

Barcelona, Spain

Healthy and Sustainable City Indicators Report: Comparisons with 25 cities internationally

Global Healthy & Sustainable City-Indicators Collaboration



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Global Observatory of
**Healthy and
Sustainable Cities**

Full report including data, methods and study limitations has been published as:

The Lancet Global Health Series on urban design, transport, and health. 2022. <https://www.thelancet.com/series/urban-design-2022>

Global Observatory of Healthy & Sustainable Cities. 2022. <https://www.healthysustainablecities.org>

Population data: Schiavina, M. et al. (2019): GHS population grid multitemporal (1975, 1990, 2000, 2015) R2019A. European Commission, Joint Research Centre (JRC). <https://doi.org/10.2905/42E8BE89-54FF-464E-BE7B-BF9E64DA5218>

Urban boundaries: Florczyk, A. et al. (2019): GHS Urban Centre Database 2015, multitemporal and multidimensional attributes, R2019A. European Commission, Joint Research Centre (JRC).

<https://data.jrc.ec.europa.eu/dataset/53473144-b88c-44bc-b4a3-4583ed1f547e>

Urban features: OpenStreetMap contributors. Openstreetmap (2020). <https://planet.osm.org/pbf/planet-200803.osm.pbf.torrent>

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

Study executive

Deepti Adlakha, Jonathan Arundel, Geoff Boeing, Ester Cerin, Billie Giles-Corti, Carl Higgs, Erica Hinckson, Shiqin Liu, Melanie Lowe, Anne Vernez Moudon, Jim Sallis & Deborah Salvo

Editors

Carl Higgs, Melanie Lowe & Billie Giles-Corti

Local collaborators (Barcelona)

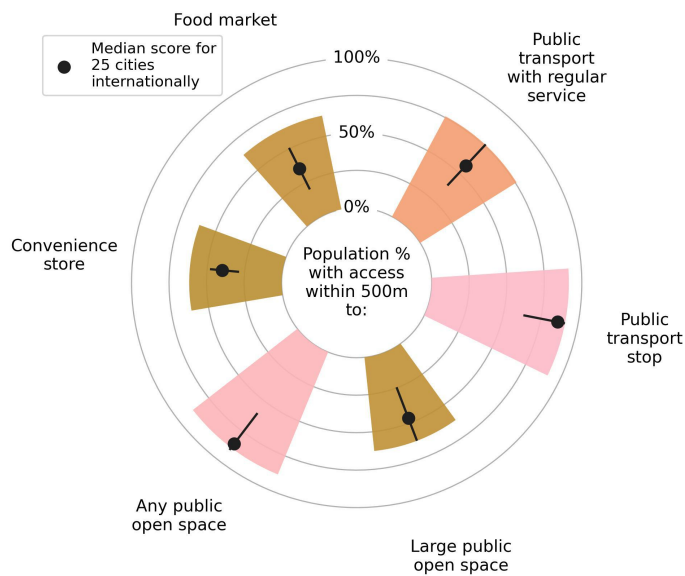
Xavier Delclòs Alió, Susana Aznar-Lain, Guillem Vich, Joan Carles Martori, Carme Miralles, Anna Puig-Ribera & Marta Rofin

Healthy and Sustainable City Indicators Report

This brief report outlines how Barcelona performs on a selection of spatial and policy indicators of healthy and sustainable cities. Our collaborative study examined the spatial distribution of urban design and transport features and the presence and quality of city planning policies that promote health and sustainability for 25 cities across 19 countries.

Comparisons with the median values for all cities included in this international study could inform changes needed for local city policies. The maps show the distribution of urban design and transport features across Barcelona, and identify areas that could benefit the most from interventions to create healthy and sustainable environments.

(below) Percentage of population with access to amenities within 500 metres (m) in Barcelona, Spain.



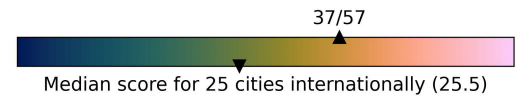
Policy presence in Barcelona

Urban design and transport policies supporting health and sustainability



Policy quality in Barcelona

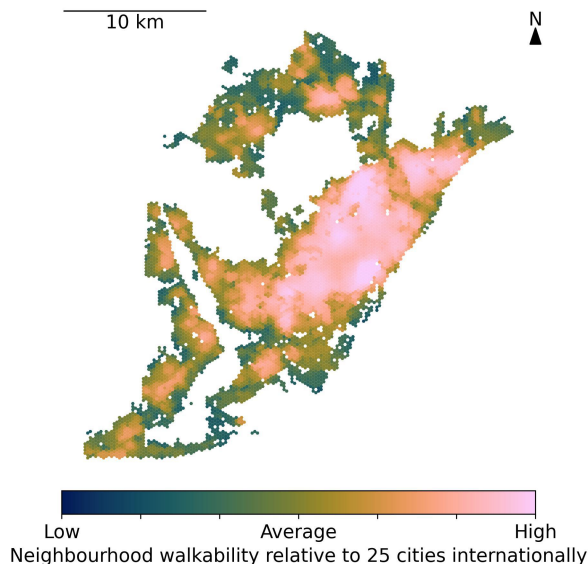
Policy quality rating for specific, measurable policies aligned with consensus evidence on healthy cities



City planning requirements	Barcelona	% of cities with requirement met, by country income group	
		Middle /6	High /19
Specific health-focused actions in metropolitan urban policy	✗	0%	84%
Specific health-focused actions in metropolitan transport policy	✗	50%	63%
Health Impact Assessment requirements in urban/transport policy/legislation	✗	33%	11%
Information on government expenditure on infrastructure for different transport modes	✗	33%	47%
Air pollution policies related to transport planning	✓	50%	89%
Air pollution policies related to land use planning	✓	67%	84%

Walkability in Barcelona

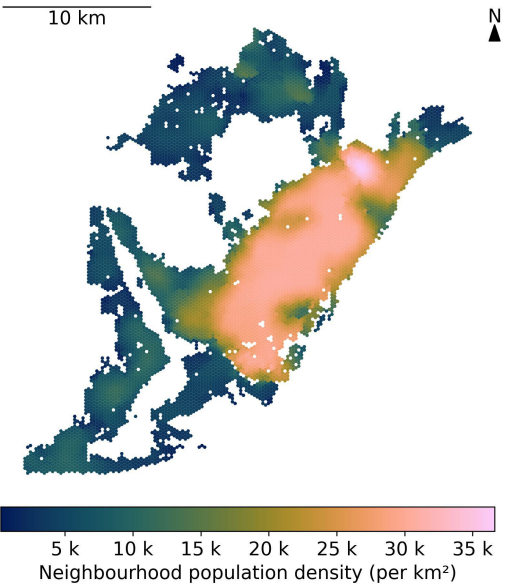
Walkable neighbourhoods provide opportunities for active, healthy, and sustainable lifestyles through having sufficient but not excessive population density to support adequate provision of local amenities, including public transport services. They also have mixed land uses and well-connected streets, 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.



(above) 90.6% of population live in neighbourhoods with walkability scores greater than the 25 international city median

Walkability policy for Barcelona				
	Policy identified	Specific standard or aim	Measurable target	Consistent with health evidence
Housing density requirements	✓	✓	✓	✓
Street connectivity requirements	✓	✓	✗	?
Parking restrictions to discourage car use	✓	✓	✓	✓
Pedestrian infrastructure provision	✓	✓	✓	✓
Cycling infrastructure provision	✓	✓	✓	✓
Walking participation targets	✓	✓	✓	✓
Cycling participation targets	✓	✓	✓	✗

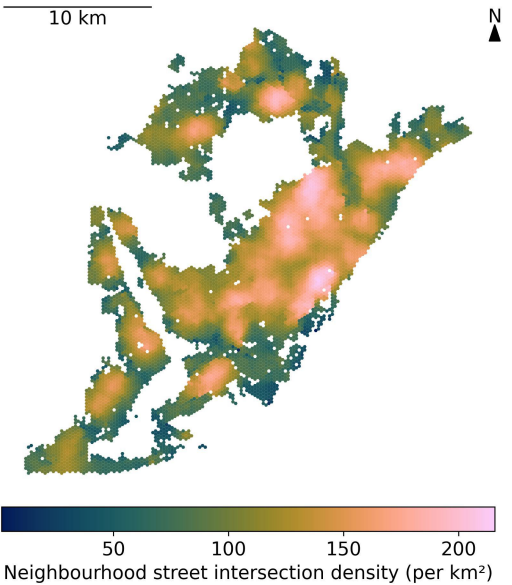
Population density



(above) 92.3% of population meet minimum threshold* for neighbourhood population density (5,677 people per km²)

* Thresholds are based on our modelling of built environment features required to reach the World Health Organization's Global Action Plan for Physical Activity target of a 15% relative reduction in insufficient physical activity through walking. We found preliminary evidence 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.

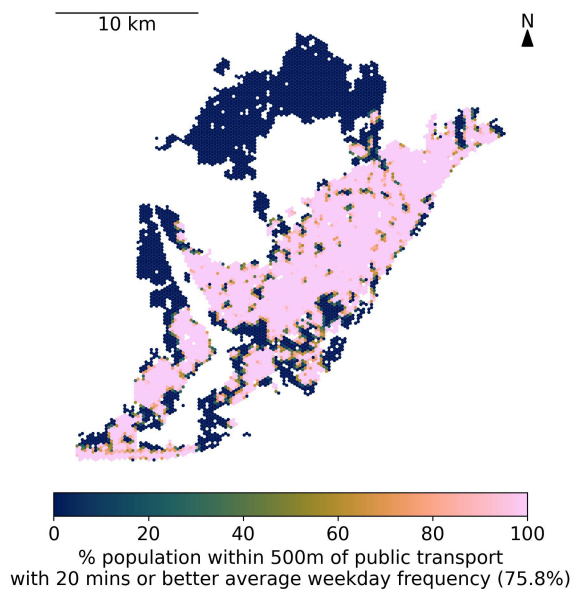
Street connectivity



(above) 74.9% of population meet minimum threshold* for neighbourhood street intersection density (106 intersections per km²)



Public transport access

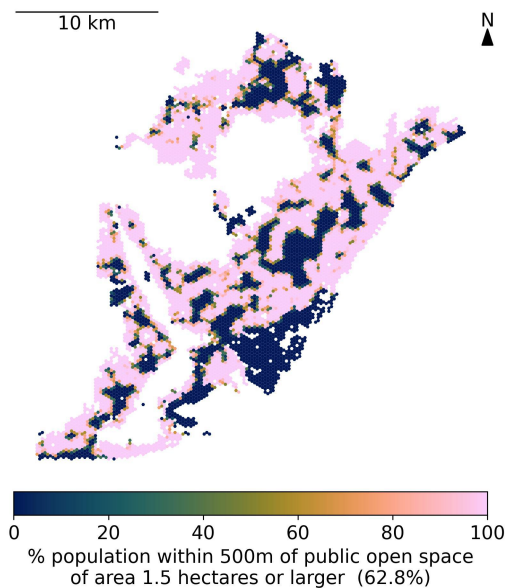


Easy access to frequent public transport is a key determinant of healthy and sustainable transport systems. Public transport near housing and employment increases the mode share of public transport trips, thus encouraging transport-related walking; offering access to regional jobs and services; improving 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.

Public transport policy for Barcelona

	Policy identified	Specific standard or aim	Measurable target	Consistent with health evidence
Requirements for public transport access to employment and services	✓	✓	✓	✓
Employment distribution requirements	✗	-	-	-
Minimum requirements for public transport access	✓	✓	✓	✓
Targets for public transport use	✓	✓	✓	✓

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.

Public open space policy for Barcelona

	Policy identified	Specific standard or aim	Measurable target	Consistent with health evidence
Minimum requirements for public open space access	✓	✓	✓	✓

Summary

Overall, the availability and quality of urban and transport policies supporting health and sustainability in Barcelona are well above average compared with many other cities in the study. However, Barcelona does not have specific health-focused actions in metropolitan urban and transport policies or requirements for health impact assessment. Relative to the 25 cities in this international study, the majority of neighbourhoods in Barcelona are highly walkable. Hence, the majority of neighbourhoods meet population density and street connectivity thresholds to achieve WHO targets to increase physical activity. Three quarters of residents have access to public transport stops with regular services and most residents have some public open space within 500m; however less than two thirds have access to larger public open space. Compared with other cities studied, the proportion of the population in Barcelona with access within 500m to a food market, convenience store and public transport stop with a regular service is well above average. The proportion with access to a large public open space is below average.

Citation

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