicators to monitor health outcomes and behaviours](#). Journal of Transport & Health, 2:103-110

Besser LM, Dannenberg AL. (2005). [Walking to public transit: steps to help meet physical activity recommendations](#). Am J Prev Med, 29(4): p. 273-280

Cerin E, Nathan A. (2017). [The neighbourhood physical environment and active travel in older adults: a systematic review and meta-analysis](#). International Journal of Behavioural Nutrition and Physical Activity. 14(1): p. 15

Currie G, Richardson T, Smyth P, Vella-Brodrick D, Hine J, Lucas K, Stanley J, Morris J, Kinnear R, Stanley J. (2009). [Investigating links between transport disadvantage, social exclusion and well-being in Melbourne—Preliminary results](#). Transp Policy (Oxf), 16(3): p. 97-105

Public Open Space

Davern M, Farrar A, Kenda D, Giles-Corti B. (2016). [Quality green space supporting health, wellbeing and biodiversity: A literature review](#) Adelaide, South Australia: Heart Foundation of Australia

Giles-Corti B, Foster S, Koohsari MJ, Francis J, Hooper P. (2015). [The influence of urban design and planning on physical activity](#). In: Barton H, Thompson S, Burgess S, Grant M, editors. The Routledge handbook of planning for health and well-being: Shaping a sustainable and healthy future. Oxon, UK: Routledge

The Healthy Built Environments Program. [Healthy built environments: A review of the literature](#). Fact sheets. Sydney, NSW: The Healthy Built Environments Program, City Futures Research Centre, The University of New South Wales (2012)

Villanueva K, Badland H, Hooper P, Koohsari MJ, Mavoa S, Davern M, Roberts R, Goldfield S, Giles-Corti B. (2015). [Developing indicators of public open space to promote health and wellbeing in communities](#). Applied Geography. 57: 112-9

Social Infrastructure

Davern M, Gunn L, Whitzman C, Higgs C, Giles-Corti B, Simons K, Villanueva K, Mavoa S, Roberts R, Badland H. (2017). [Using spatial measures to test a conceptual model of social infrastructure that supports health and wellbeing](#); Cities and Health. vol. 1, no. 2, pp. 194-209

Employment

Australian Bureau of Statistics. [Census of Population and Housing: Commuting to Work – More Stories from the Census](#). (2016). cat. no. 2071.0.55.001

Badland H, Davern M, Villanueva K, Mavoa S, Milner A, Roberts R, Giles-Corti B. (2016). [Conceptualising and measuring spatial indicators of employment through a liveability lens](#). Social Indicators Research, 127, 565–576.

Badland H, Milner A, Roberts R, Giles-Corti B. (2017). [Are area-level measures of employment associated with health behaviours and outcomes?](#) Social Indicators Research, 134:237-251

Alcohol

Badland H, Mavoa S, Livingston M, David S, Giles-Corti B. (2016). [Testing spatial measures of alcohol outlet density with self-rated health in the Australian context: Implications for policy and practice](#). Drug Alcohol Rev. 35(3): 298-306

Foster S, Trapp G, Hooper P, Oddy WH, Wood L, Knuiman M. (2017). [Liquor landscapes: Does access to alcohol outlets influence alcohol consumption in young adults?](#) Health Place. 45: 17-23

Livingstone M. (2011). [Alcohol outlet density and harm: Comparing the impacts on violence and chronic harms](#). Drug Alcohol Rev. 30: 515-23

Livingston, M. (2011). [A longitudinal analysis of alcohol outlet density and domestic violence](#). Addiction, 106(5), 919-925.

Food

Astell-Burt T, Feng X, Mavoa S, Badland H, Giles-Corti B. (2017). [Modest ratios of fast food outlets to supermarkets and green grocers are associated with higher body mass index: Longitudinal analysis of a sample of 15,229 Australians aged 45 years and older in the Australian National Liveability Study](#)

Burns C, Inglis A. (2007). [Measuring food access in Melbourne: access to healthy and fast foods by car, bus and foot in an urban municipality in Melbourne](#). Health & Place, 13(4), 877-885

Feng X, Astell-Burt T, Badland H, Mavoa S, Giles-Corti B. Association between body mass index and local food environment in a sample of 15,229 Australians aged 45 years and older: Findings from the National Liveability Study. Health Place. Under review

Gunn L, King T, Mavoa S, Lamb K., Giles-Corti B, Kavanagh A. (2017). [Identifying destination distances that support walking trips in local neighborhoods](#). Journal of Transport & Health, 5, 133-141

Gunn L, Mavoa S, Boulangé C, Hooper P, Kavanagh A, Giles-Corti B. (2017). [Designing healthy communities: creating evidence on metrics for built environment features associated with walkable neighbourhood activity centres](#). International Journal of Behavioral Nutrition and Physical Activity. 14(1):164

Hubley T. (2011). [Assessing the proximity of healthy food options and food deserts in a rural area in Maine](#). *Applied Geography*, 31(4), 1224-1231

Murphy M, Badland H, Koohsari MJ, Astell-Burt T, Trapp G, Villanueva K, Mavoa S, Davern M, Giles-Corti B. (2017). [Indicators of a health-promoting local food environment: a conceptual framework to inform urban planning policy and practice](#). *Health Promot J Aust*. 28(1):82–84

Murphy M, Badland H, Koohsari MJ, Giles-Corti B. (2017). [Supermarket access, transport mode and BMI: the potential for urban design and planning policy across socioeconomic areas](#). *Public Health Nutrition*, 20:3304-3315

Murphy M, Jordan H, Badland H, Giles-Corti B. (2018). [Local food environments: A qualitative study into Australian stakeholder perspectives on urban planning and governance to advance health and equity within cities](#). *Cities & Health*, 15:10.1080/23748834.2018.1514802

RMIT Centre for Urban Research Publications on Climate Change Mitigation and Adaption

Brian Coffey, Judy Bush, Laura Mumaw, Lisa de Kleyn, Casey Furlong & Raven Cretny (2020) [Towards good governance of urban greening: insights from four initiatives in Melbourne, Australia](#), *Australian Geographer*, 51:2, 189-204, DOI: [10.1080/00049182.2019.1708552](#)

Kathryn Davidson, Jessie Briggs, Elanna Nolan, Judy Bush, Irene Håkansson, Susie Moloney, [The making of a climate emergency response: Examining the attributes of climate emergency plans](#), *Urban Climate*, Volume 33, 2020, 100666, ISSN 2212-0955.

Duncan J M A, Boruff B, Saunders A, Sun Q, Hurley J, Amati M (2019) [Turning down the heat: An enhanced understanding of the relationship between urban vegetation and surface temperature at the city scale](#). *Science of the Total Environment*, Vol 656, pp 118-128

Giles-Corti B, Eagleson S, Lowe M (2014a) [Securing Australia's Future - Sustainable Urban Mobility. The public health impacts of transportation](#), Australian Council of Learned Academies, Melbourne (VIC)

Scheurer, J., Buxton, M., Pears, A., Iyer-Raniga, U., Roddick, F., Bekessy, S., Rickards, L., Fien, J., and Giles-Corti, B. (2020). [Climate Change Mitigation and Adaptation in Suburban Melbourne](#). Centre for Urban Research, School of Global, Urban and Social Studies, RMIT University: Melbourne.

Scheurer, J., Buxton, M., Pears, A., Iyer-Raniga, U., Roddick, F., Bekessy, S., Rickards, L., Fien, J., and Giles-Corti, B. (2020). [Climate Change Mitigation and Adaptation in Suburban Melbourne. Critical Policy Brief](#). Centre for Urban Research, School of Global, Urban and Social Studies, RMIT University: Melbourne.

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RESOURCES

General

Australian Institute of Health and Welfare, [Built Environment and Health](#)

Australian Urban Observatory, [Cardinia Shire Case Study](#), Indicators Supporting Public Health, Partnership, Liveability and Integrated Planning Practice

Australian Urban Observatory, [City Scorecards](#)

Australian Urban Observatory, [Creating Liveable Cities 1](#), Essays from The Conversation

Australian Urban Observatory, [Sustainable Development Goals Guidance Note](#)

Heart Foundation, [Healthy Active by Design](#)

Municipal Association of Victoria, [Municipal Public Health Planning](#)

Public Health Association Australia, [Policy Position Statements](#)

WHO, [Social Determinants of Health](#)

WHO + UNHabitat, [Integrating Health in Urban and Territorial Planning: A Sourcebook for Urban Leaders, Health and Planning Professionals](#)

WHO + UNHabitat, [Compendium of Inspiring Practices: Health Edition](#)

Victorian State Government, Department of Environment, Land, Water and Planning

Victorian State Government, DELWP, [20-Minute Neighbourhoods](#)

Victorian State Government, DELWP, [Climate Change Adaptation Resources](#)

Victorian State Government, DELWP, [Climate Change Act 2017](#)

Victorian State Government, DELWP, [Protecting Victoria's Environment - Biodiversity 2037](#)

Victorian State Government, Department of Health and Human Services

Victorian State Government, DHHS, [Municipal Public Health and Wellbeing Planning](#)

Victorian State Government, DHHS, [Municipal Public Health and Wellbeing Planning and Climate Change](#)

Victorian State Government, DHHS, [Tackling Climate Change and Its Impacts On Health Through Municipal Public Health and Wellbeing Planning: Guidance For Local Government, 2020](#)

Victorian State Government, DHHS, [Victorian Public Health and Wellbeing Outcomes Framework](#)

Victorian State Government, DHHS, [Victorian Public Health and Wellbeing Plan 2019–2023](#)

Victorian State Government Webinar Series, 'Climate Change Responsibilities and Consideration for Local Government

Victorian State Government, DELWP, [Climate Science, Data and Tools for Communicating Climate Change Impacts](#)

Victorian State Government, DELWP, [Local Government Roles and Responsibilities for Adaption under Victorian Legislation](#)

Victorian State Government, DHHS, [Climate Change and Health Guidance for Local Government](#)

Victorian State Government, DPJR, [Integrated Strategic Planning and Reporting Framework: Climate Change and the Local Government Act 2020](#)