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MICHAEL & SUSAN DELL CENTER *for* HEALTHY LIVING



Healthy children in a healthy world.

We advance health and healthy living for children and families through cutting-edge research, innovative community-based programs, and dissemination of evidence-based practices.

STRATEGIC PLAN GOALS



Funding for this webinar series provided by:



Michael & Susan Dell
FOUNDATION



The University of Texas at Austin
Kinesiology and Health Education
College of Education
People, Health, & Place Lab

UTHealth[®] Houston
School of Public Health



Center Resources



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msdcenter.org



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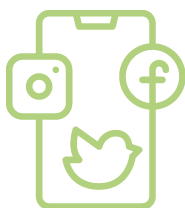
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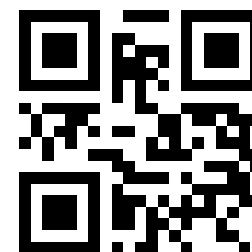
RESEARCH AND RESOURCE STATION

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TX CHILD HEALTH STATUS REPORTS AND TOOLKITS

go.uth.edu/TexasChildHealth



**VISIT OUR
WEBSITE**

Developing and Scaling Up a Global Monitoring System for Healthy and Sustainable Cities

James Sallis, PhD

Distinguished Professor Emeritus

Herbert Wertheim School of Public Health & Human Longevity

University of California, San Diego

Deborah Salvo, PhD

Associate Professor of Kinesiology & Health Education

Director, *Texas Center for Equity Promotion (TexCEP)*

College of Education

The University of Texas at Austin

Outline

1. Planetary health and the importance of cities
2. Review of the evidence linking urban design to active and healthy living
3. The Global Observatory for Healthy and Sustainable Cities and the 1000 Cities Challenge

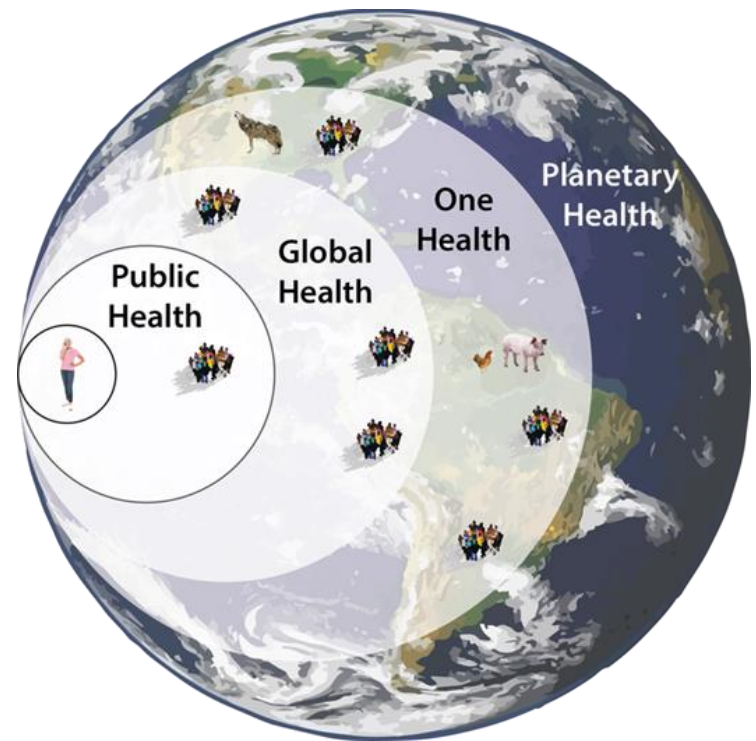
“Health is created and lived by people within the settings of their everyday life: where they learn, work, play, and love.”

– World Health Organization. (1986)
The Ottawa Charter for Health Promotion.
Geneva, Switzerland: WHO



Planetary health

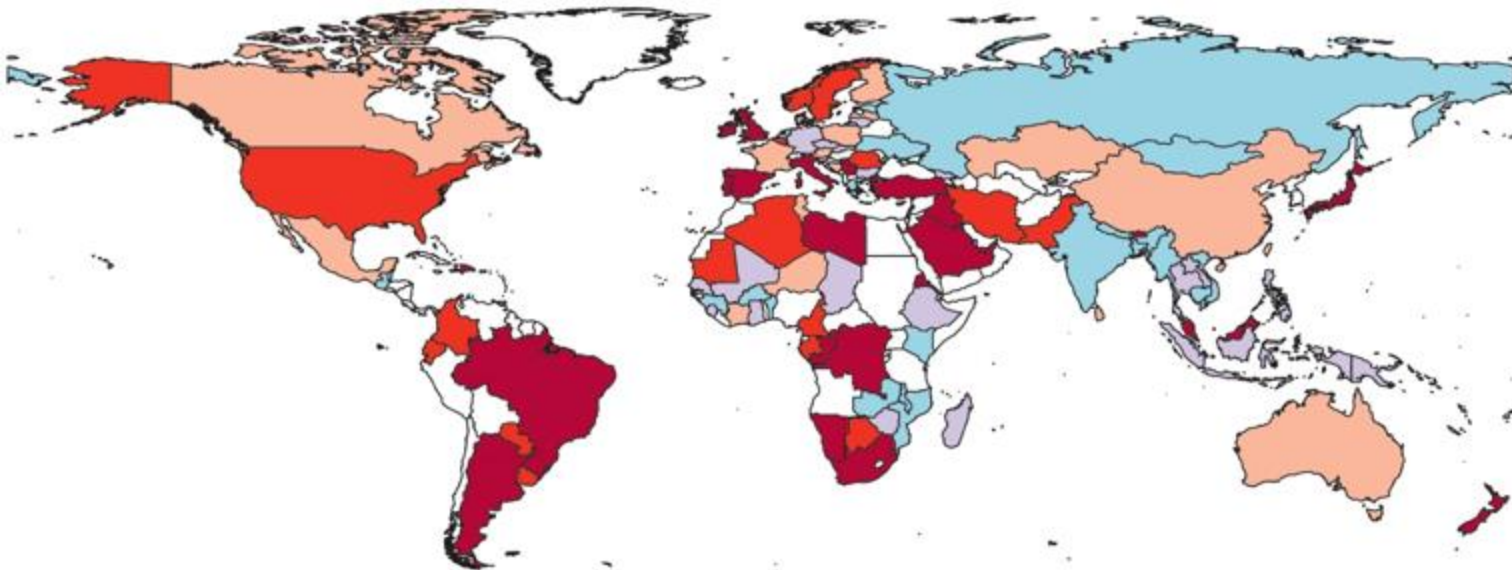
- The achievement of the **highest possible level of health, well-being and equity** throughout the world, through specific attention to the *systems* (political, economic and social) that shape the future of humanity, as well as the *natural systems* of the Earth that define the safe environmental limits within which humanity can flourish.



The Wicked Problem of Physical Inactivity

- Since 2012, physical inactivity has been denominated as a global pandemic with 5.3 million attributable deaths per year

Hallal et al. *Lancet* (2012); Kohl et al. *Lancet* (2012)





EIGHT INVESTMENTS THAT WORK FOR PHYSICAL ACTIVITY

↓10%
by 2025

ISPAH's Eight Investments can support the achievement of global targets for all countries to reduce physical inactivity by 10% by 2025, and 15% by 2030.

↓15%
by 2030



WHOLE-OF-SCHOOL PROGRAMMES



ACTIVE TRAVEL



ACTIVE URBAN DESIGN



COMMUNITY-WIDE PROGRAMMES

A call to action to embed physical activity in national and subnational policies.



HEALTHCARE



WORKPLACES



PUBLIC EDUCATION, INCLUDING MASS MEDIA



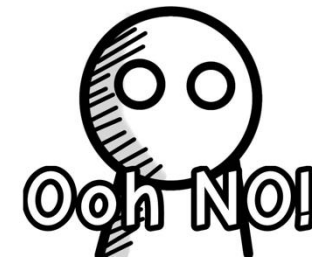
SPORT AND RECREATION FOR ALL

Read the full document available from: www.ISPAH.org/resources

How can you help? 1. Share 2. Endorse 3. Feedback



- The good news?
- *We know how to fix the problem!*
- The not so good news?
 - *It won't be easy!*



The United Nations Sustainable Development Goals (SDGs)

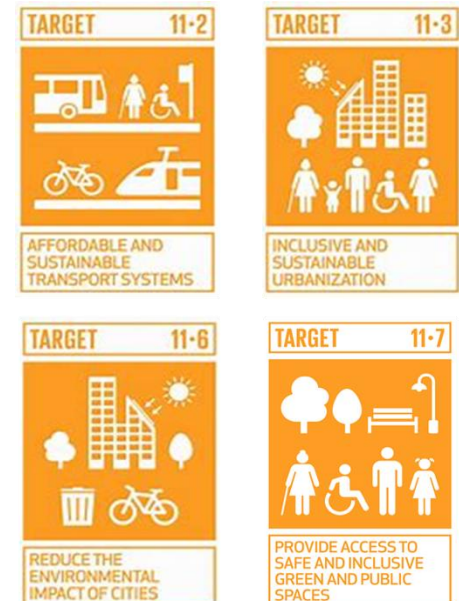


- A set of goals, backed by measurable targets and indicators, to **enhance planetary health**, and save the planet and its inhabitants from the major threats of the 21st Century.

The importance of cities for planetary health

- 55% of the world's population lives in cities, projected to increase to 68% by 2050.
- SDG 11: Make cities and human settlements inclusive, safe, resilient & sustainable

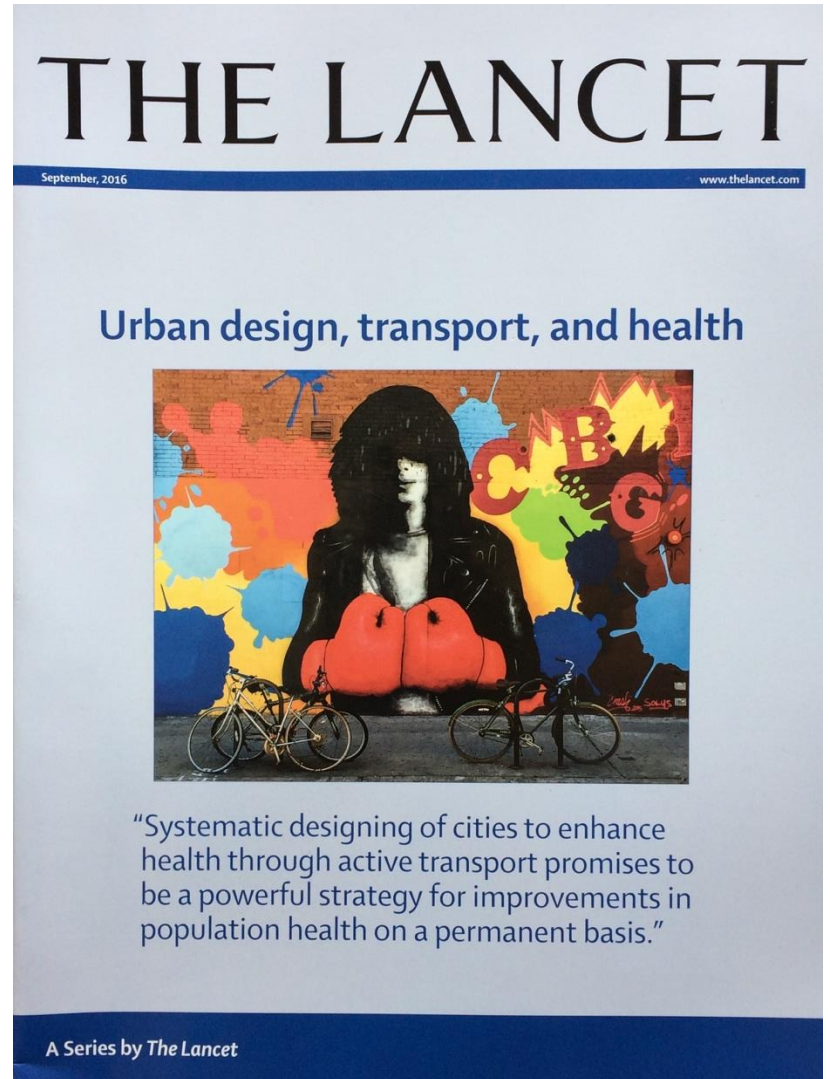
- ✓ *Sustainable transport*
- ✓ *Inclusive cities*
- ✓ *Equitable access to public open spaces*
- ✓ *Reduced pollution*



Transportation and urban design have inter-related impacts on health.

The health field recognizes these impacts

Lancet Series on Urban Design, Transport and Health:
<http://www.thelancet.com/series/urban-design>



21st century
global health
challenges
related to urban
design &
transport



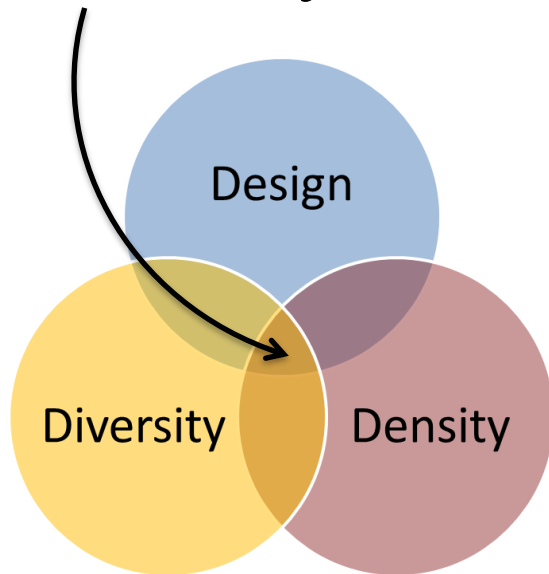
- Road traffic injuries
- Air pollution
- Chronic disease
- Depression
- Chronic noise
- Social isolation
- Personal safety and fear of crime
- Health inequities

Transportation Has Multiple Impacts on Health



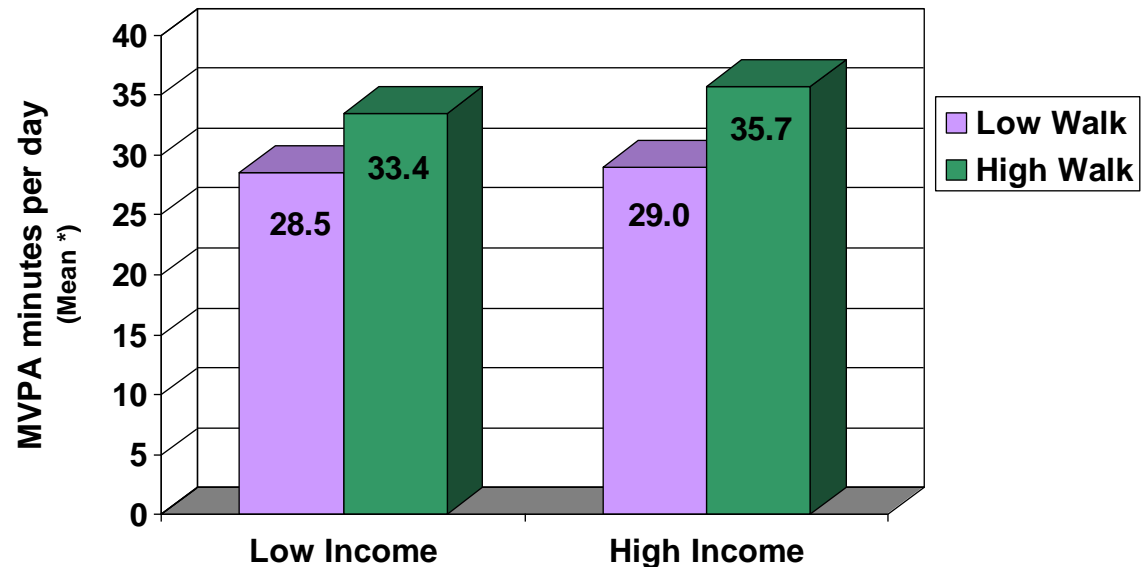
Urban design influences physical activity and health

➤ *Walkability* is a measure of how conducive a place is for walking



Walkability Index =

$$[(z\text{-intersection density}) + (z\text{-net residential density}) + (z\text{-retail-to-floor area ratio}) + (z\text{-land use mix})]$$



NQLS - Accelerometer-based MVPA Min/day in Walkability-by-Income Quadrants

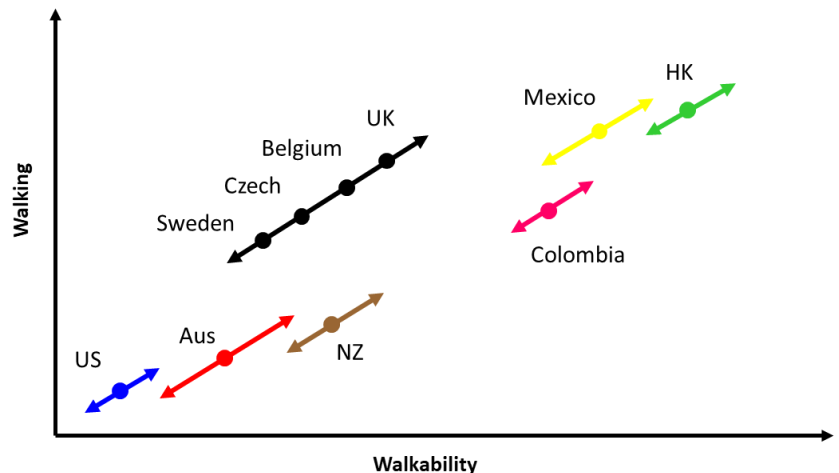
International Environment and Physical Activity Environment Network (IPEN) Adult study

AIM: To precisely estimate the association of several built environment features with physical activity and BMI among adults using pooled data from 17 cities in 12 countries

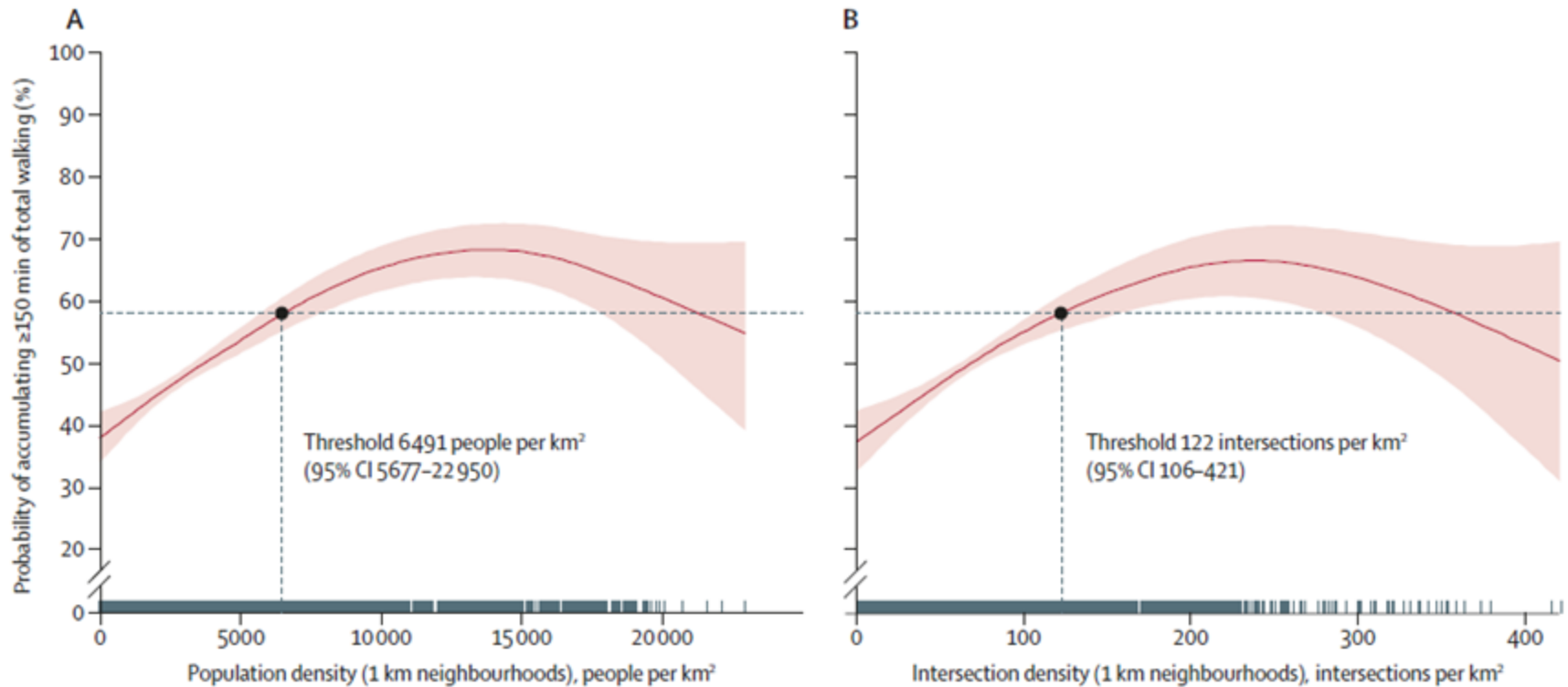
➤ State of the art, comparable measures: accelerometers, GIS



Rationale: Maximizing the variability of the exposure

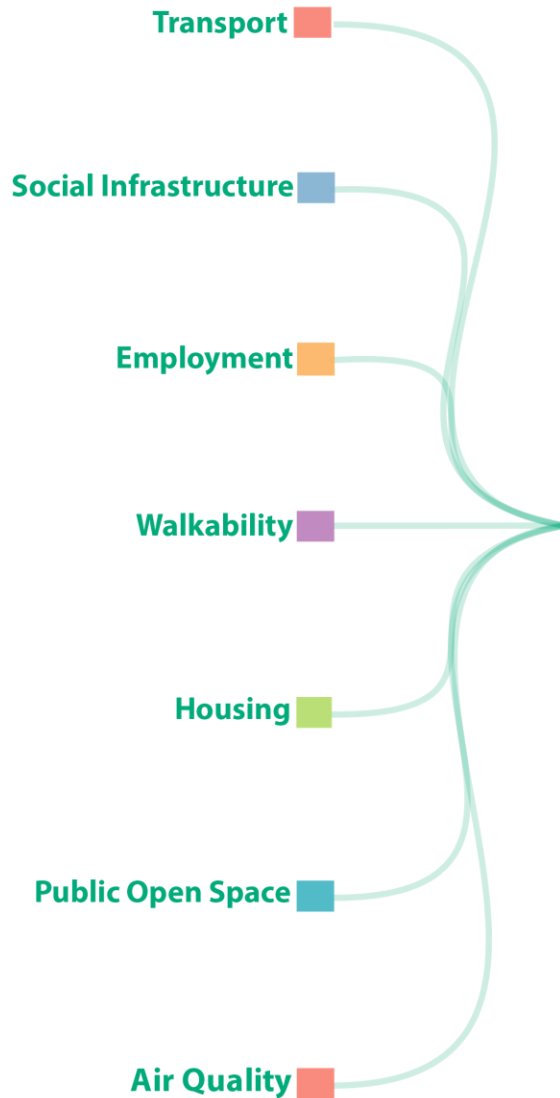


Evidence-informed thresholds for optimal neighborhood density and connectivity for active living



Relationships between urban design measures and the probability of ≥ 150 minutes of total walking per week. Dotted vertical lines show the thresholds associated with at least 58% probability of at least 150 min of total walking per week (dotted horizontal lines). Pink shading shows 95% CIs. A=population density. B=intersection density.

Urban liveability



A healthy liveable neighbourhood:

“safe, attractive, socially cohesive and inclusive, and environmentally sustainable; with affordable and diverse housing linked to employment, education, public open space, local shops, health and community services, and leisure and cultural opportunities; via convenient public transport, walking and cycling infrastructure”

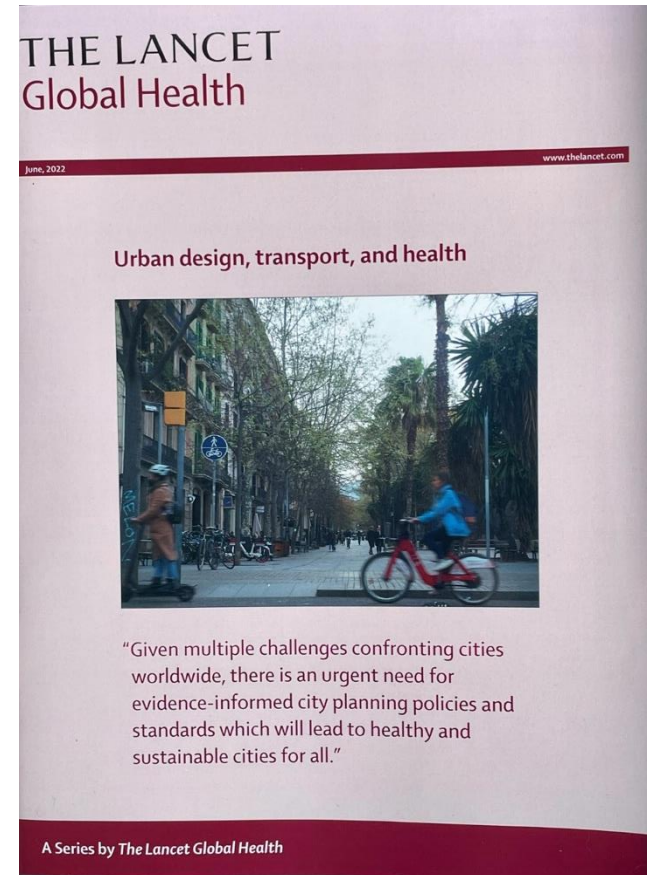
Lowe, M. *et al.* (2013) University of Melbourne.

Global Healthy & Sustainable City Indicators Collaboration

Spatial urban indicators framework

- International collaboration: data sourcing and validation in **25 cities** of **19 countries**
- Open data
- Open-source software framework

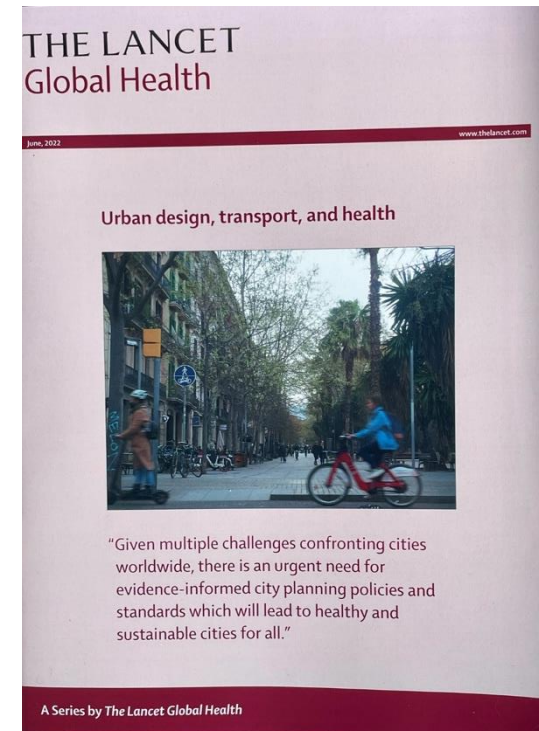
<https://www.thelancet.com/series/urban-design-2022>



Global Healthy & Sustainable City Indicators Collaboration

Spatial urban indicators framework

- Walkable catchment areas
- Population and street intersection densities
- Pedestrian access within 500 metres to
 - ✓ Healthy food market
 - ✓ Convenience store
 - ✓ Public transport stop
 - ✓ Public open space
- Daily living access score (/3)
 - ✓ Healthy food market + Convenience + Public transport
- Local walkability index



Urban policy indicators



Integrated planning



Air pollution



Destination
accessibility



Distribution of
employment



Demand
management



Design



Density



Distance to public
transport



Transport
Infrastructure
Investment



Global Observatory of
Healthy and Sustainable Cities



Home About Goals and Facts 25 Cities 1000 Cities Challenge Publications In the News Contact

Welcome to the Global Observatory of Healthy and Sustainable Cities

We are a global, multi-institutional, transdisciplinary initiative providing evidence-based spatial and urban policy indicators to advocate for and track progress towards healthy and sustainable cities for all.



Lancet Global
Health Series



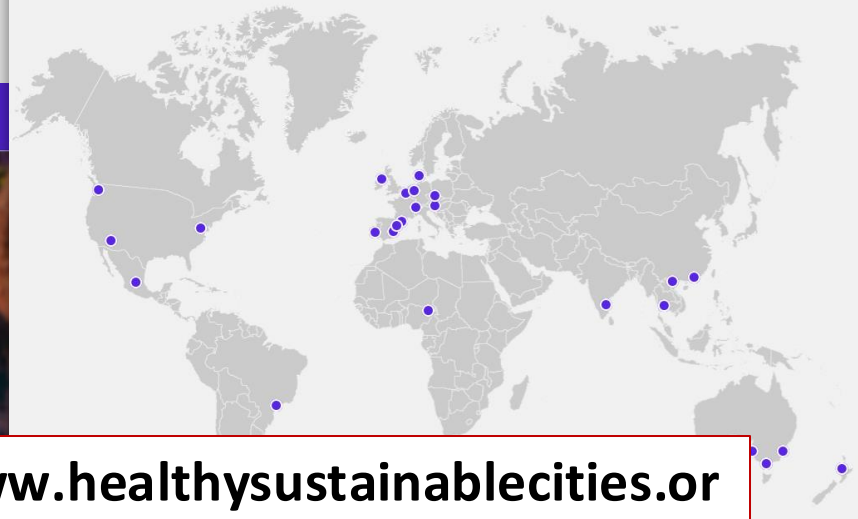
City Scorecards
& Reports



1000 Cities
Challenge

Home About Goals and Facts 25 Cities 1000 Cities Challenge Publications Media Contact

Click on the cities shown on the map or the list below to see their scorecard and brief report data



<https://www.healthysustainablecities.org>

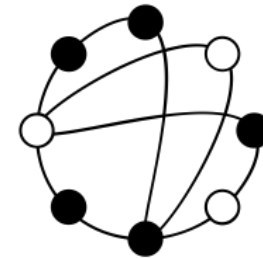


Our goal:

To provide **comparable, evidence-based** spatial and policy indicator data of healthy and sustainable urban design and planning for cities across the globe.

Our guiding principles:

- Open data and open science
- Interdisciplinary team science
- Global data for local impact
- Capacity building and equitable international collaborations



Our vision:

Grow to include additional indicators and comparable data for over **1000 global cities**

City indicator reports

São Paulo, Brasil

Relatório de Indicadores de Cidades Saudáveis e Sustentáveis: Comparações Internacionais com 25 Cidades

Colaboração Global de Indicadores de Cidades Saudáveis e Sustentáveis



Rua do MASP, Avenida Paulista, Domingo © 2022 Alex Antonio Fiorindo



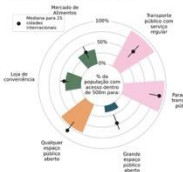
São Paulo, Brasil

Relatório de Indicadores de Cidades Saudáveis e Sustentáveis

Este breve relatório descreve como São Paulo se sai em uma seleção de indicadores espaciais e políticos de cidades saudáveis e sustentáveis. Nosso estudo colaborativo analisou a distribuição espacial das características do desenho urbano, do transporte público e a presença e qualidade das políticas de planejamento urbano que promovem a saúde e a sustentabilidade para 25 cidades em 19 países.

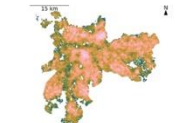
Comparações com os valores médios de todas as cidades incluídas neste estudo internacional poderiam informar mudanças necessárias para as políticas municipais locais. Os mapas mostram a distribuição de recursos de desenho urbano e de transporte em São Paulo, e identificam áreas que poderiam se beneficiar mais das intervenções para criar ambientes saudáveis e sustentáveis.

(abaixo) Percentagem da população com acesso a comodidades dentro de 500 metros (m) em São Paulo, Brasil.



Caminhabilidade em São Paulo

Os bairros caminháveis oferecem oportunidades para estilos de vida ativos, saudáveis e sustentáveis por terem densidade populacional suficiente, mas não excessiva, para apoiar o fornecimento adequado de comodidades locais, incluindo serviços de transporte público. Os bairros caminháveis também têm ruas bem conectadas, para garantir acesso pedestre e conveniente aos destinos, infraestrutura de pedestres de alta qualidade e redução do tráfego por meio do gerenciamento da demanda pelo uso do carro também podem incentivar a caminhada como forma de transporte ou deslocamento.



Nota: Caminhabilidade nos bairros em relação às 25 cidades internacionais (média) 87,0% da população que vive em bairros com pontuação de caminhabilidade maior que a mediana de 25 cidades internacionais

Presença de políticas em São Paulo

Políticas de desenho urbano e transporte que apoiam a saúde e sustentabilidade

Médias para 25 cidades internacionais (15,51)

Qualidade das políticas em São Paulo

Classificação de qualidade para políticas específicas e mensuráveis avaliadas com evidências de consenso sobre cidades saudáveis

Médias para 25 cidades internacionais (21,31)

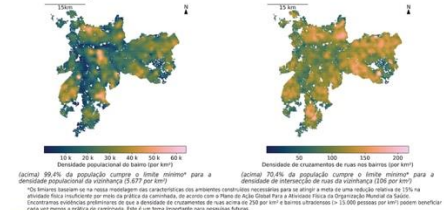
Requisitos de planejamento da cidade	São Paulo	Média	Alta	% de cidades com requisitos atendidos por região do país
Ações específicas voltadas à saúde na política urbana metropolitana	✓	0%	84%	
Ações específicas voltadas à saúde na política de transporte metropolitana	✓	50%	67%	
Requisitos de Avaliação de Impacto na saúde na política de planejamento urbano/transporte	✓	33%	11%	
Informações sobre os gastos de governo com infraestrutura para diferentes modos de transporte	✓	33%	47%	
Políticas de diminuição da poluição do ar relacionadas ao planejamento de transportes	✓	50%	89%	
Políticas de diminuição da poluição do ar relacionadas ao planejamento do uso do solo	✓	47%	84%	

Políticas de caminhabilidade em São Paulo

Requisitos de caminhabilidade em São Paulo	Política identificada	Público ou objetivo específico	Métra mensurável	Consistente com evidências de saúde
Requisitos de densidade habitacional	✓	✓	✓	✓
Requisitos de conectividade de ruas	✓	✓	✓	✓
Requisitos de estacionamento para desmentar o uso do carro	✓	✓	✓	✓
Provisão de infraestrutura para pedestres	✓	✓	✓	✓
Provisão de infraestrutura de ciclismo	✓	✓	✓	✓
Métra para a prática de caminhada	✓	✓	✓	✓
Métra para o uso da bicicleta	✓	✓	✓	✓

São Paulo, Brasil

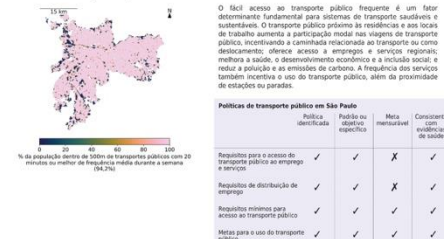
Densidade Populacional e Conectividade de ruas



Ciclovia próxima da estação de metrô Mercado Deliberto © 2022 Alex Antonio Fiorindo

São Paulo, Brasil

Acesso aos transportes públicos



Acesso aos espaços públicos abertos



Políticas de transporte público em São Paulo

Requisitos para o acesso do transporte público ao emprego e serviços	Política identificada	Público ou objetivo específico	Métra mensurável	Consistente com evidências de saúde
Requisitos para o acesso do transporte público ao emprego e serviços	✓	✓	✓	✓
Requisitos de distribuição de emprego	✓	✓	✓	✓
Requisitos mínimos para acesso ao transporte público	✓	✓	✓	✓
Métra para o uso do transporte público	✓	✓	✓	✓

Políticas de espaços públicos abertos em São Paulo

Requisitos mínimos para acesso a espaços públicos abertos	Política identificada	Público ou objetivo específico	Métra mensurável	Consistente com evidências de saúde
Requisitos mínimos para acesso a espaços públicos abertos	✓	✓	✓	✓

Resumo

A disponibilidade e a qualidade das políticas urbanas e de transporte que apoiam a saúde e a sustentabilidade em São Paulo estão acima da média em comparação com outras cidades. São Paulo incorpora ações voltadas à saúde em sua política de transporte, mas esse foco está ausente em sua política urbana metropolitana. Também não possui requisitos para avaliação do impacto na saúde de intervenções urbanas e de transporte. Em algumas áreas de políticas, como caminhabilidade e transporte público, São Paulo cumpre de qualidade e métra mensurável. No entanto, o grande maioria dos bairros de São Paulo é altamente caminhável em relação às 25 cidades deste estudo internacional. Para atingir as métras da OMS de aumentar a atividade física, 89% dos moradores de São Paulo vivem em bairros que recebem a atividade física. Noventa e quatro por cento dos moradores vivem em bairros com acesso a paradas de transporte público com serviços regulares. Quase três quartos dos moradores têm acesso a algum espaço aberto público dentro de 500m, mas apenas 16% vivem a 500m de um espaço aberto público maior. A porcentagem da população de São Paulo com acesso a até 500m de um mercado de alimentos, lojas de conveniências ou qualquer espaço aberto público está um pouco abaixo da média em comparação com outras cidades estudadas, mas o acesso a grandes espaços abertos públicos está bem abaixo da média.

Mexico City
Mexico



GINI Index (country)
45.4

Total urban area (city)
2,312km²

City-wide density (pop/km²)
9,421km²

HDI (country)
0.779

Total population (city)
21,782,000

GDP per capita (INT \$)
\$35,760



Spatial Indicators

26.4%
Population with access to fresh **food market** or supermarket

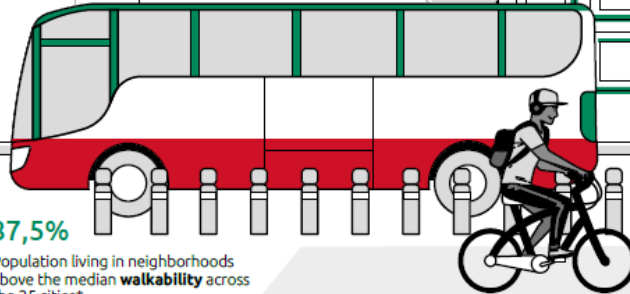
98.1%
Population living in neighborhoods **above minimum density** threshold for WHO physical activity target

49.6%
Population with access to any **public open space**

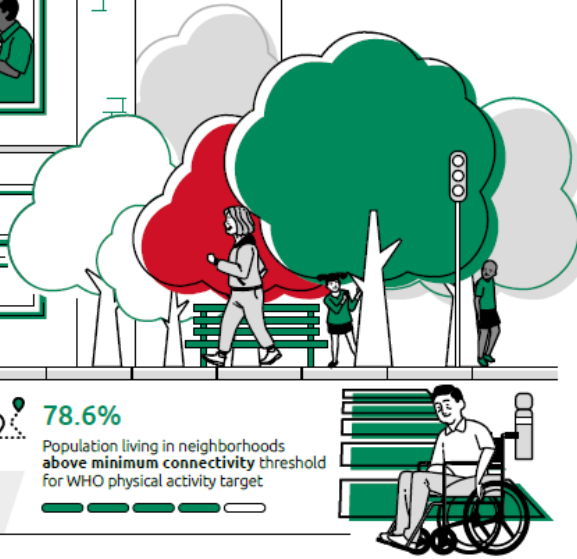


19.7%
Population with access to regularly running **formal public transport** (<20 mins)

87.5%
Population living in neighborhoods above the median **walkability** across the 25 cities*



78.6%
Population living in neighborhoods above **minimum connectivity** threshold for WHO physical activity target



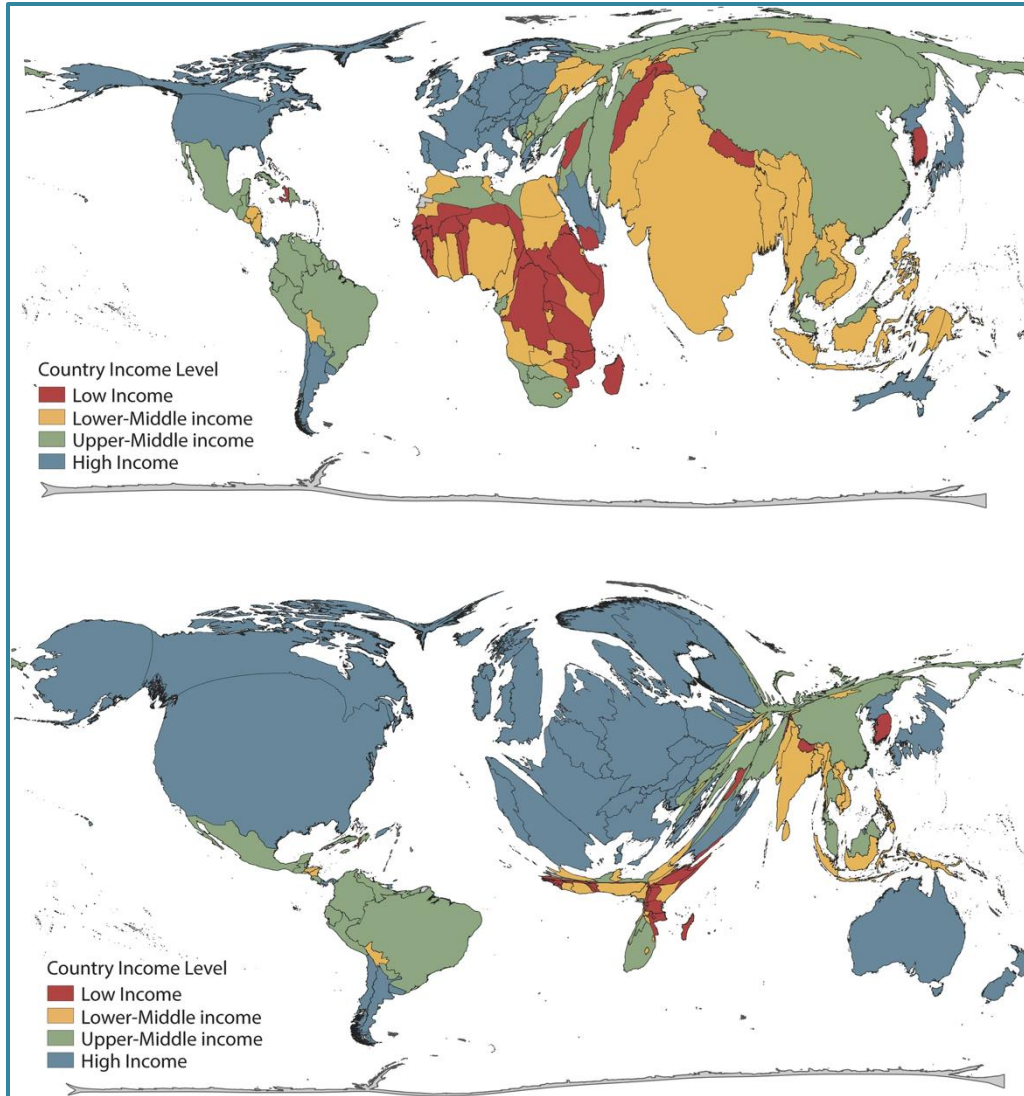
Policy Indicators

<p>Metropolitan transport policy with health-focused actions</p> <p>Policy exists</p>	<p>Employment distribution requirements</p> <p>Policy exists</p>	<p>Street connectivity requirements</p> <p>Policy exists</p>	<p>Housing density requirements</p> <p>Policy exists</p>
<p>Air pollution policies for transport and land-use planning</p> <p>Policy exists</p>	<p>Parking restrictions to discourage car use</p> <p>Policy exists</p>	<p>Provision of pedestrian infrastructure and targets for walking participation</p> <p>Policy exists</p>	<p>Minimum requirements for public transport access and targets for public transport use</p> <p>Policy exists</p>
<p>Requirements for public transport access to employment and services</p> <p>Policy exists</p>	<p>Minimum public open space access requirements</p> <p>Policy exists</p>	<p>Provision of cycling infrastructure and targets for cycling participation</p> <p>Policy exists</p>	<p>Publicly available information on government expenditure for different transport modes</p> <p>Policy exists</p>



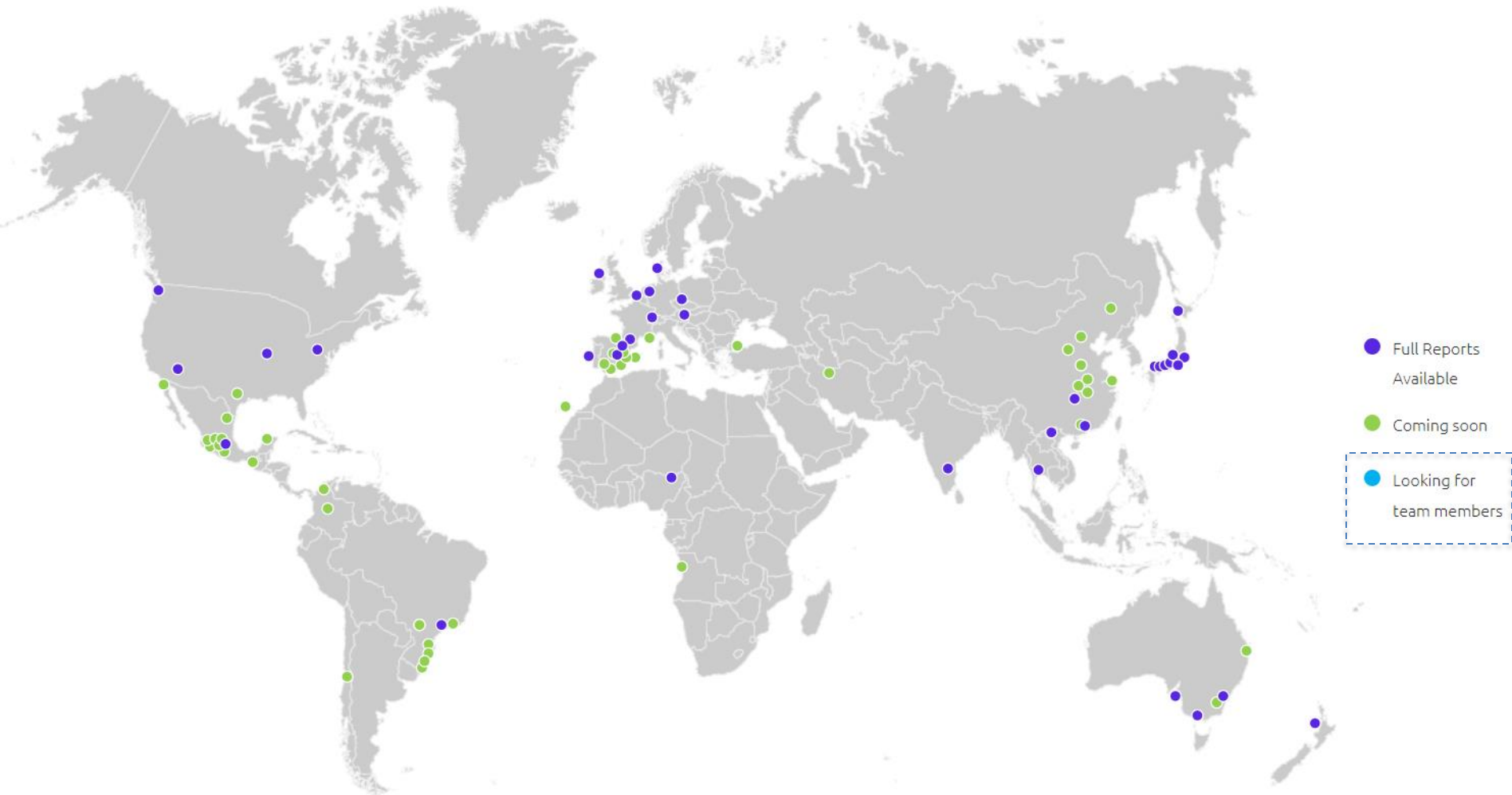
Global Observatory of
Healthy and Sustainable Cities

City indicator scorecards



Research and data remain lacking where (for whom) it is most needed!

GOHSC City Membership



Follow these steps to learn and use our tools:

1. Review the [webinars](#)
2. Download and install the [tools](#)
3. Review the [training videos](#)
4. Go back to the tools website to run the software

[Webinars](#)

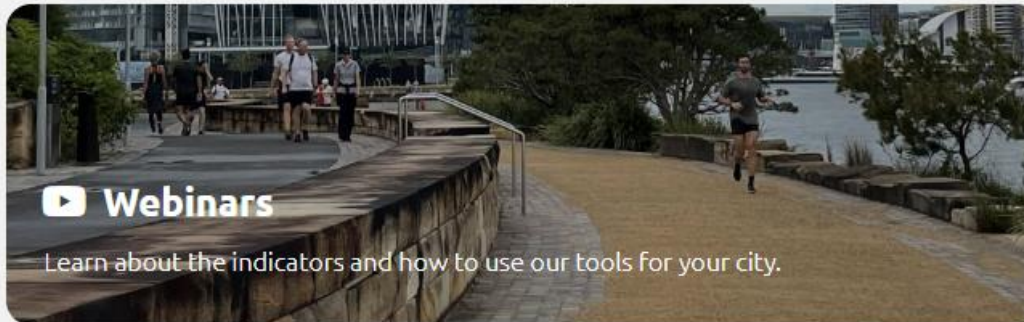
[Our Tools](#)

[Training videos](#)

[Data Hub](#)

[Additional resources](#)

Access our policy and spatial indicator development software and tools

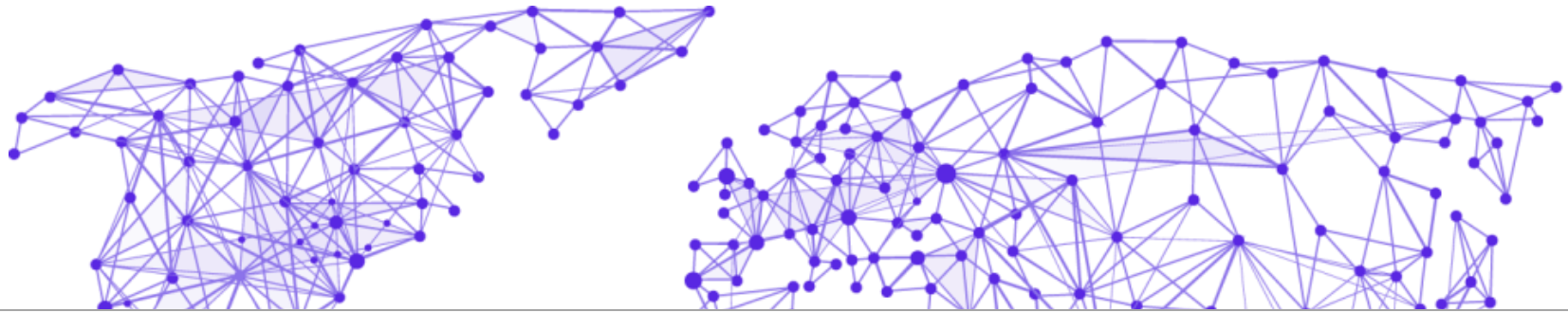


Training videos

Access our step-by-step trainings



<https://www.healthysustainablecities.org>



Join us in the 1000 cities challenge!



Questions?

**Please post your questions in the
chat for the Q&A**

Thank you!



View our Center's webinars

