



Global Observatory of
**Healthy and
Sustainable Cities**

St. Louis City, USA (2023-2024)

*Spatial indicators for healthy and
sustainable cities – a 1000 Cities
Challenge report*



Full details of the data and methods are available at:

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

Population data: Schiavina, Marcello; Freire, Sergio; MacManus, Kytt (2022): GHS-POP R2022A - GHS population grid multitemporal (1975-2030). European Commission, Joint Research Centre (JRC) [Dataset] doi: 10.2905/D6D86A90-4351-4508-99C1-CB074B022C4A

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.fr (2023). https://download.openstreetmap.fr/extracts/africa/spain/canarias/las_palmas-latest.osm.pbf
Colour scale: Crameri, F. (2018). Scientific colour-maps (3.0.4). Zenodo. <https://doi.org/10.5281/zenodo.1287763>

Global Healthy and Sustainable Collaboration

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Policy indicators for healthy and sustainable cities: a 1000 Cities Challenge report

This report outlines how St. Louis City performs on a selection of spatial indicators of healthy and sustainable cities. As part of the 1000 Cities Challenge, we examined the spatial distribution of urban design and transport features 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 St. Louis City and identify areas that could benefit the most from interventions to create healthy and sustainable environments.

City context

St. Louis City is a major city in Missouri, United States, located along the western bank of the Mississippi River. It is known for its significant role in the United States' westward expansion, highlighted by the iconic Gateway Arch.

Demographics and health equity

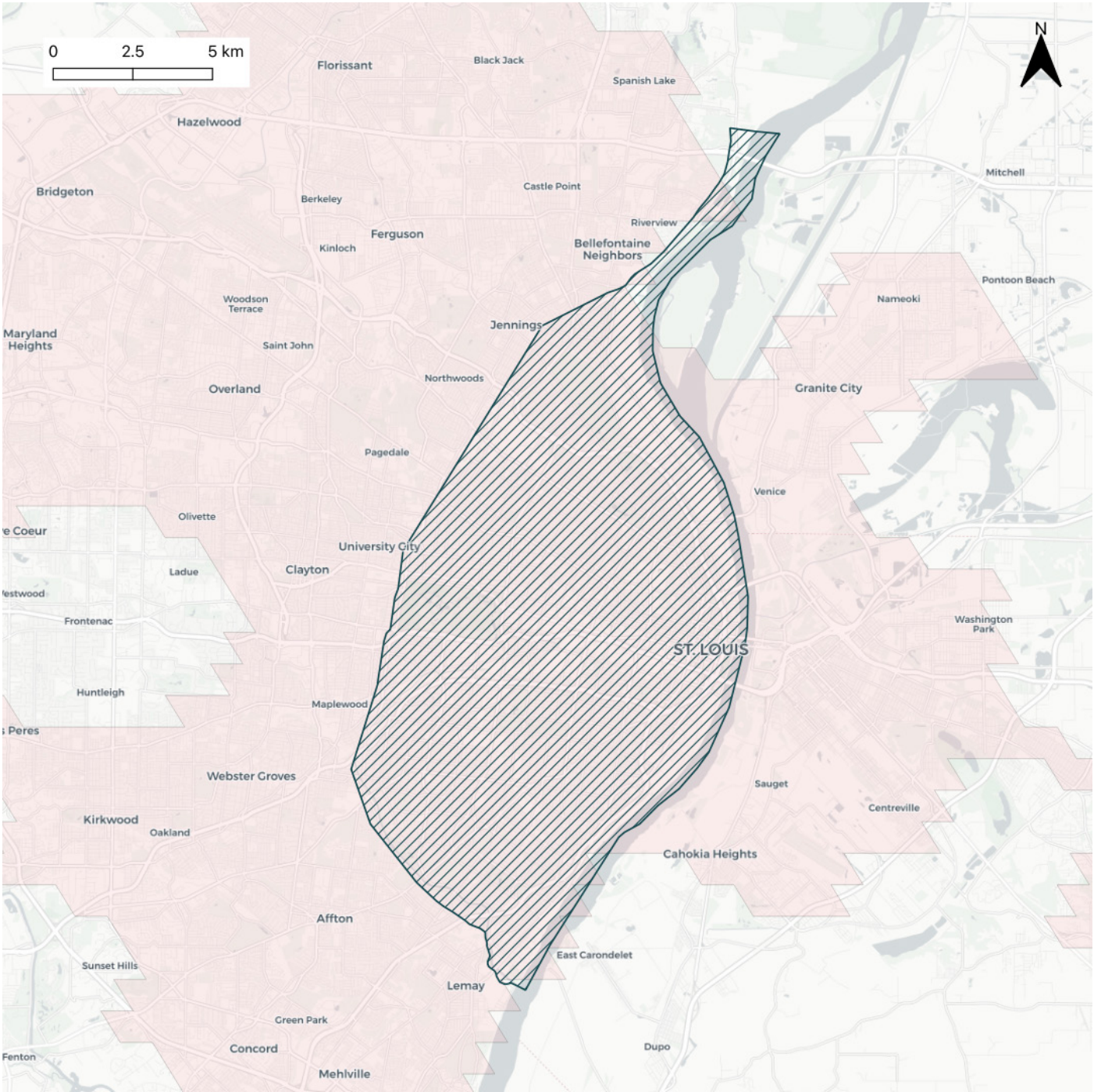
St. Louis City continues to experience a decline in population, currently with 286,578, of which 20.2% live in poverty. Due to the historical spatial-racial segregation, particularly with the famous Delmar Divide, the city continues to face socio-economic and health inequities.

Environmental disaster context

St. Louis City faces environmental challenges, including severe storms, floods, wildfires, heatwaves, extreme cold, earthquakes and tornadoes.



Study Region: St. Louis City, USA



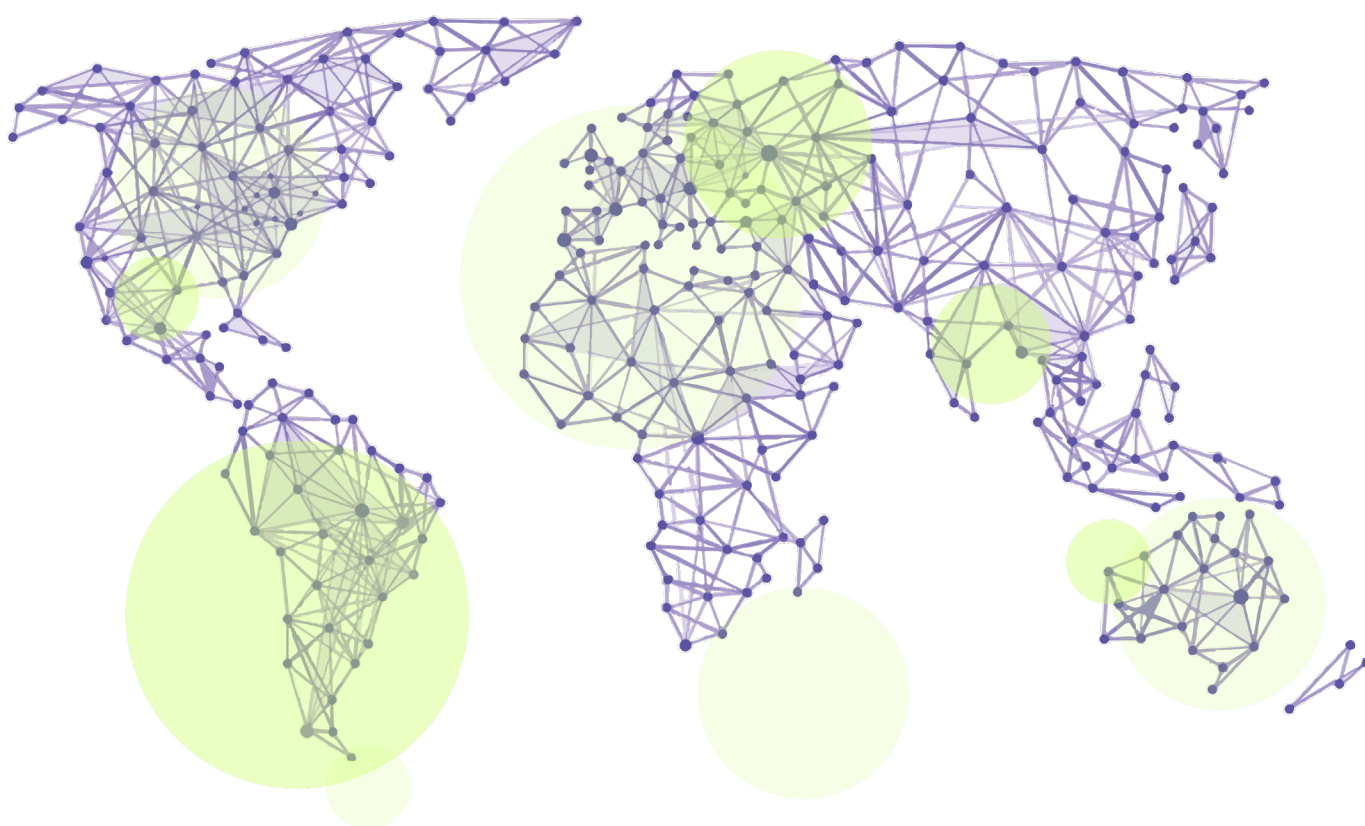
Map Legend

-  Urban Area Boundary for St. Louis City, USA
-  Study region boundary from the Global Human Settlements urban centres: 2015 (EU JRC, 2019)
-  Area of study: the intersection between the Study region boundary and Urban Area Boundary

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

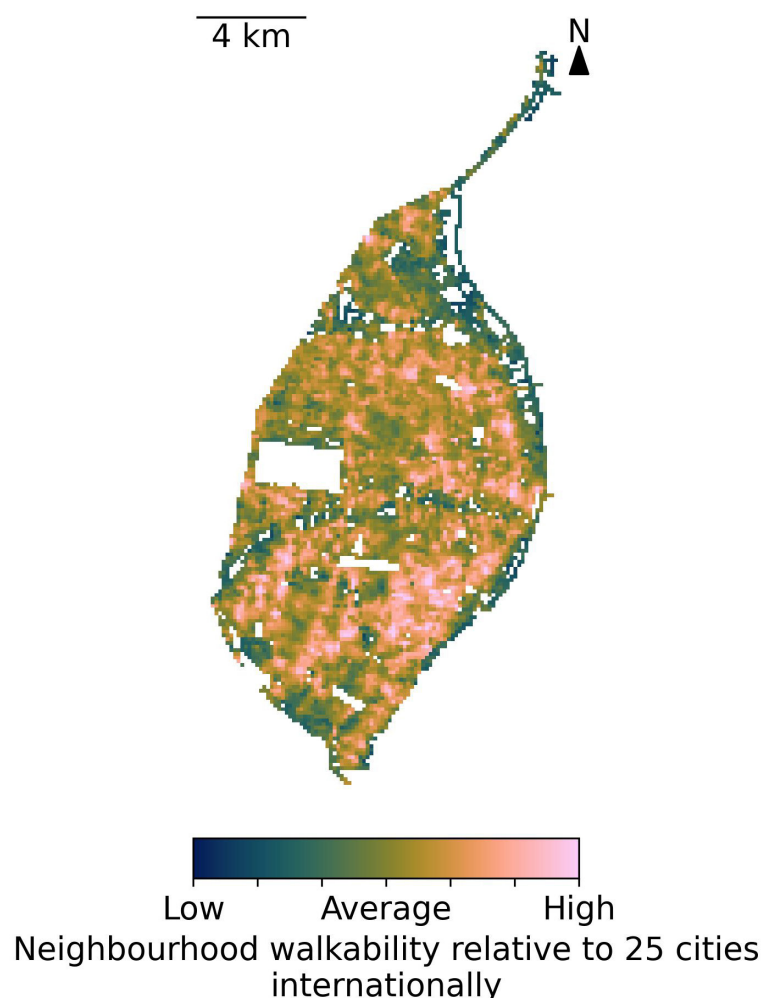
The 1000 Cities Challenge extends methods for assessing the health and sustainability of cities outlined in the 2022 Lancet Global Health Series on urban design, transport, and health. Policy and spatial indicators were calculated, analysed and reported in multiple languages for 25 diverse cities across 19 countries and 6 continents.

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



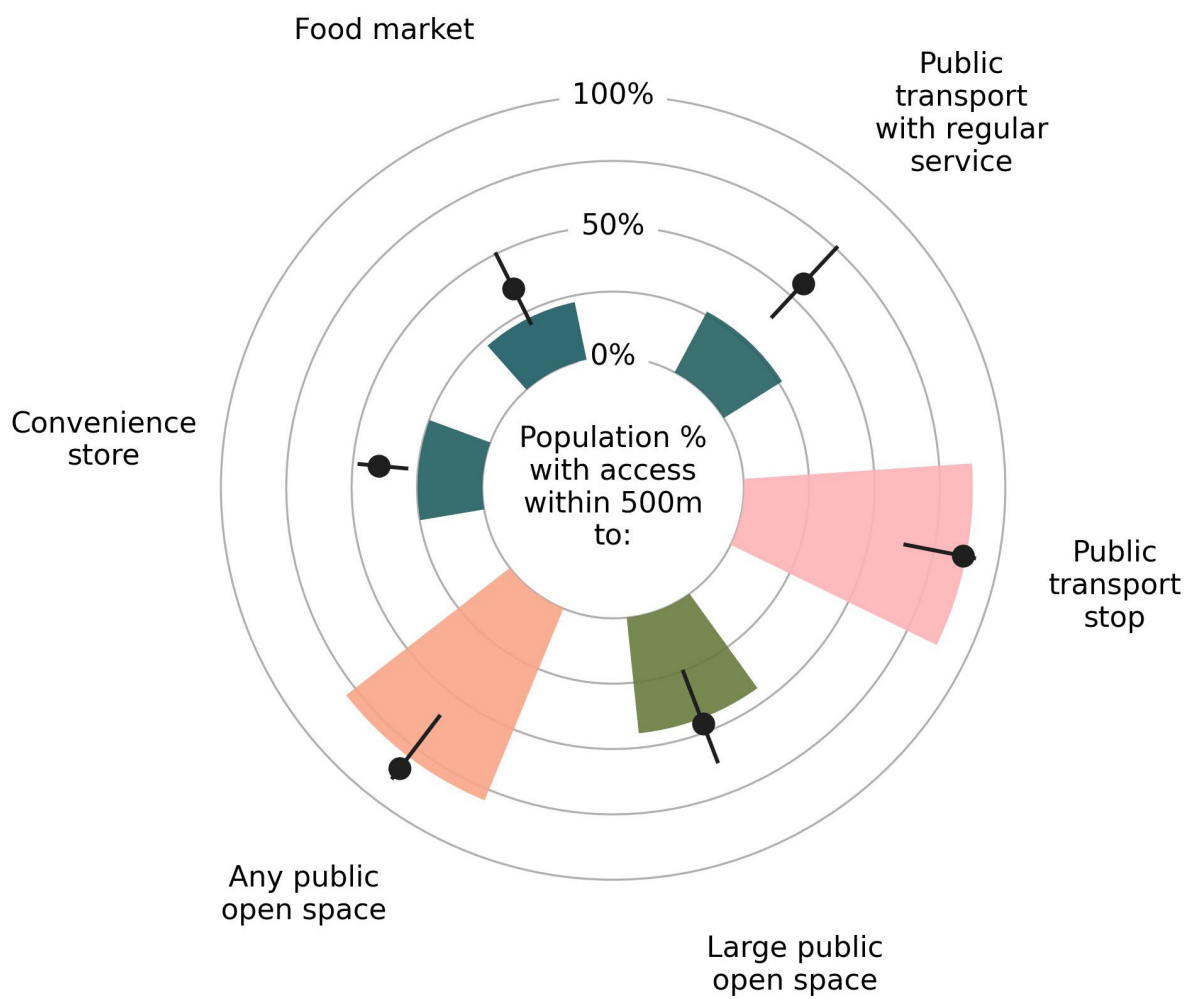
Walkability and destination access

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.



89.6% of the population in St. Louis City live in neighbourhoods with walkability scoring above the median for 25 cities internationally (Box 1)

Percentage of population with access to services within walking distance in St. Louis City, USA

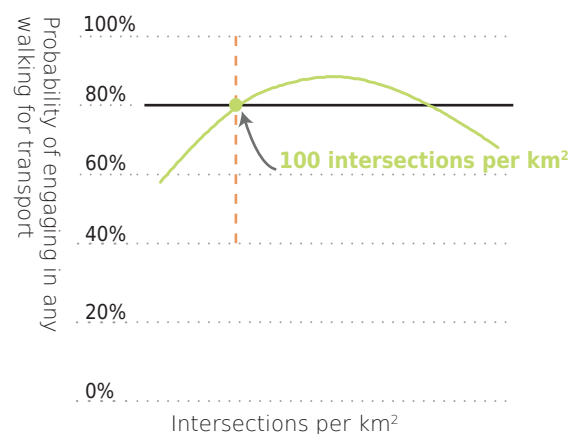


● Median score for 25 cities internationally (see Box 1)

Thresholds for optimising walking

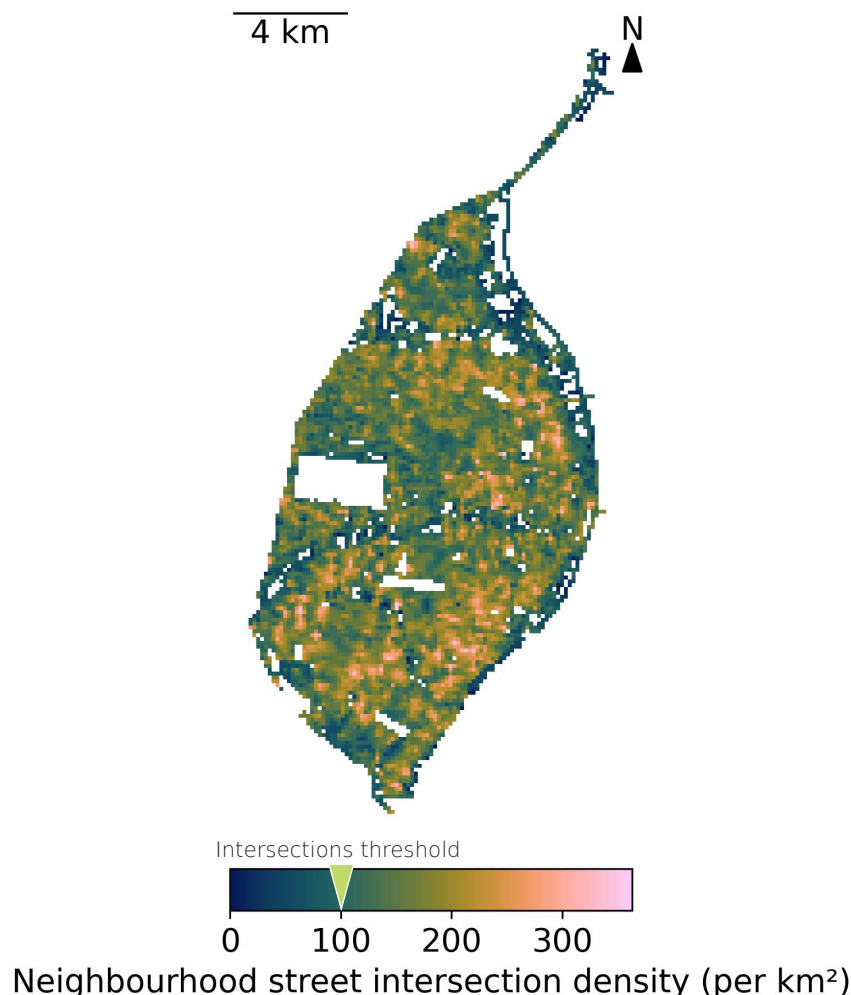
The 2022 Lancet Global Health Series found that, to achieve at least 80% probability of engaging in any walking for transport, urban neighbourhoods need a population density of at least about 5700 people per km², and street connectivity of at least 100 intersections per km² (see graphs below). Preliminary 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.

Street connectivity

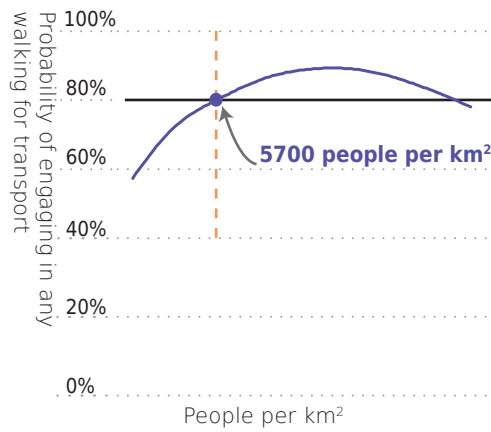


91.7% of the population in St. Louis City live in neighbourhoods meeting the street intersection density threshold for 80% probability of engaging in any walking for transport (100 intersections per km²)

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



Population density



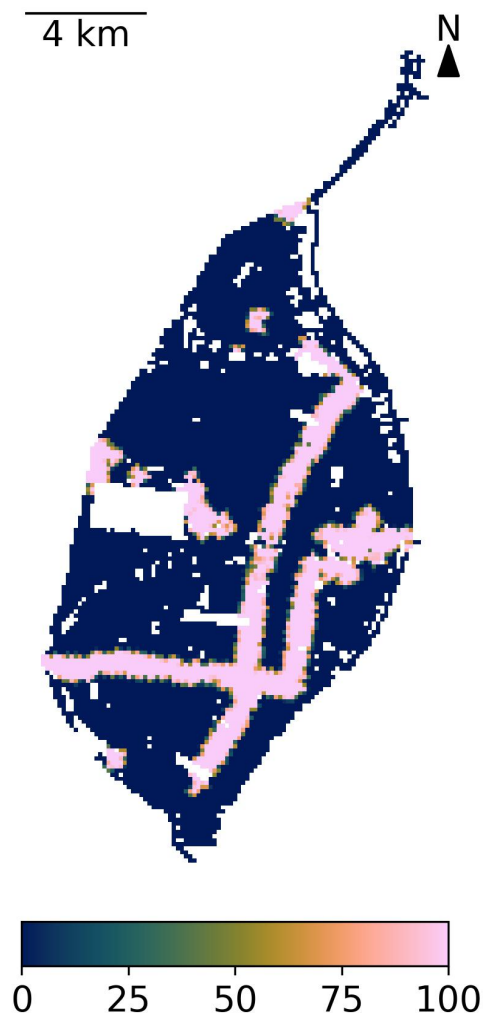
2.8% of the population in St. Louis City live in neighbourhoods meeting the population density threshold for 80% probability of engaging in any walking for transport (5,700 people per km²)

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



Public transport access

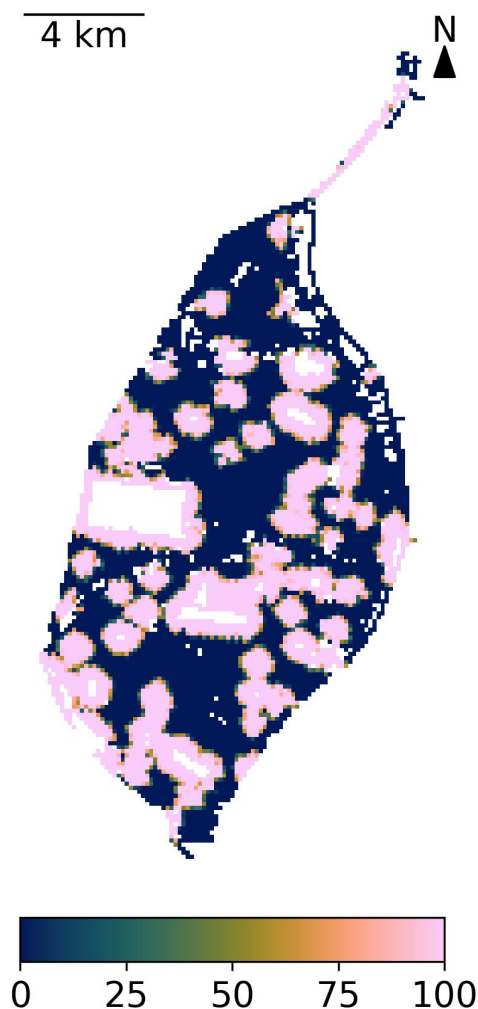
Easy access to frequent public transport is a key determinant of healthy and sustainable transport systems. Public transport near housing and employment increases the mode share of public transport trips, thus encouraging transport-related walking; offering access to regional jobs and services; improving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



26.3% of the population in St Louis live within 500 m 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.



44.5% of the population in St. Louis City live within 500m of public open space of at least 1.5 hectares in size

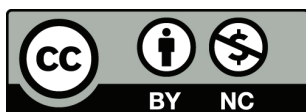
Summary

In St. Louis, the city performs spatially on par with the international median regarding public transport stop access and proximity to open space. However, the access to regular public transport services is considerably below that of the 25 cities benchmarked. Approximately, 44.5% of the population have nearby access to large public open spaces, while 26.3% have access to frequent public transport within 500-meters.

The city has lower scores in the accessibility to food markets and convenience stores. Regarding walkability, 89.6% of St. Louis City's residents live in areas with walkability scores surpassing the international city median. A high proportion, 91.7%, are in neighborhoods meeting the street intersection density threshold conducive to physical activity. However, only 2.8% meet the minimum population density threshold.

Citation

Favarão Leão, AL, Franco Silva, M, Gierbolini-Rivera, RD, Shaw, C, O'Connor, Á, Reis, RS. 2024. St. Louis City, USA — Spatial indicators for healthy and sustainable cities - a 1000 Cities Challenge report (English).



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