



Global Observatory of
**Healthy and
Sustainable Cities**

Brisbane Australia 2024

Policy and spatial indicators for healthy and sustainable cities
1000 Cities Challenge report

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Full details of the data and methods are available at:

Global Observatory of Healthy & Sustainable Cities
<https://www.healthysustainablecities.org>

Policy review conducted by: Sara Alidoust, Mubeen Ahmad (2024)

Population data: Australian Bureau of Statistics. 2024. Regional population: Australian population grid 2023 in GeoTIFF format.
<https://www.abs.gov.au/statistics/people/population/regional-population/2022-23>. Accessed 29 January 2025.

Urban boundaries:

Urban features: OpenStreetMap Contributors. OpenStreetMap.fr (2024).
<http://download.openstreetmap.fr/extracts/oceania/australia/queensland.osm.pbf>

Colour scale: Crameri, F. (2018). Scientific colour-maps (3.0.4). Zenodo.
<https://doi.org/10.5281/zenodo.1287763>

Global Healthy & Sustainable City Indicators Collaboration

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Policy and spatial indicators for healthy and sustainable cities

1000 Cities Challenge report

This report outlines how Brisbane performs on a selection of spatial and policy indicators of healthy and sustainable cities. As part of the 1000 Cities Challenge, we examined the spatial distribution of urban design and transport features and the presence and quality of city planning policies that promote health and sustainability.

The findings could inform changes needed to local city policies. The maps show the distribution of urban design and transport features across Brisbane and identify areas that could benefit the most from interventions to create healthy and sustainable environments.

Brisbane context

Brisbane is Australia's largest local government area and the third most populous city in the country. As the capital of the State of Queensland, it is situated in the rapidly growing South-East Queensland region. Its subtropical climate, along with the Brisbane River, plays a significant role in shaping the city's natural environment and urban development.

Levels of government

The policy checklist for the Brisbane LGA encompasses policies from national, state, regional, and local levels, indicating comprehensive coverage across various layers of governance.

Demographics and health equity

The population of Brisbane LGA represents a diverse range of socio-economic conditions. While many residents benefit from a high standard of living, areas of socio-economic disadvantage persist, especially in the outer suburbs. Brisbane's rapidly growing population, which includes a significant proportion of migrants and an aging demographic, faces health challenges such as limited access to active and healthy lifestyle options, increasing rates of chronic diseases, and rising mental health concerns.

Environmental disaster context

Environmental hazards that may impact the urban area over the coming decade include: severe storms, floods, bushfires/wildfires, heatwaves, cyclones.

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Study region

The study region used to calculate spatial indicators for the population of Brisbane presented in this report has been highlighted in the map below using parallel line shading.



Study region boundary (shaded region): Queensland Government Open Data Portal under CC-BY-4.0 | Basemap: Sentinel-2 cloudless - <https://s2maps.eu> by EOX IT Services GmbH (Contains modified Copernicus Sentinel data 2021) released under Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License

Map legend



Study region boundary
(Queensland Government (2025).
Local government area
boundaries - Queensland.
Department of Resources.
<https://qldspatial.information.qld.gov.au/catalogue/custom/detail.page?fid=%7b3F3DBD69-647B-4833-B0A5-CC43D5E70699%7d.>)

Policy indicators for healthy and sustainable cities

Public policies are essential for supporting the design and creation of healthy and sustainable cities and neighbourhoods. The 1000 Cities Challenge Policy Checklist was used to assess the presence and quality of policies aligned with evidence and principles for healthy and sustainable cities.

Policy presence score

Presence of urban and transport policies supporting health and sustainability

27/32 (84.4%)

Policy quality score

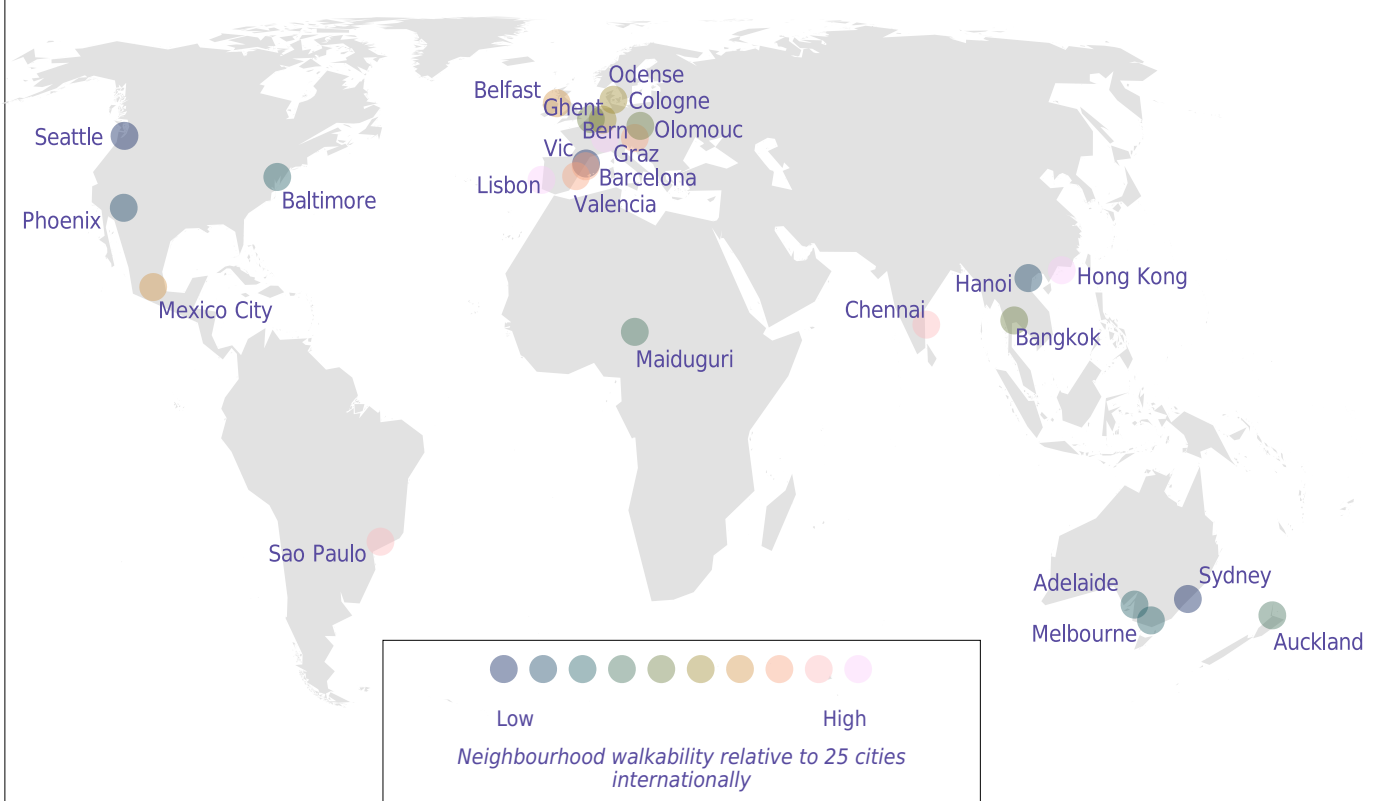
Policy quality score for measurable policies aligned with evidence on healthy cities

39.0/62 (62.9%)

Box 1: The Lancet Global Health Series study of 25 cities internationally

The 1000 Cities Challenge extends methods for assessing the health and sustainability of cities outlined in the 2022 Lancet Global Health Series on urban design, transport, and health. Policy and spatial indicators were calculated, analysed and reported in multiple languages for 25 diverse cities across 19 countries and 6 continents. These cities provide a useful reference for comparisons, but are not a representative sample of all cities internationally.

For more details, please see the 2022 The Lancet Global Health Series on Urban design, transport, and health (<https://www.thelancet.com/series/urban-design-2022>).



Integrated city planning policies for health and sustainability

Many sectors are involved in creating healthy and sustainable cities, including land use, transport, housing, parks, economic development, and infrastructure. Integrated planning is required to ensure policy alignment across sectors. Health considerations need to be embedded in transport and urban policies, and investment in active and public transport should be prioritised.

	Policy identified	Aligns with healthy cities evidence	Measurable target
Transport policy with health-focused actions	✓	✓	✗
Urban policy with health-focused actions	✓	✓	✓
Health Impact Assessment requirements in urban/transport policy	✗	-	-
Urban/transport policy explicitly aims for integrated city planning	✓	✓	✗
Publicly available information on government expenditure for different transport modes	✓	✓	✗

Key: Yes ✓ No ✗ Mixed ✓/✗ Not applicable -

Walkability and destination access

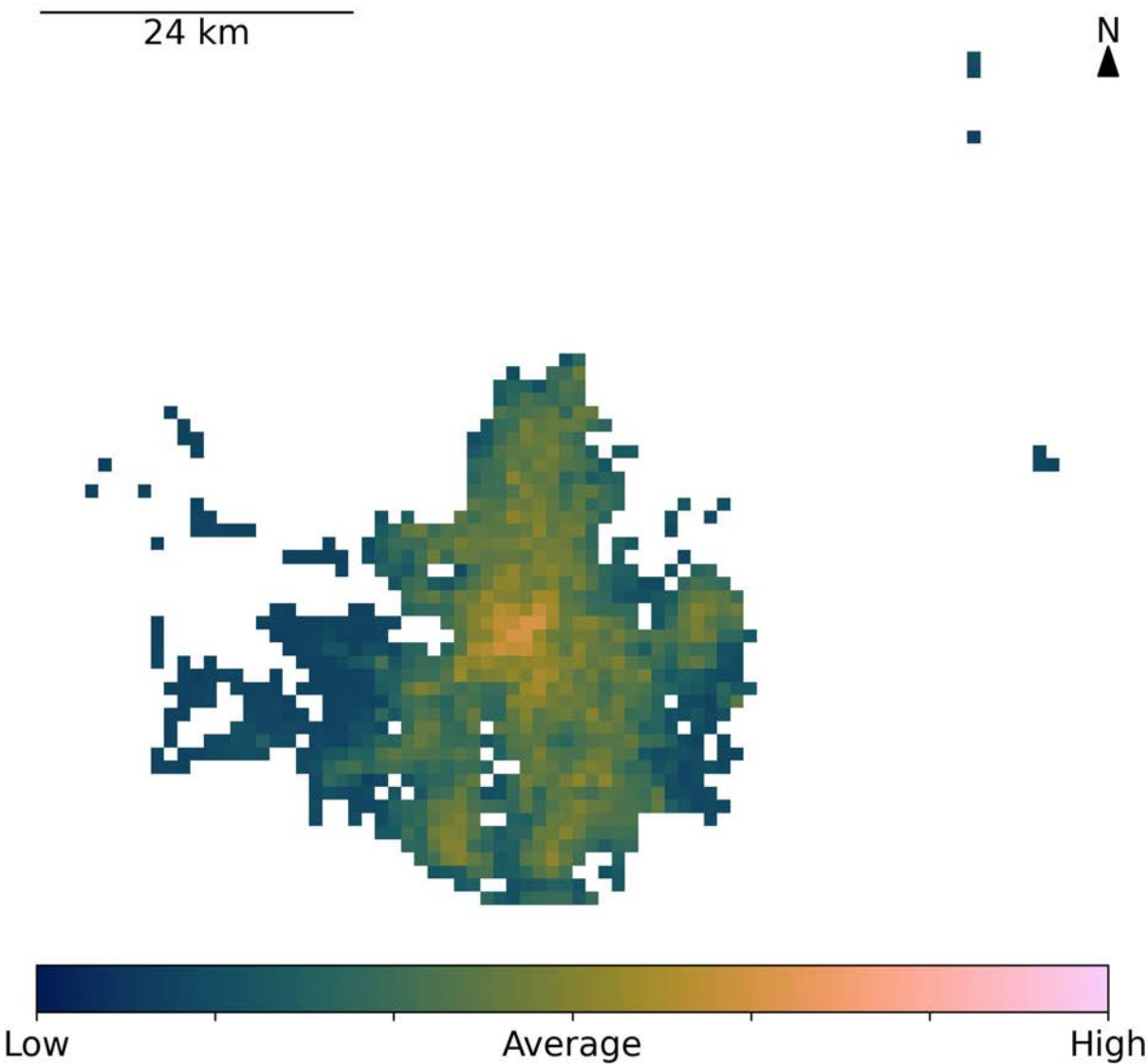
Walkable neighbourhoods provide opportunities for active, healthy, and sustainable lifestyles through having sufficient but not excessive population density to support adequate provision of local amenities, including public transport services. They also have mixed land uses and well-connected streets, to ensure proximate and convenient access to destinations. High-quality pedestrian infrastructure and reducing traffic through managing demand for car use can also encourage walking for transport.

Walkability and destination access policies

	Policy identified	Aligns with healthy cities evidence	Measurable target
Street connectivity requirements	✓	✓	✓
Parking restrictions to discourage car use	✓	✓/✗	✗
Traffic safety requirements	✓	✓/✗	✗
Pedestrian infrastructure provision	✓	✓	✓
Cycling infrastructure provision	✓	✓	✓
Walking participation targets	✓	✓	✓
Cycling participation targets	✓	✓	✓
Housing density requirements	✓	✓	✓
Residential building height restrictions	✗	-	-
Limits on greenfield housing development	✓	✓	✓
Mixture of housing types/sizes	✓	✓	✓
Mixture of local destinations for daily living	✓	✓	✗
Close distance to daily living destinations	✓	✓	✓
Employment distribution requirements	✓	✓/✗	✓
Ratio of jobs to housing	✗	-	-
Healthy food environments	✓	✓	✗
Crime prevention through environmental design	✓	✓	✓

Key: Yes ✓ No ✗ Mixed ✓/✗ Not applicable -

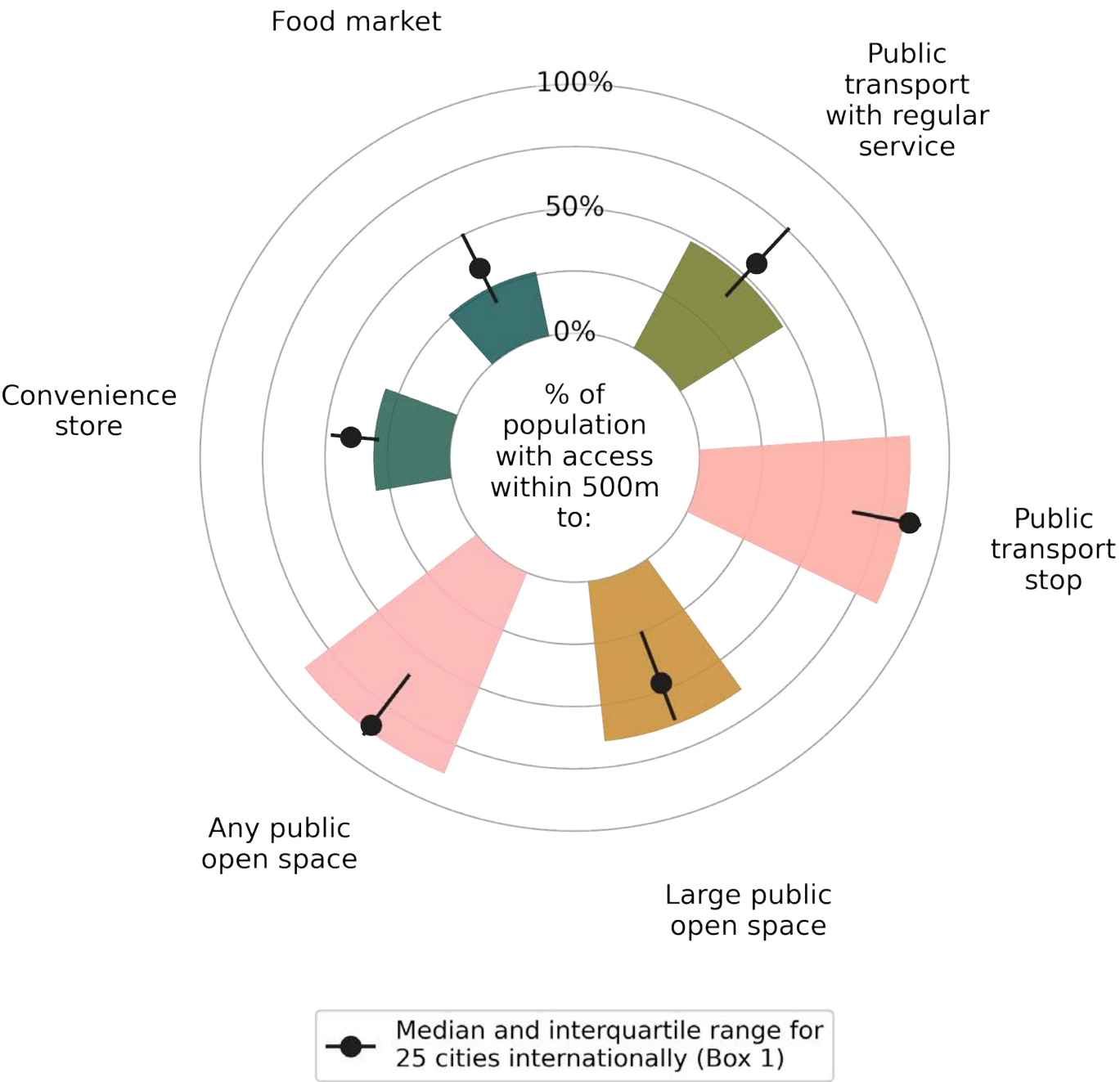
Neighbourhood walkability relative to 25 cities internationally



31.3% of the population in Brisbane live in neighbourhoods with walkability scoring above the median of 25 cities internationally (Box 1)

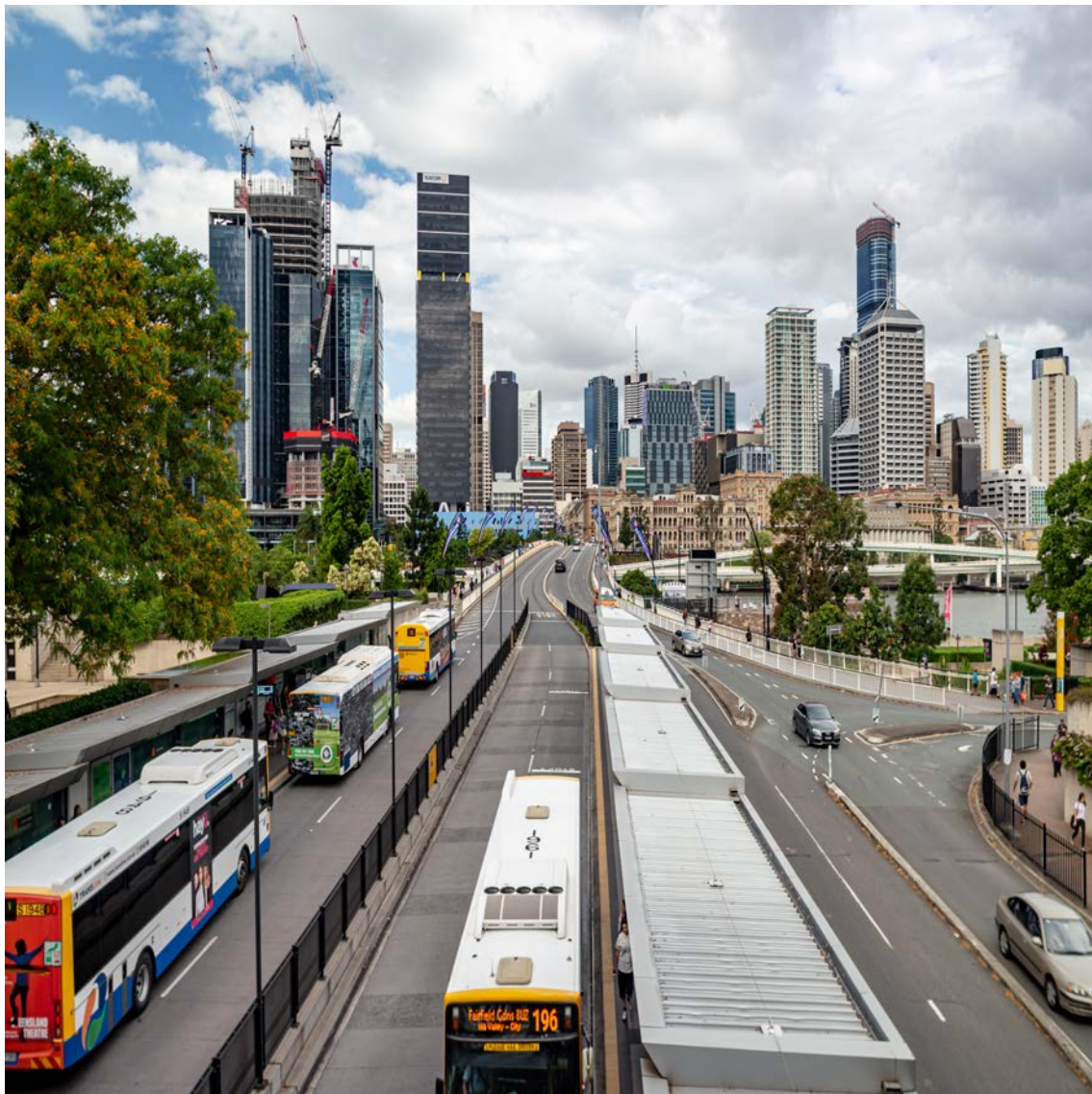
The spatial distribution maps featured in this report display results for areas with population estimates according to Australian population grid 2023 in GeoTIFF format (ABS 2024).

Percentage of population with access to amenities within 500 metres (m)



Urban design thresholds to promote walking

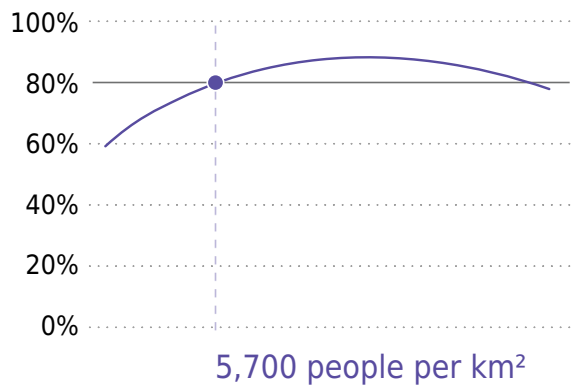
The 2022 Lancet Global Health Series found that to achieve at least 80% probability of engaging in any walking for transport, an average urban neighbourhood would need a population density of at least 5700 people km² and street connectivity of at least 100 intersections per km², approximately and depending on context. Preliminary evidence showed that street intersection density above 250 per km² and ultra-dense neighbourhoods (> 15,000 persons per km²) may have decreasing benefits for physical activity. This is an important topic for future research.



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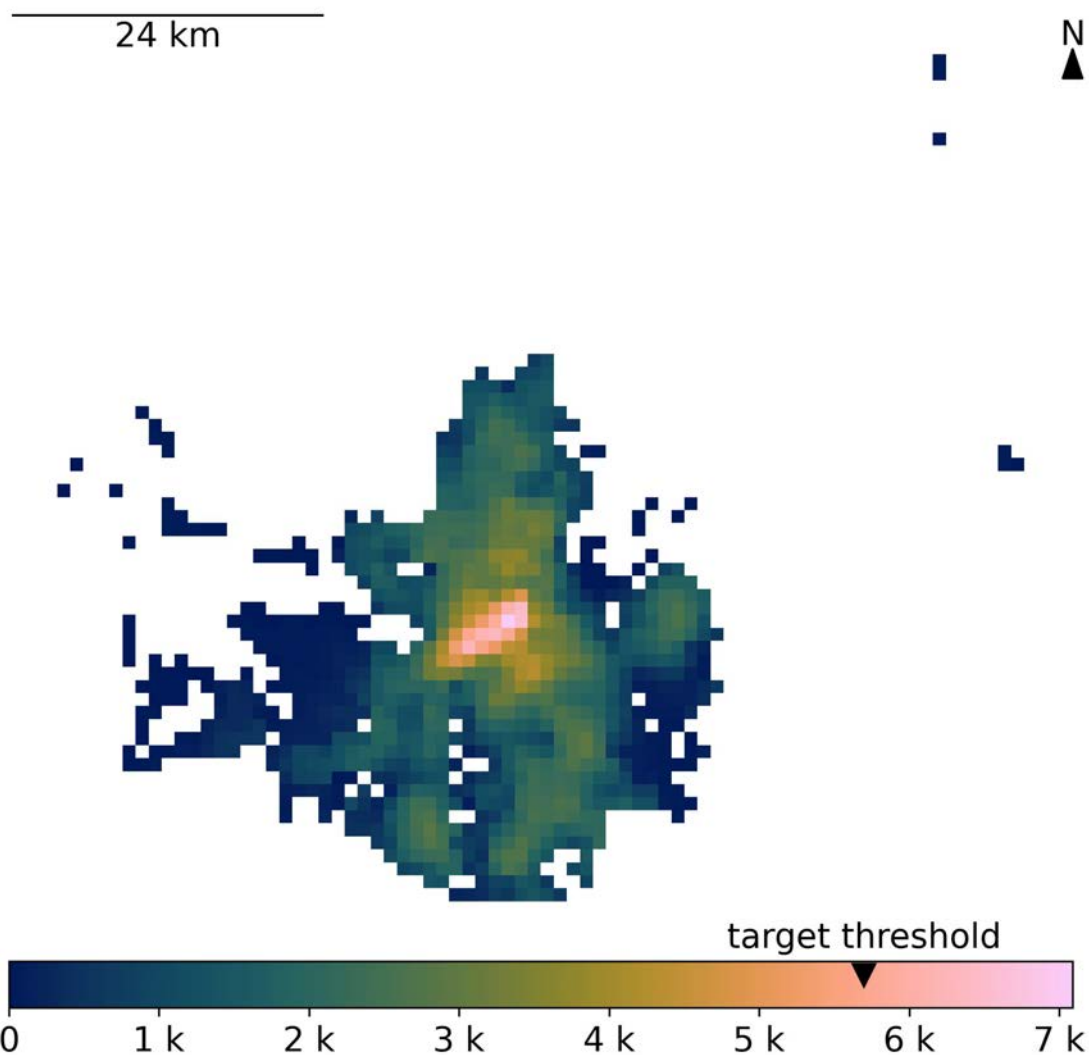
Neighbourhood population density (per km²)

Probability of engaging in any walking for transport

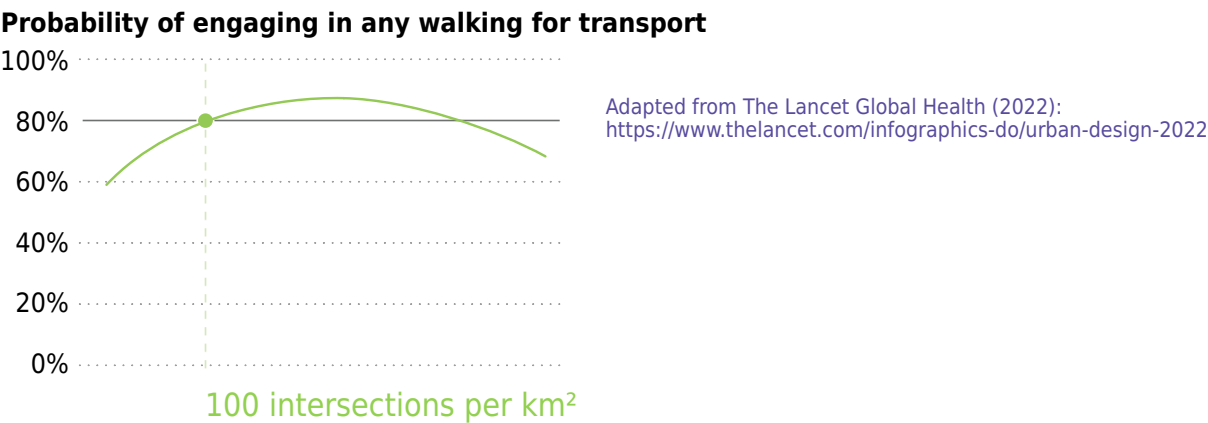


Adapted from The Lancet Global Health (2022):
<https://www.thelancet.com/infographics-do/urban-design-2022>

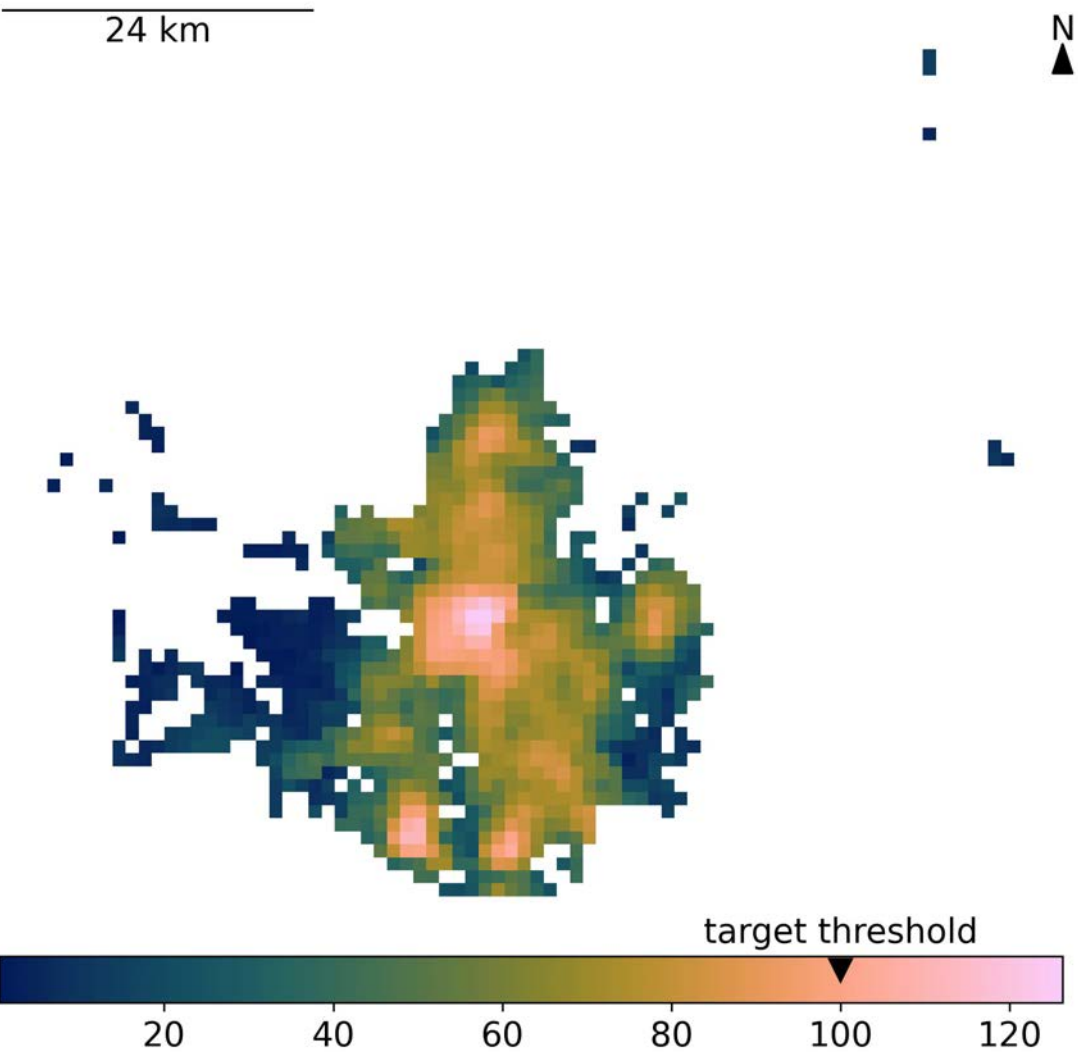
5.7% of the population in Brisbane live in neighbourhoods meeting the population density threshold for 80% probability of engaging in any walking for transport (5,700 people per km²)



Neighbourhood intersection density (per km²)



8.6% of the population in Brisbane live in neighbourhoods meeting the street intersection density threshold for 80% probability of engaging in any walking for transport (100 intersections per km²)

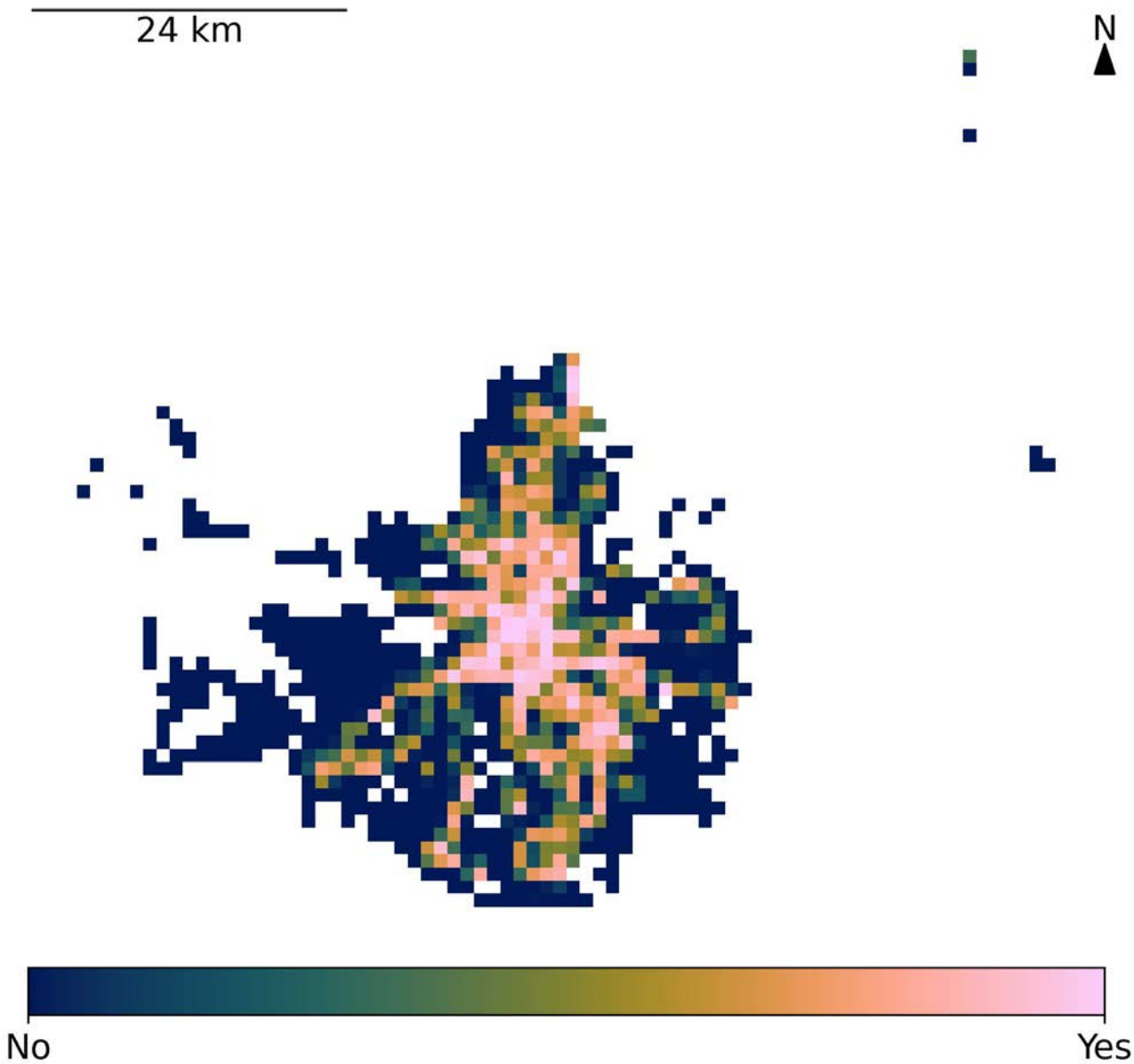


Public transport access

Easy access to frequent public transport is a key determinant of healthy and sustainable transport systems. Public transport near housing and employment increases the mode share of public transport trips, thus encouraging transport-related walking; offering access to regional jobs and services; improving health, economic development, and social inclusiveness; and reducing pollution and carbon emissions. The frequency of services also encourages public transport use, in addition to the proximity of stations or stops.

	Policy identified	Aligns with healthy cities evidence	Measurable target
Requirements for public transport access to employment and services	✓	✓	✓
Minimum requirements for public transport access	✓	✓	✓
Targets for public transport use	✗	-	-

Key: Yes ✓ No ✗ Mixed ✓/✗ Not applicable -



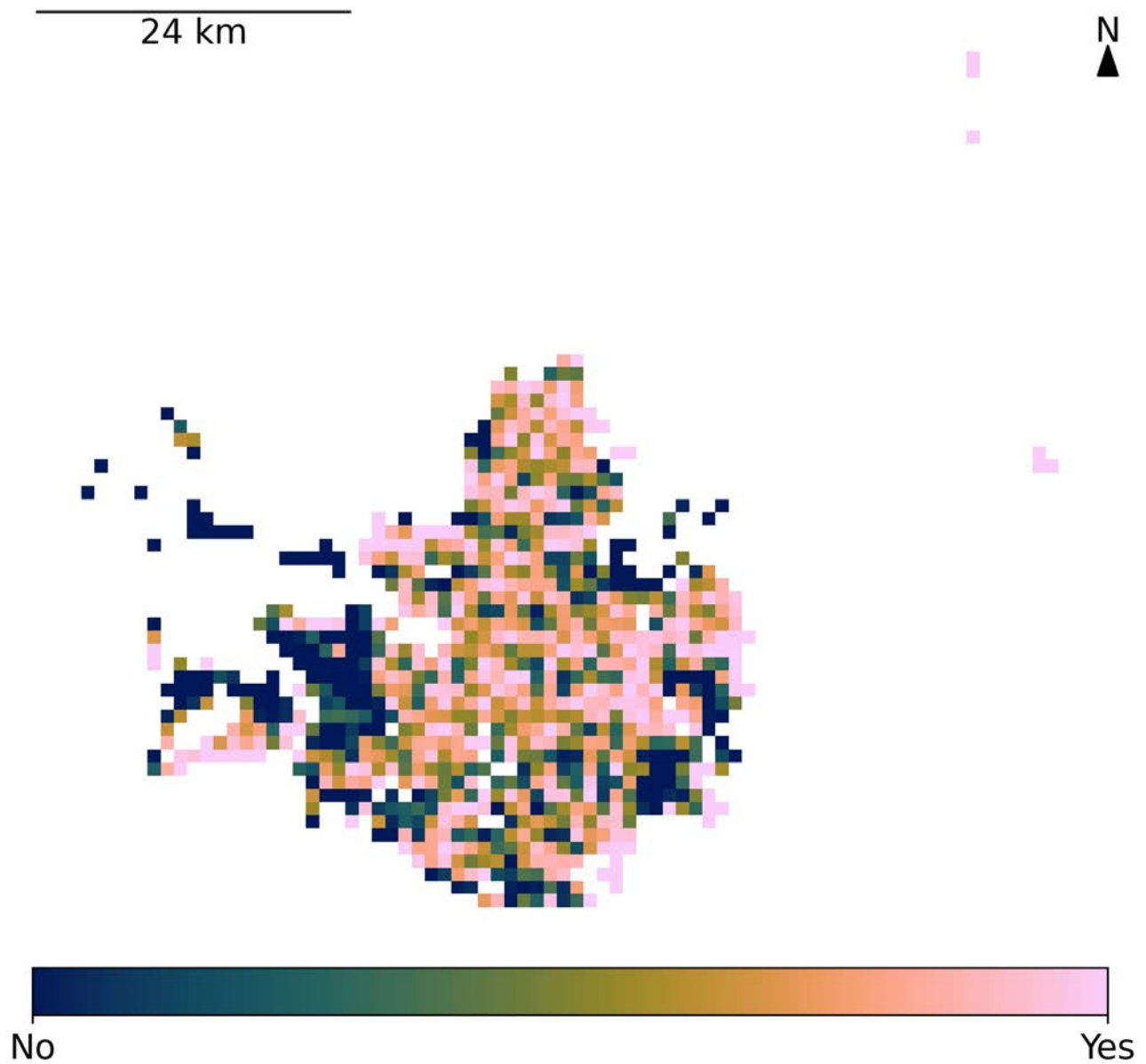
48.7% of the population in Brisbane live within 500m of public transport with 20 mins or better average weekday frequency

Public open space access

Local access to high-quality public open space promotes recreational physical activity and mental health. Nearby public open space creates convivial, attractive environments, helps cool the city and protects biodiversity. As cities densify and private open space declines, providing more public open space is critical for population health. Having public open space within 400 m of homes can encourage walking. Access to larger parks may also be important.

	Policy identified	Aligns with healthy cities evidence	Measurable target
Minimum requirements for public open space access	✓	✓	✓

Key: Yes ✓ No ✗ Mixed ✓/✗ Not applicable -



64.7% of the population in Brisbane live within 500m of public open space of at least 1.5 hectares in size

Urban air quality, and nature-based solutions

Land use and transport policies play a key role in limiting air pollution, with multiple benefits for health and sustainability. Nature-based solutions, including urban greening and urban biodiversity protection, have mental health benefits by increasing contact with nature. Green spaces and vegetation cover can cool cities and help build resilience to extreme heat.

	Policy identified	Aligns with healthy cities evidence	Measurable target
Transport policies to limit air pollution	✓	✓	✓
Land use policies to reduce air pollution exposure	✓	✓	✗
Tree canopy and urban greening requirements	✓	✓	✓
Urban biodiversity protection & promotion	✓	✓	✓

Key: Yes ✓ No ✗ Mixed ✓/✗ Not applicable -

Climate disaster risk reduction

In the face of climate change, built environments need to be designed to reduce the health impacts of increasingly frequent and severe extreme weather events, such as heat waves, flooding, bushfires/wildfires and extreme storms.

	Policy identified	Aligns with healthy cities evidence	Measurable target
Adaptation and disaster risk reduction strategies	✓	✓	✗

Key: Yes ✓ No ✗ Mixed ✓/✗ Not applicable -



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Summary

The report evaluates Brisbane LGA's performance on spatial and policy indicators for healthy and sustainable cities. The report highlights the presence and quality of planning policies that promote health and sustainability, with a policy presence score of 84.4% and a policy quality score of 62.9%. While Brisbane's policies align fairly well with principles of healthy and sustainable cities, reflecting a commitment to supporting healthy and sustainable lifestyles, significant challenges remain. One key issue is the lack of health impact assessment requirements in urban and transport policies. Additionally, the absence of measurable targets in many areas could undermine the development of evidence-based plans and hinder the ability to monitor progress and evaluate the impacts of policies. Without clear, measurable goals, tracking outcomes and ensuring the effectiveness of policy interventions becomes difficult.

The report also highlights disparities in walkability, public transport access, and public open space, particularly affecting outer suburbs with lower socio-economic status. While Brisbane has a relatively high standard of living, only 5.7% of the population lives in neighbourhoods with sufficient density to support frequent walking for transport, and less than half have access to frequent public transport within 500 metres. The report underscores the need for targeted urban planning interventions to enhance active transport options, mixed land-use development, and equitable access to health-supportive environments.

Furthermore, Brisbane's vulnerability to climate-related hazards, including floods, storms, and heatwaves, necessitates urban resilience strategies that integrate sustainability and health considerations. Expanding public open space access, improving pedestrian and cycling infrastructure, and reducing car dependency are critical for fostering a healthier and more liveable city. Addressing these gaps through policy and planning initiatives will be key to ensuring that Brisbane remains an inclusive, sustainable, and climate-resilient urban environment.

Citation

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