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

MICHAEL & SUSAN DELL CENTER *for* HEALTHY LIVING

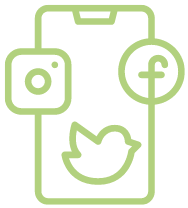
Center Resources

WEBSITE
msdcenter.org

WEBINARS
go.uth.edu/webinars

NEWSLETTER
bit.ly/MSDCenterNewsletter

EXPERT BLOGS
go.uth.edu/CenterBlogs



SOCIAL MEDIA
@msdcenter

RESEARCH AND RESOURCE STATION
go.uth.edu/CenterResources

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

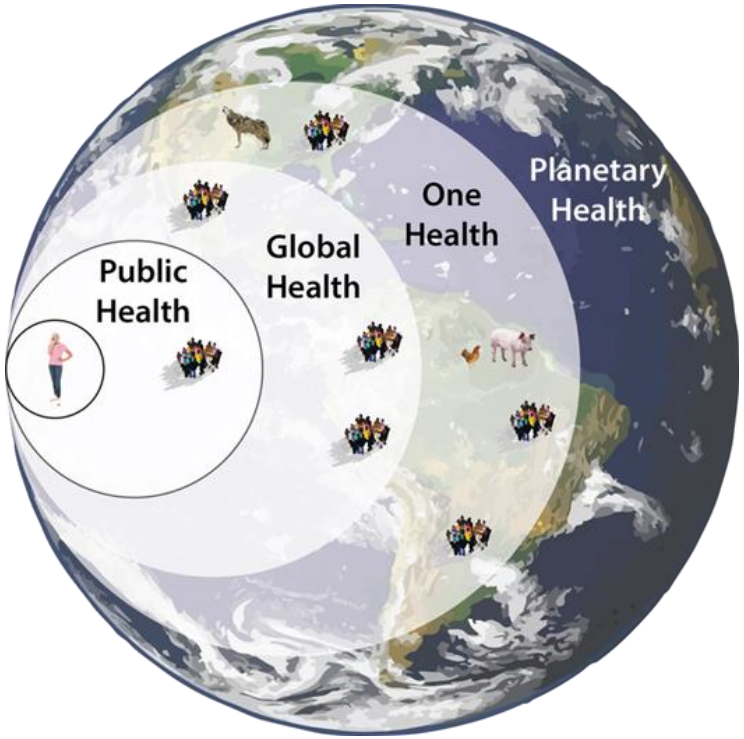
1. Planetary health and the importance of cities
2. Review of the evidence linking urban design to active and healthy living
3. The Global Observatory for Healthy and Sustainable Cities and the 1000 Cities Challenge

"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

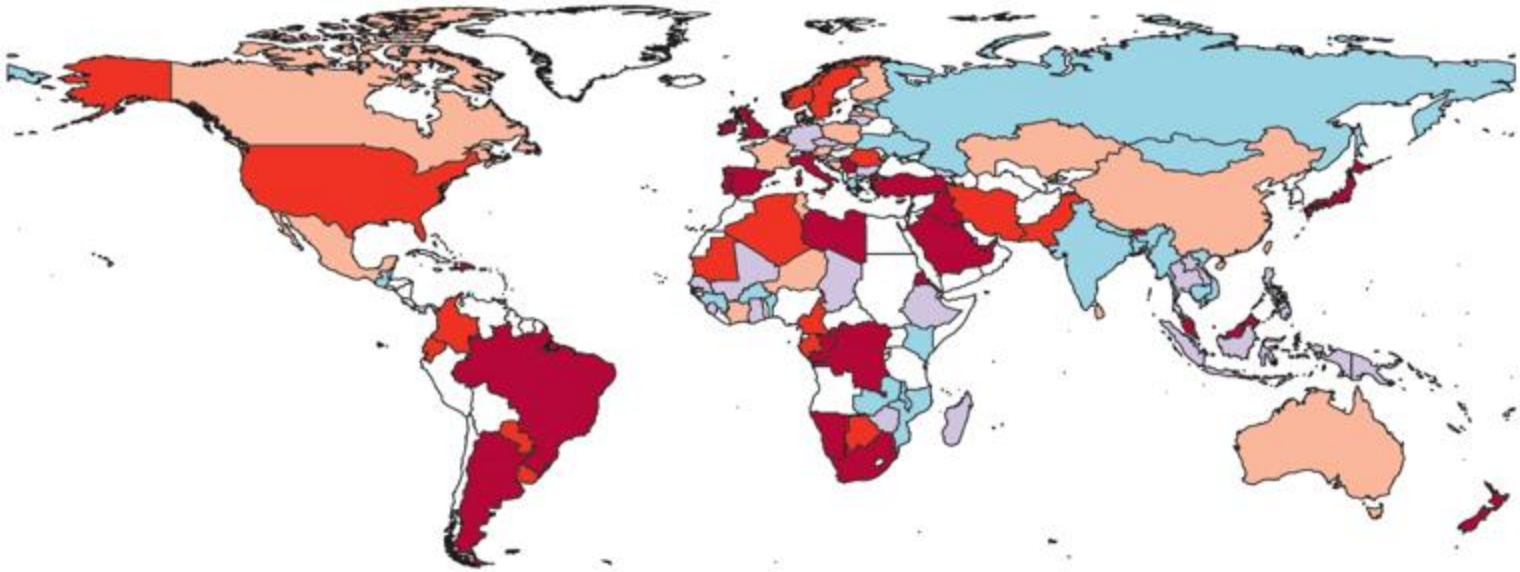
- The achievement of the **highest possible level of health, well-being and equity** throughout the world, through specific attention to the *systems* (political, economic and social) that shape the future of humanity, as well as the *natural systems* of the Earth that define the safe environmental limits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



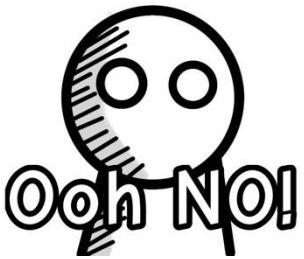
The Wicked Problem of Physical Inactivity

- 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)



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



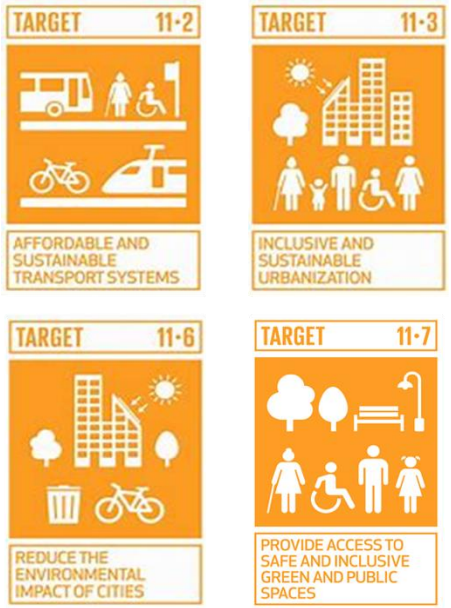
The United Nations Sustainable Development Goals (SDGs)

- 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

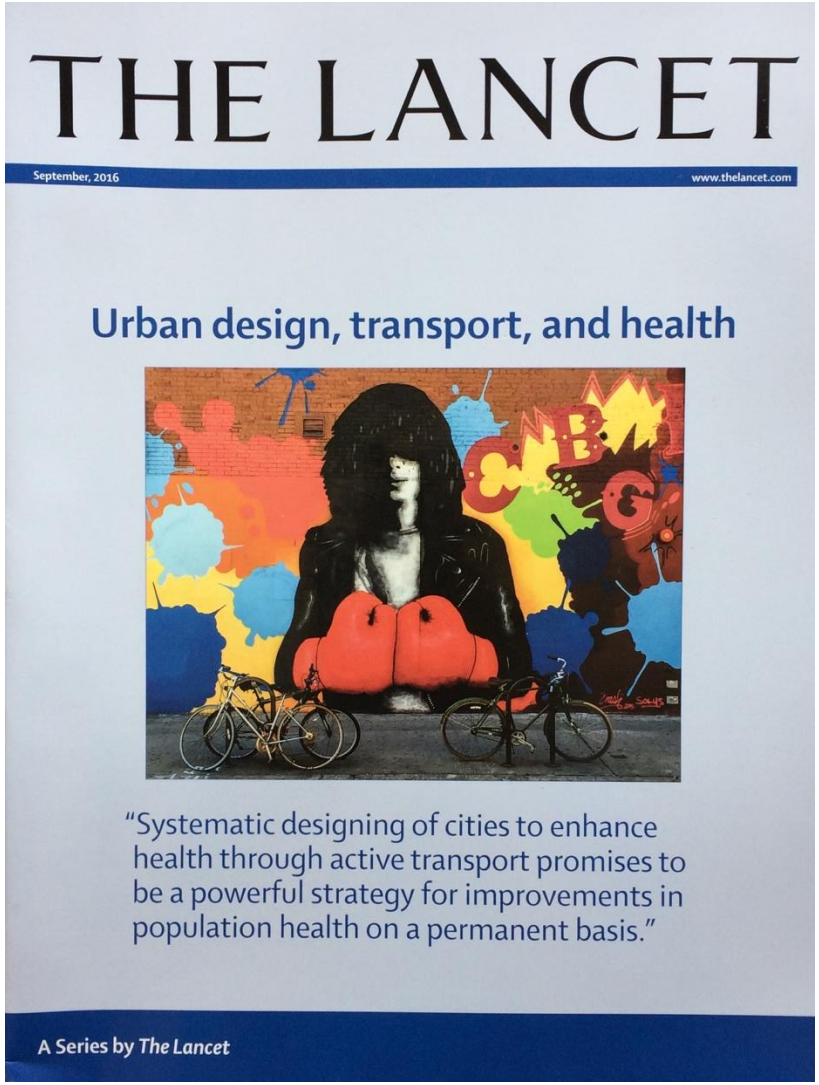
- 55% of the world's population lives in cities, projected to increase to 68% by 2050.
- SDG 11: Make cities and human settlements inclusive, safe, resilient & sustainable

  - ✓ *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

Transportation Has Multiple Impacts on Health

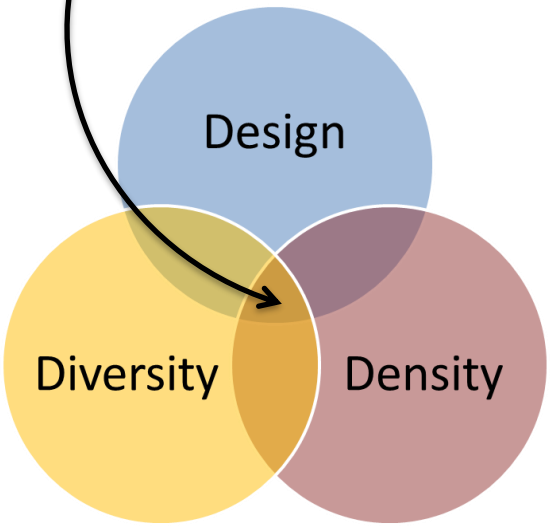
21st century global health challenges related to urban design & transport

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

Giles Corti et al. *The Lancet*. 2016

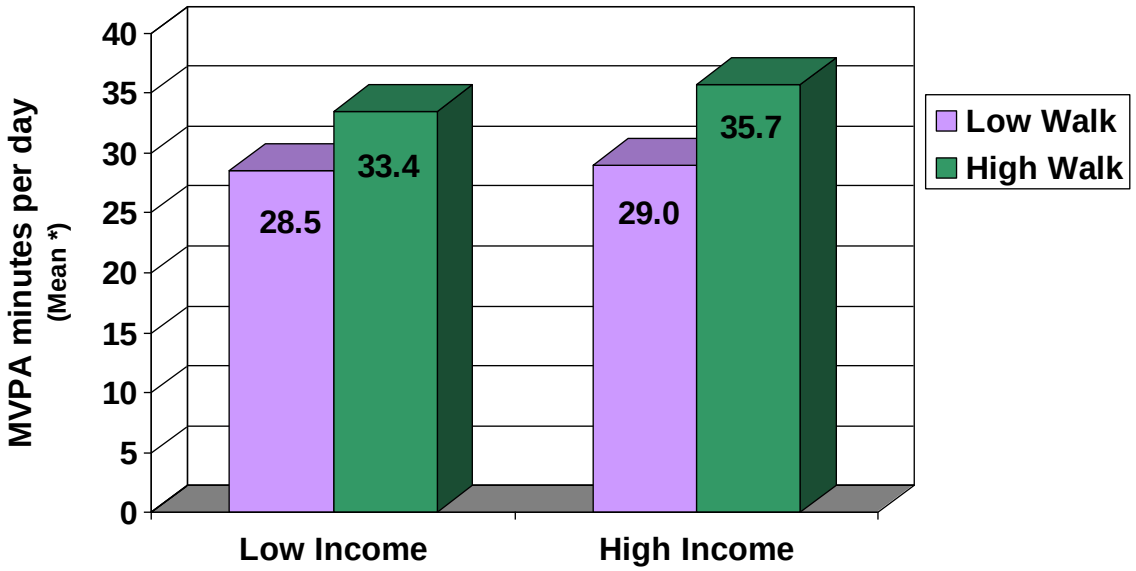
Urban design influences physical activity and health

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



Walkability Index =

[(z-intersection density) +
(z-net residential density) +
(z-retail-to-floor area ratio) +
(z-land use mix)]



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

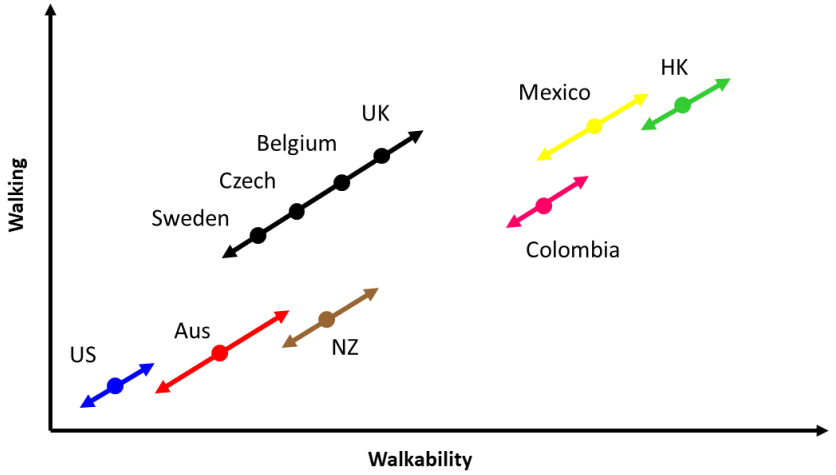
Frank et al 2004; Frank et al 2010

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

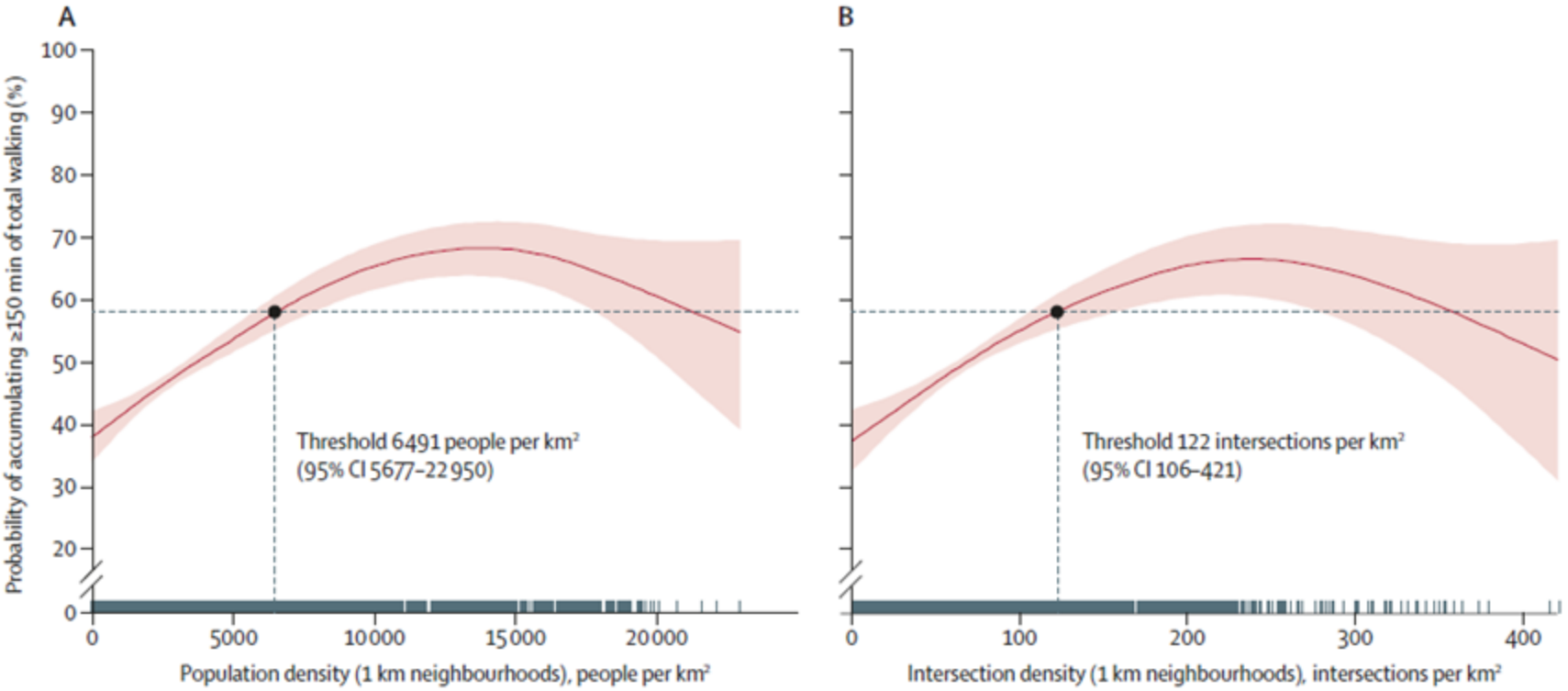
- State of the art, comparable measures: accelerometers, GIS

Rationale: Maximizing the variability of the exposure



Sallis et al. *The Lancet*. 2016

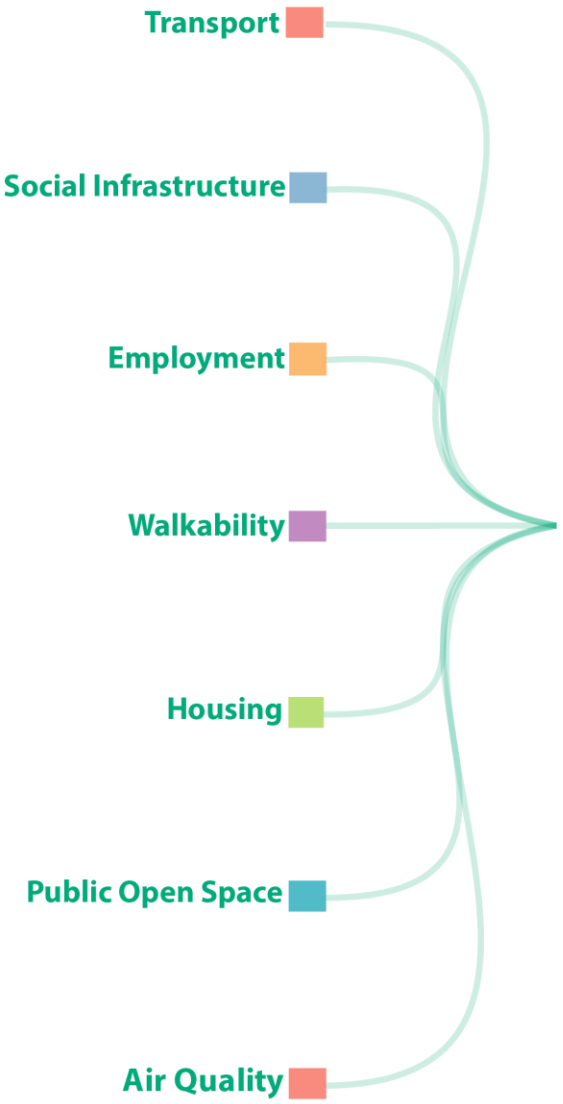
Evidence-informed thresholds for optimal neighborhood density and connectivity for active living



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.

Global Healthy and Sustainable City-Indicators Collaboration

Cerin et al. *The Lancet Global Health*. 2022



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

healthysustainablecities.org

Urban policy indicators

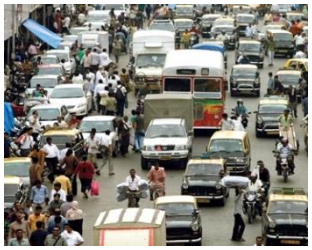
Global Healthy and Sustainable City-Indicators Collaboration

Integrated planning

Air pollution

Destination accessibility

Distribution of employment



Demand management

Design

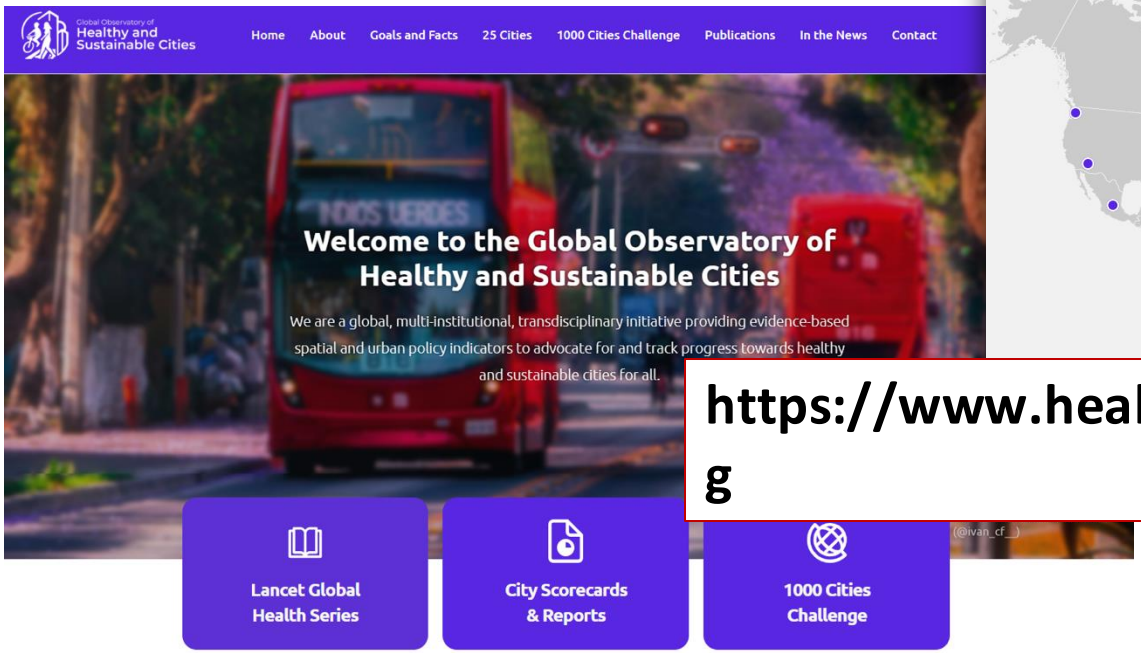
Density

Distance to public transport

Transport Infrastructure Investment

https://www.thelancet.com/series/urban-design

Global Observatory of
Healthy and
Sustainable Cities



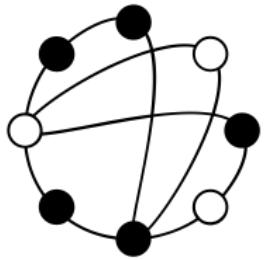
https://www.healthysustainablecities.org

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**:

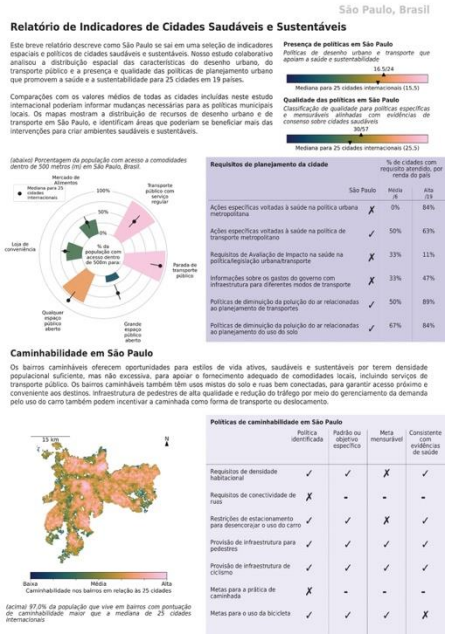
- Open data and open science
- Interdisciplinary team science
- Global data for local impact
- Capacity building and equitable international collaborations

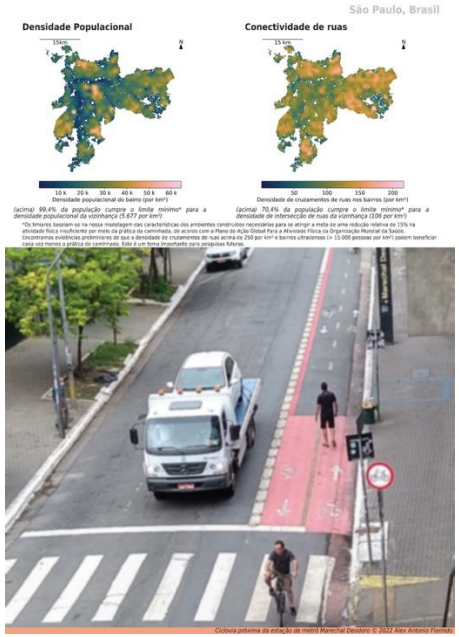


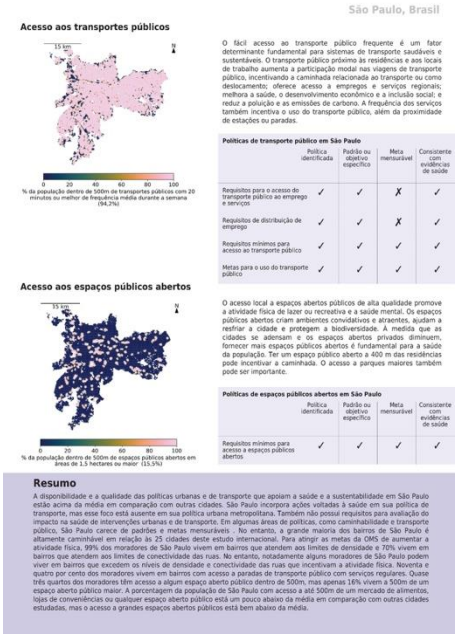
Our **vision**:

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

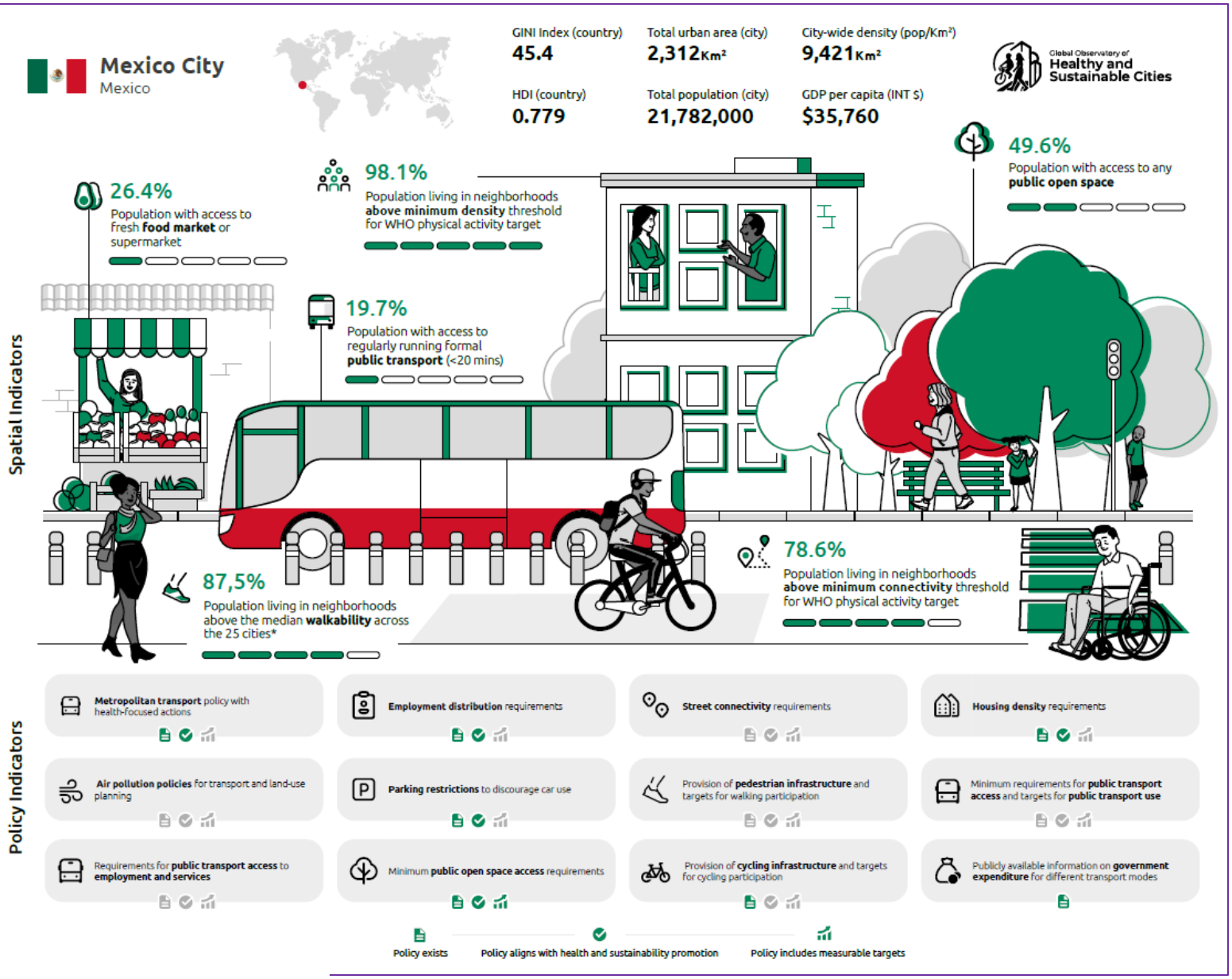
City indicator reports





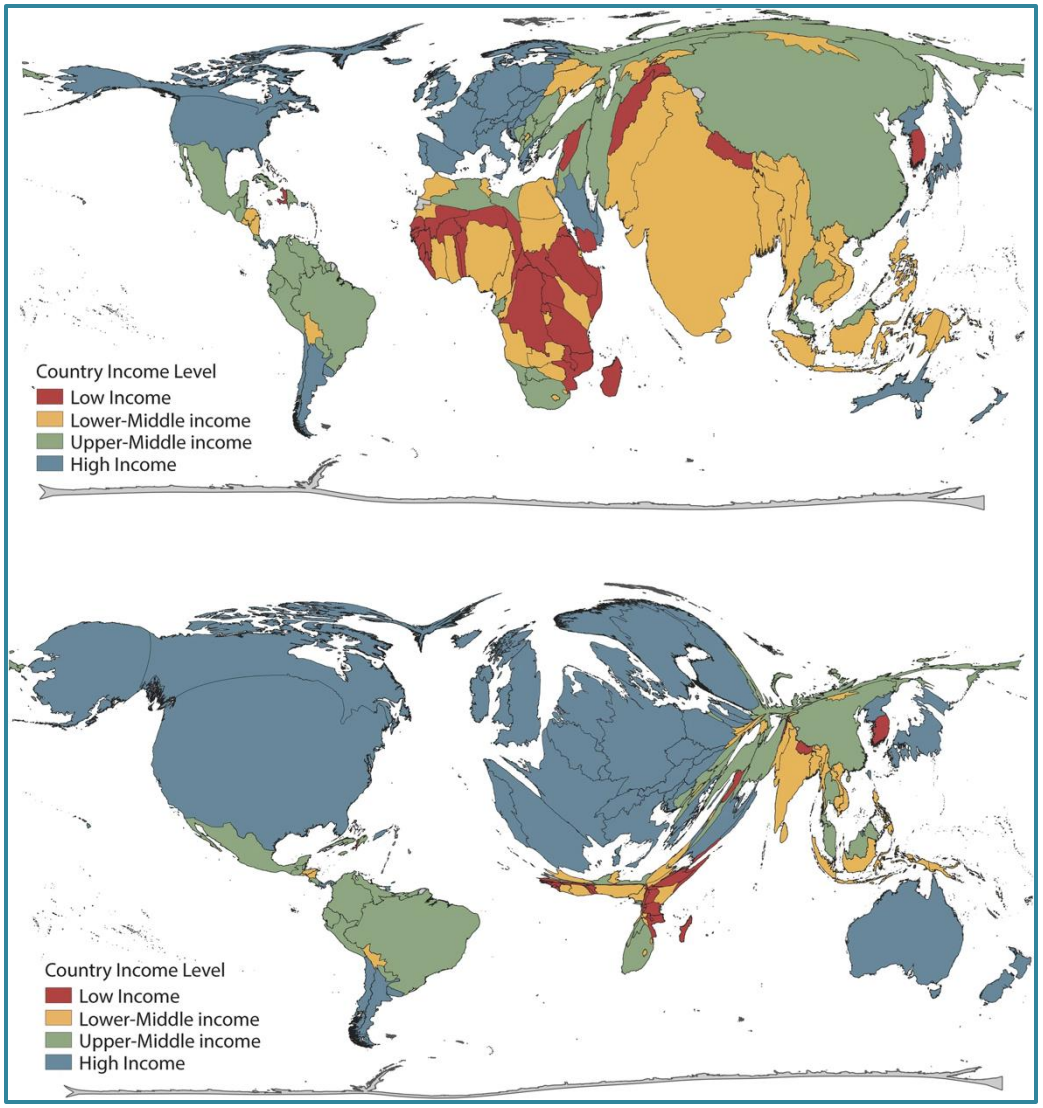


healthysustainablecities.org



Global Observatory of Healthy and Sustainable Cities

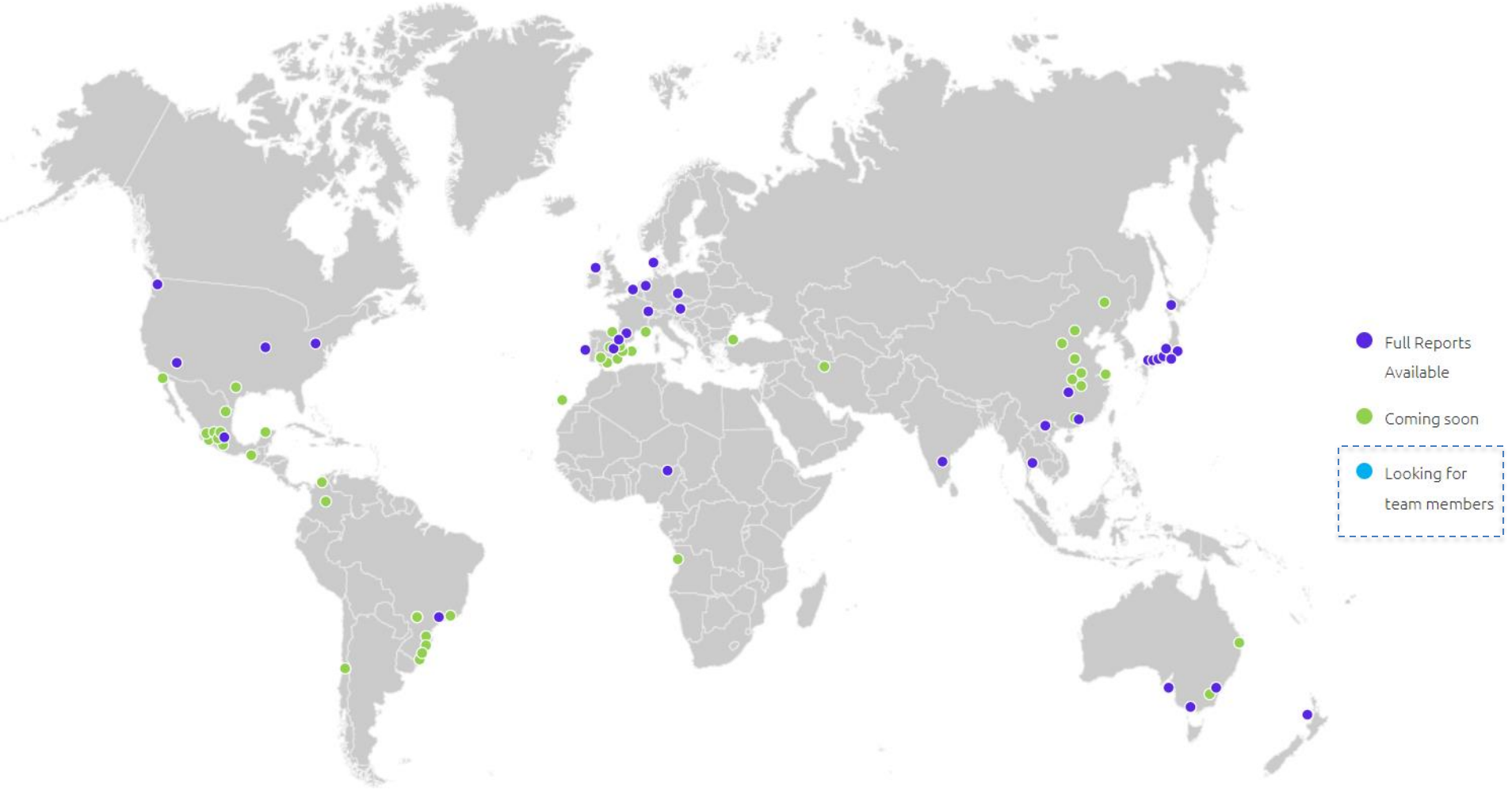
City indicator scorecards



Ramirez Varela et al. IJBNPA 2021

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

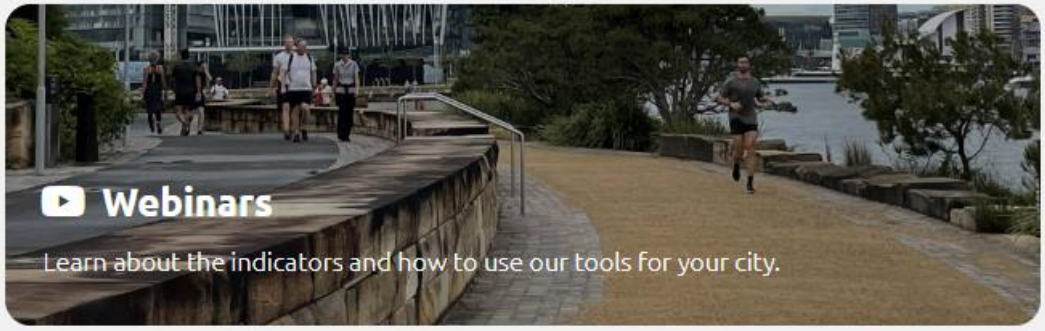
GOHSC City Membership



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

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

UTHealth Houston School of Public Health | Michael & Susan Dell Center for Healthy Living

Thank you!

View our Center's webinars

UTHealth Houston School of Public Health

MICHAEL & SUSAN DELL CENTER *for* HEALTHY LIVING