

# The Value and Use of Urban Health Indicator Tools in Urban Planning Policy and Decision-Making

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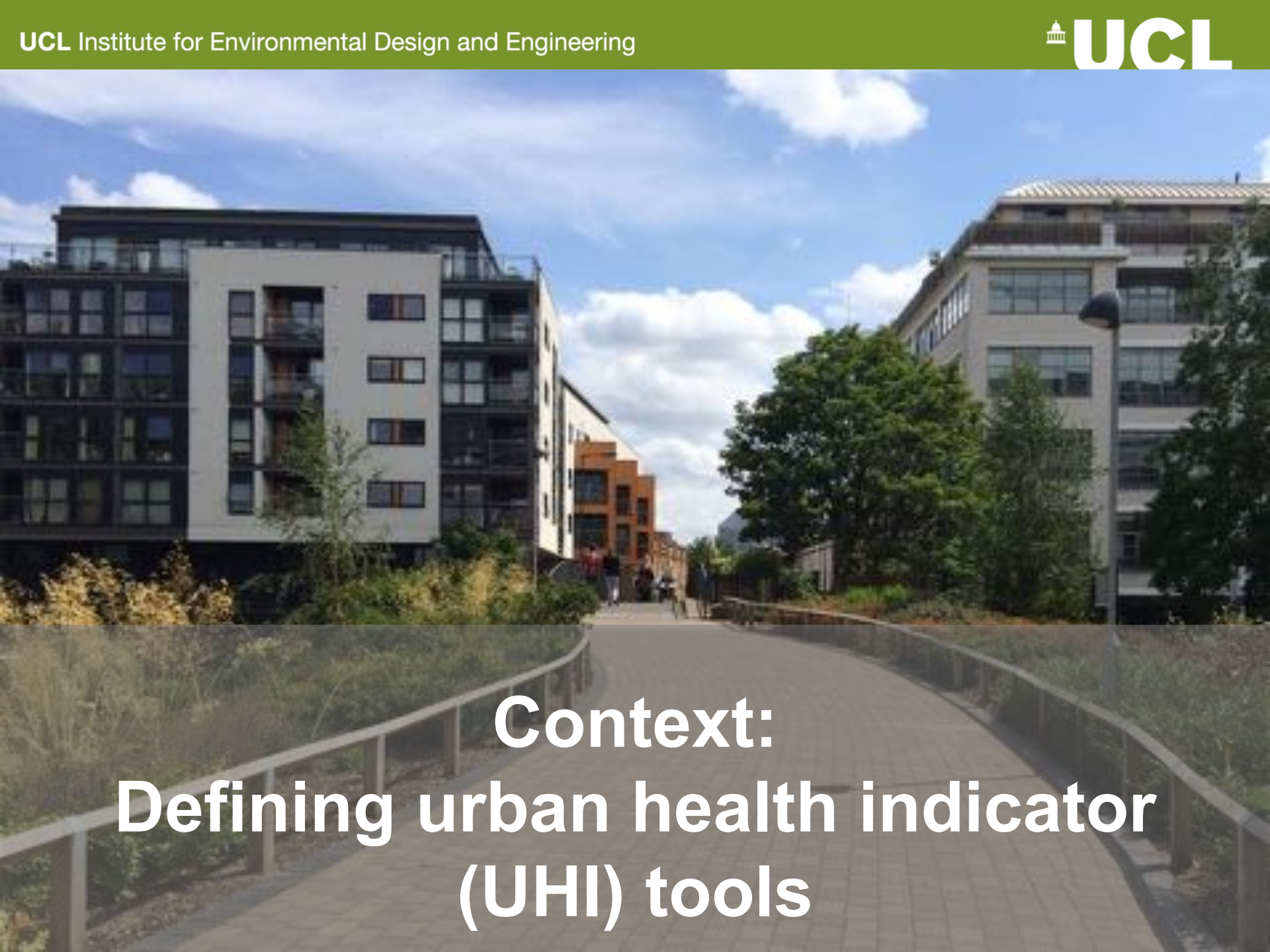
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## Presentation overview

- Context
- Research approach
- Characteristics of urban health indicator tools  
(Systematic review part A)
- UHI tools in the policy and decision-making process  
(Systematic review part B)
- Case study example: Southwark, London
- Reflections and next steps

A photograph of a modern urban residential development. The scene shows a paved walkway leading through a series of multi-story apartment buildings. The buildings have a mix of white and dark facades, with some featuring balconies. There are lush green trees and shrubs along the walkway, and a clear blue sky with scattered white clouds in the background. The overall atmosphere is bright and modern.

**Context:  
Defining urban health indicator  
(UHI) tools**

## Urban Health Indicator (UHI) Tools are...

‘a collection of summary measures about the physical urban environment’s contribution to human health and wellbeing’

(Pineo et al., 2017, p. 2)

## Example urban health indicators...

Indicator	Effect-based	Exposure-based	Objective	Subjective
% of people who live within a half-mile of parks		✓	✓	
% respondents who think the quality of new developments has got better		✓		✓
% of cyclists injured in vehicle collisions	✓		✓	
% respondents who feel safe when outdoors in their neighbourhood after dark	✓			✓





About the San Francisco Indicator Project

The San Francisco Indicator Project is a neighborhood-level data system that measures how San Francisco performs in eight dimensions of a healthy, equitable community. The goal of this project is to support collaboration, planning, decision making, and advocacy for social and physical environments that meet the needs of all citizens.

THE SAN FRANCISCO INDICATOR PROJECT

Environment

Transportation

Community

Public Realm

Education

Housing

Economy

Health

# EN.6.a Tree canopy

**Descriptive Title:**

Percent of land covered by tree canopy

**Geographic Unit of Analysis:**

Polygon

## San Francisco Tree Canopy (2013)

City and County of San Francisco Department of Public Health Environmental Health Branch



# Walk Score®

Get Scores

Find Apartments

My Favorites

Add to Your Site

Type an address, neighborhood or city

Go

## 727-791 Northeast Northlake Place

[Add scores to your site](#)

University District, Seattle, 98105

Commute to **Downtown Seattle**

9 min 25 min 24 min 60+ min [View Routes](#)

- Favorite
- Map
- Nearby Apartments

[Looking for a home for sale in Seattle?](#)

Walk Score  
**86**

**Very Walkable**  
Most errands can be accomplished on foot.

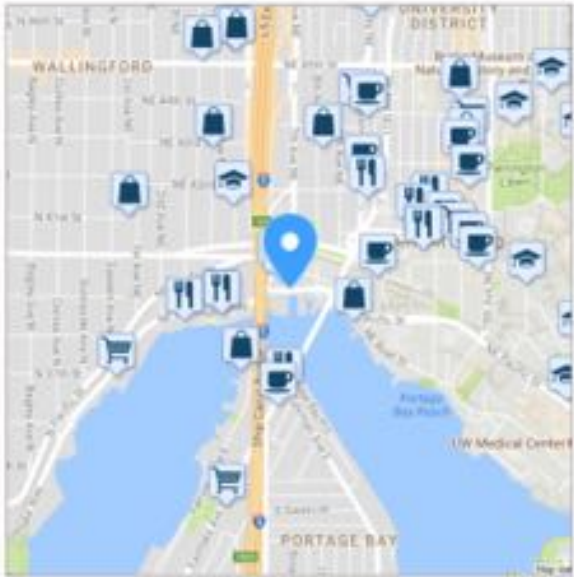
Transit Score  
**80**

**Excellent Transit**  
Transit is convenient for most trips.

Bike Score  
**78**

**Very Bikeable**  
Steep hills, excellent bike lanes.

[About your score](#)



Dashboard Other map format

London ward level well-being scores

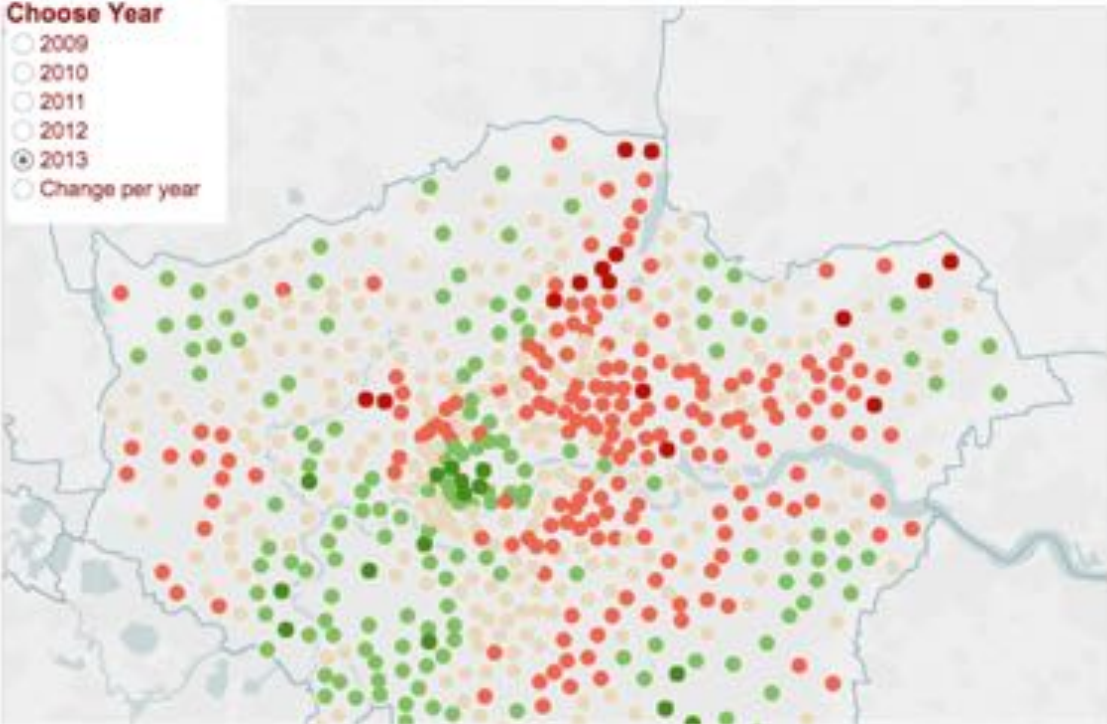
Health - Life Expectancy	Health - Childhood Obesity	Health - Incapacity Benefits claimant rate
5	5	5
Economic Security - Unemployment Rate	Safety - Crime Rate	Safety - Deliberate Fires
5	5	5
Education - GCSE point scores	Children - Unauthorised Pupil Absence	Families - Children in out-of-work households
5	5	5
Access - Public Transport Accessibility Sc...	Environment - Access to public open space & nat...	Happiness - Subjective well-being average sco...
5	5	5

Users can adjust the weight of each indicator depending on what they consider to be the more or less important. This is done by entering a number between 0 and 10 in the boxes. The scores on this page will update automatically.

Well being ward map

Choose Year

- 2009
- 2010
- 2011
- 2012
- 2013
- Change per year



Borough

- (All)
- Barking and Dagenham
- Barnet
- Bexley
- Brent
- Bromley
- Camden
- City of London
- Croydon
- Ealing
- Enfield
- Greenwich
- Hackney
- Hammersmith and Fulham
- Haringey
- Harrow
- Havering
- Hillingdon
- Hounslow
- Islington
- Kensington and Chelsea
- Kingston upon Thames
- Lambeth
- Lewisham
- London
- Merton
- Newham
- R B of Kensington and Chelsea
- R B of Kingston upon Thames

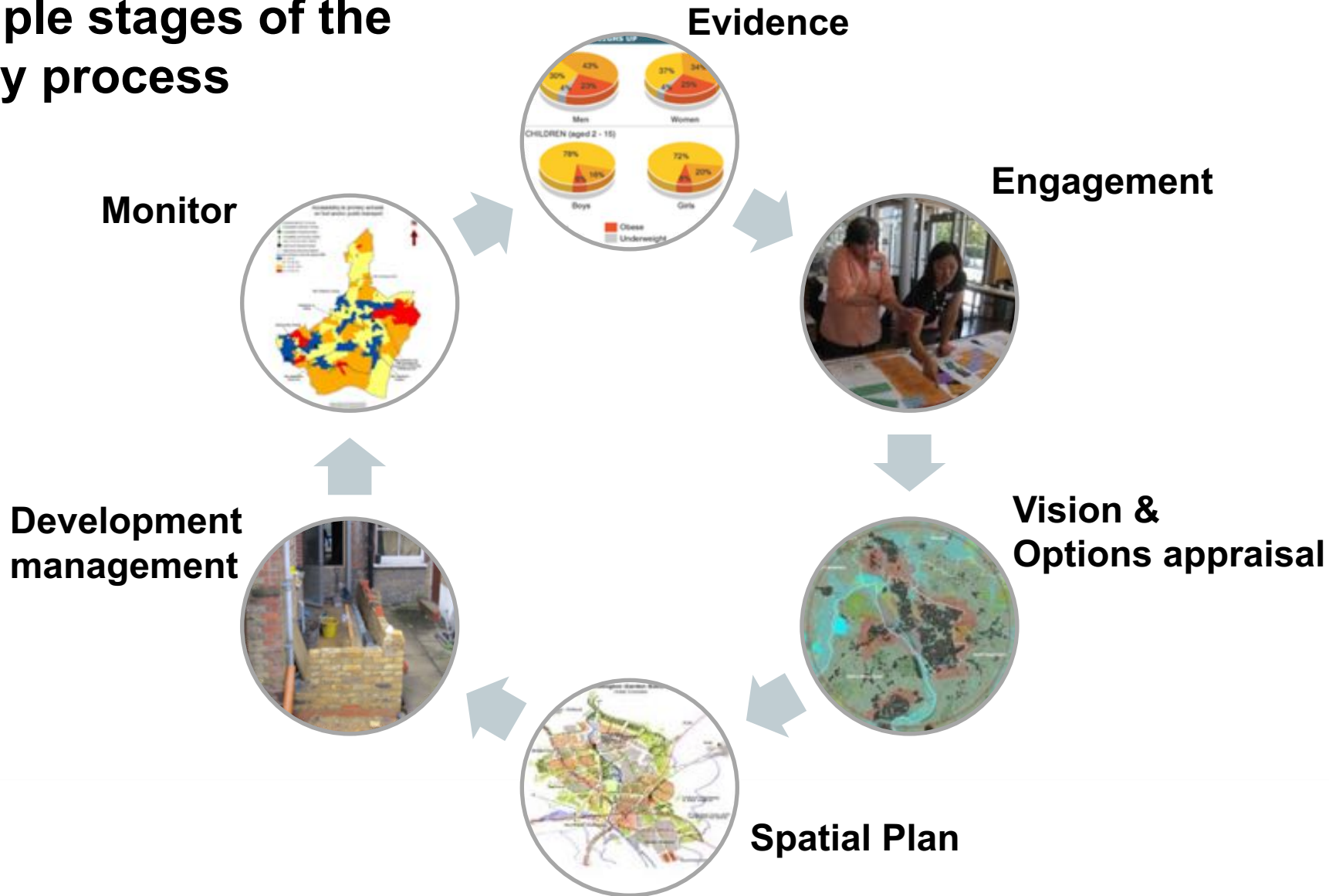




# Context: Value of indicators

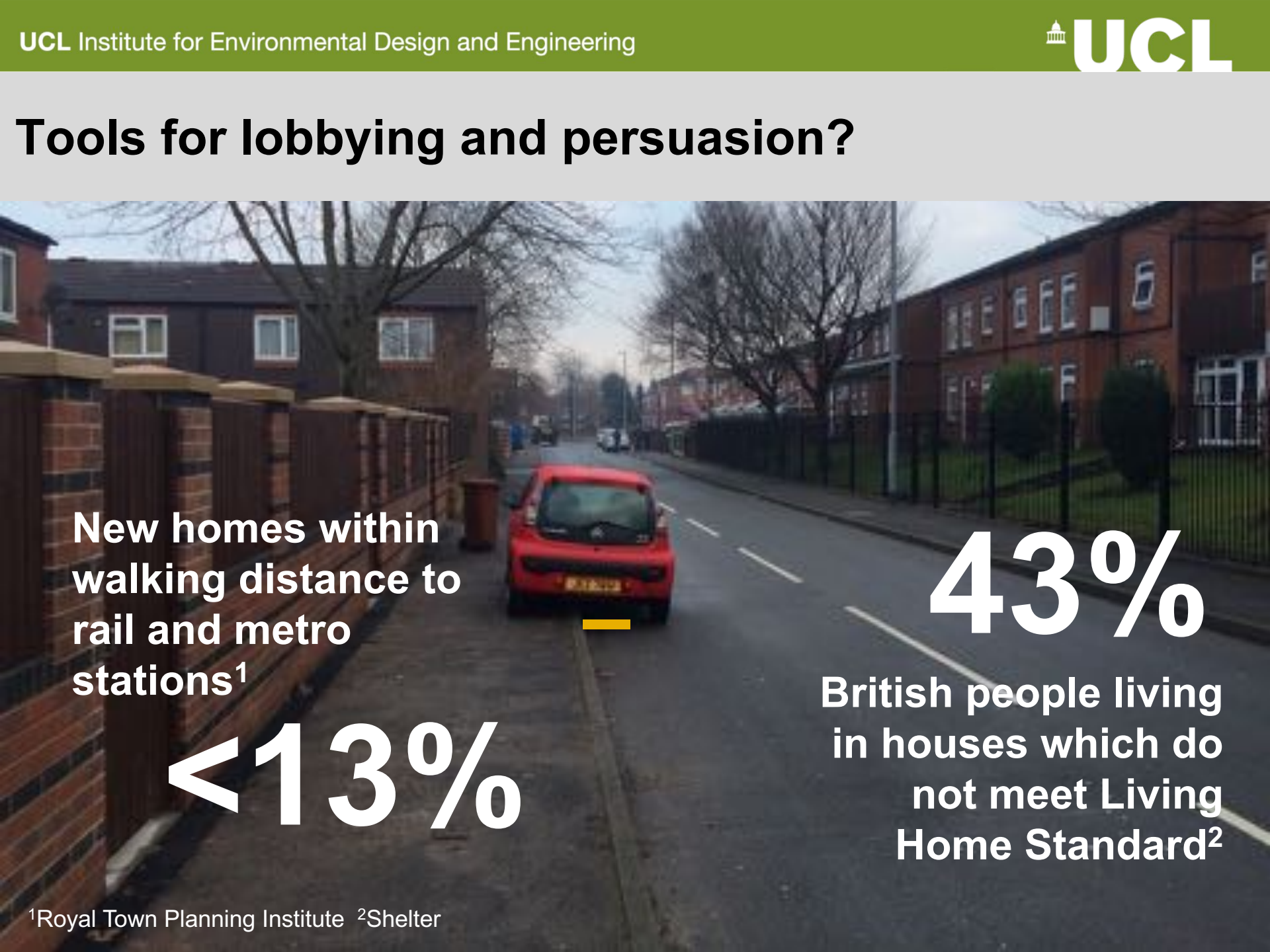
Images from top centre clockwise: BBC, Jseattle, Urbed x2, HSP, PAS

# Potential value at multiple stages of the policy process





# Tools for lobbying and persuasion?



New homes within walking distance to rail and metro stations<sup>1</sup>

**<13%**

**43%**

British people living in houses which do not meet Living Home Standard<sup>2</sup>

# Tools for lobbying and persuasion?



**\$4k - \$34k**

Increased value of homes in  
highly walkable communities in  
USA (Cotright, 2009)



## Proposed benefits of indicators

- inform policies and decisions
- monitor policy impact over time
- compare performance with local, regional, national or international levels
- determine targets for improvement
- show performance publicly (accountability/performance management)
- support funding bids or allocations
- serve as an 'early warning' of potential issues
- involve the public in prioritisation and definition of policy goals

In summary indicators may help planners with this problem...



**Brent Toderian**   
@BrentToderian

Follow

Design evolution? Remember, this isn't just designers responsibility - cities get the designs they demand. h/t @leewardists @humantransit





# Context: Indicators in the policy process

## Indicators influence policy and decision-making via this model...



Modified from Briggs et al., 1996, p. 22



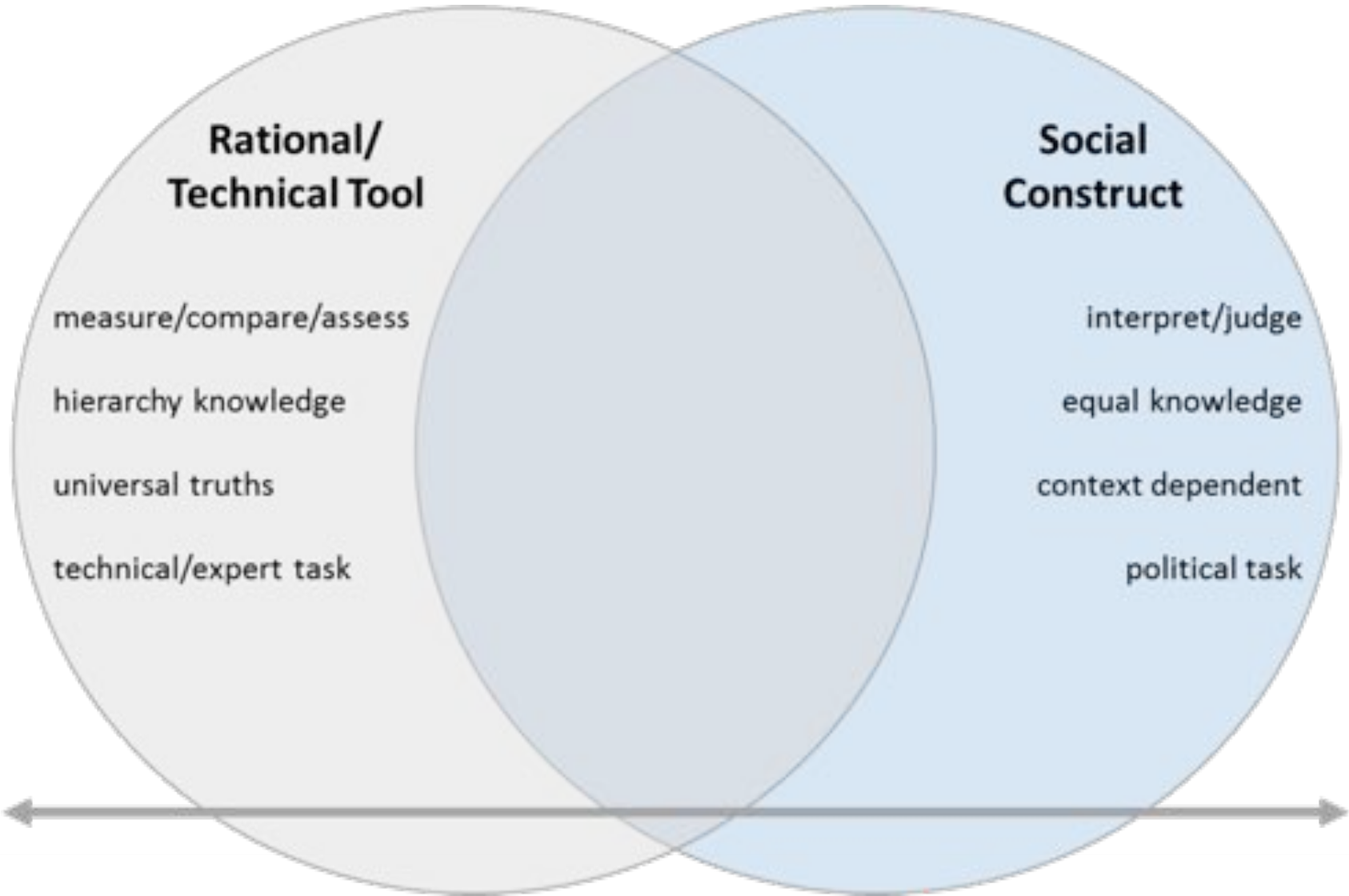
## Traditional model of influence



**2 significant challenges for this model and UHI tools generally**

opposing  
conceptualisations of  
indicators and their use

the **complexity** of  
urban health and the  
policy/decision-making  
process



## Summary of context and gaps

- Lack of research on use of indicators.
- Dominant models of indicator/evidence use are linear, ignoring complexity
- Lack of a model to account for use of UHI tools in complex policy and decision-making process.
- Lack of clarity on how UHI tools address complex urban health system to support health promotion



# Research approach



## Research aim and objectives

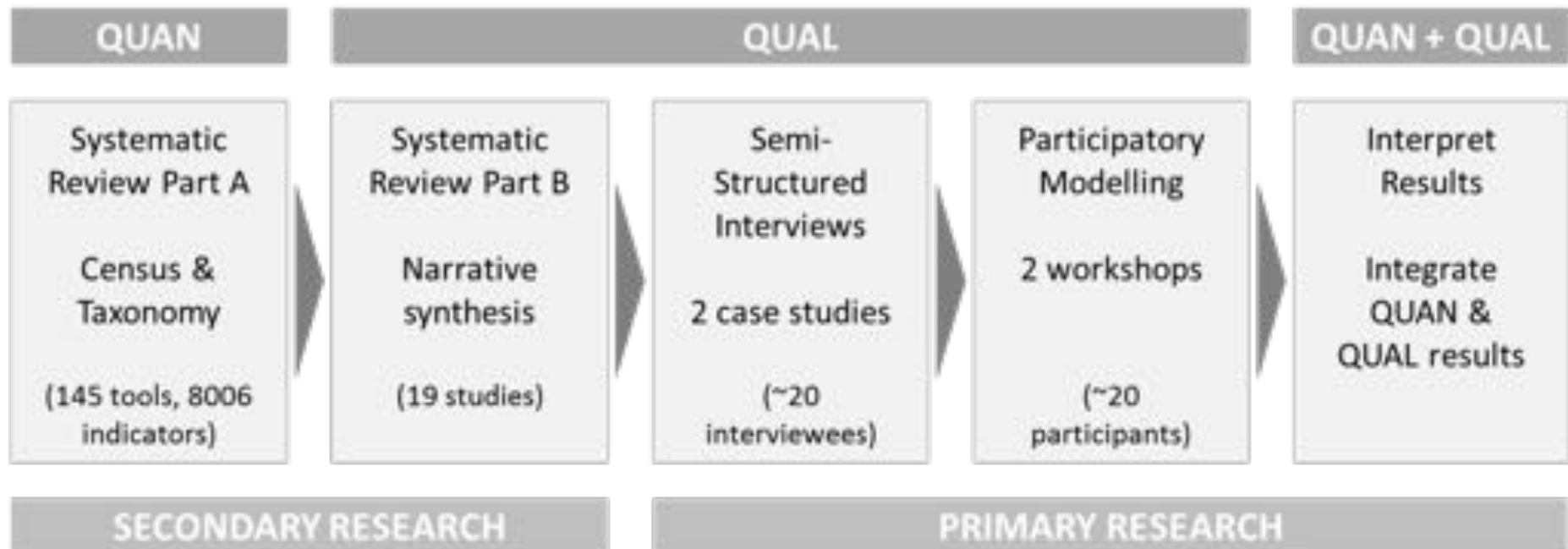
**Aim:** Explore how urban health indicators are used to promote health in urban planning policy and decision-making.

### Objectives:

1. Outline how UHI tools present and measure the impact of the urban environment on health, especially in relation to complexity
2. Produce mental model(s) of indicator producers and users regarding the use of UHI tools in urban planning policy and decision-making
3. Investigate the potential value of UHI tools for health promotion in the planning policy and decision-making process, particularly in relation to the complexity of this process

# Methodology – Mixed methods

## Explanatory sequential design



فواكه و خضار



**Characteristics of UHI tools  
(part A)**



## Objectives & Protocol

- ‘To create a census and taxonomy of urban health indicator tools. [Part A]
- To understand how UHI tools are used in the policy and decision-making process. [Part B]
- To explore the perceived impact of UHI tools on policy and decision-making. [Part B]
- To investigate the value of UHI tools in relation to simplifying, representing or addressing complex systems’. [Parts A & B]

Pineo et al. (2017a, p.2)

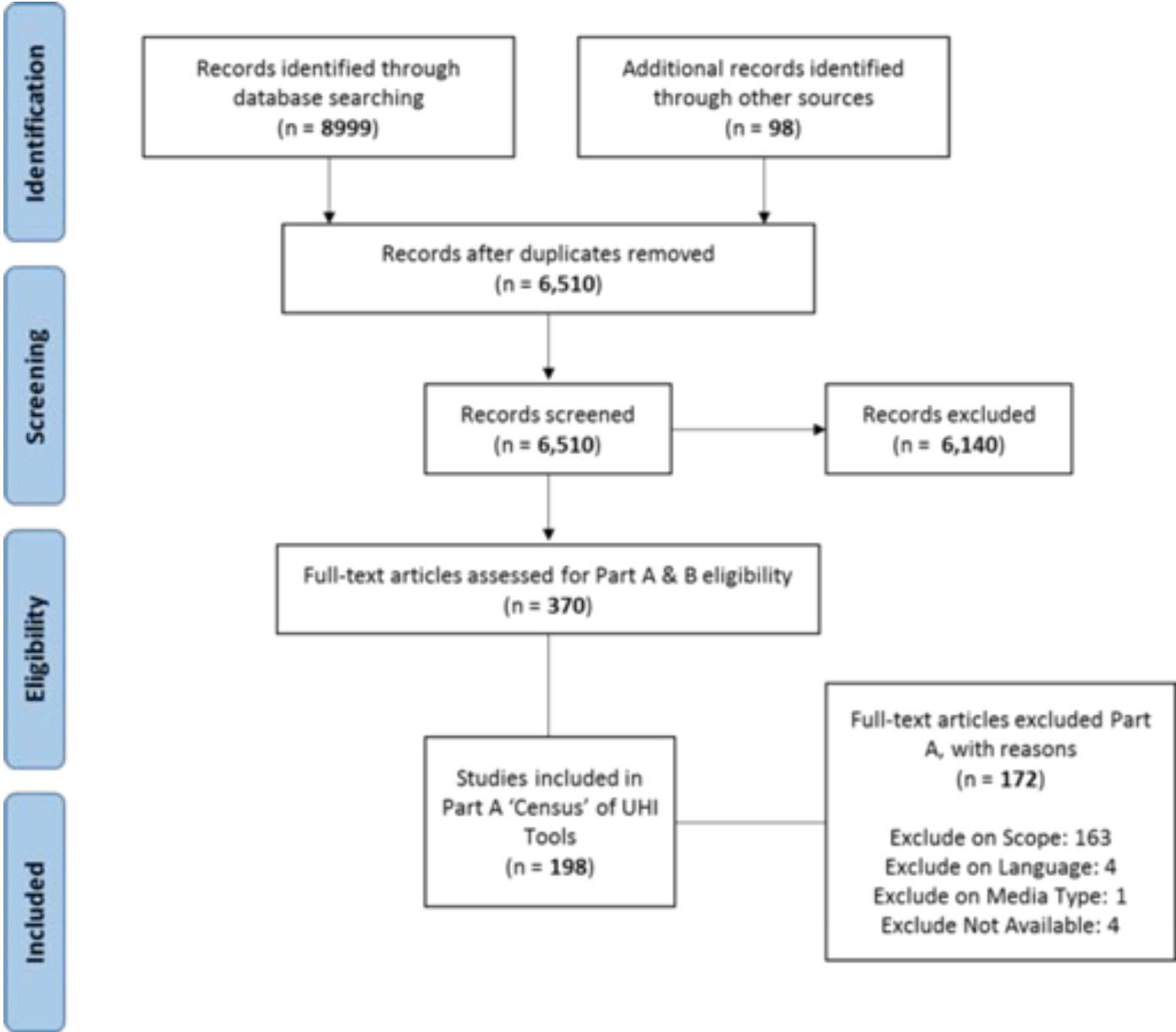


## Data extraction (Part A)

- ‘Scale – At what scales can the system be applied or measured? (e.g. neighbourhood or city)
- Geography – Which areas can this system be applied in (e.g. specific cities or nations)?
- Scope – What aspects are analysed (e.g. built environment, health outcomes, demographics)?
- Producer – Which organisation developed the system? What type of organisation?
- Funders – Which organisations funded the indicator system?
- Purpose – What is the stated purpose? (e.g. research and/or informing policy)
- Methodology – Is there a published methodology and what are its characteristics?
- Evidence-base – Does the methodology refer to evidence which was used to inform the system? What is the nature of this evidence?
- Weighting – Is there a weighting system and what are its characteristics?
- Complexity – Does the methodology refer to complexity and, if so, in what context?
- Uncertainty – Does the methodology refer to uncertainty and, if so, in what context?
- Maps – Is there an option to view the data on maps?
- Publication date – When was the system published?
- Source – Where was this information found?
- Indicators – Which indicators are reported?’ Pineo et al. (2017a, p.4)
- ‘topic: concept that the UHI tool measured (e.g. health or liveability)
- main source of data (e.g. municipal datasets or resident surveys)
- indicator type: subjective or objective (defined in Lowe et al.<sup>30 p.136</sup>)
- whether the tool had been used beyond research.’ Pineo et al. (In press, p.5)

# Part A – Results

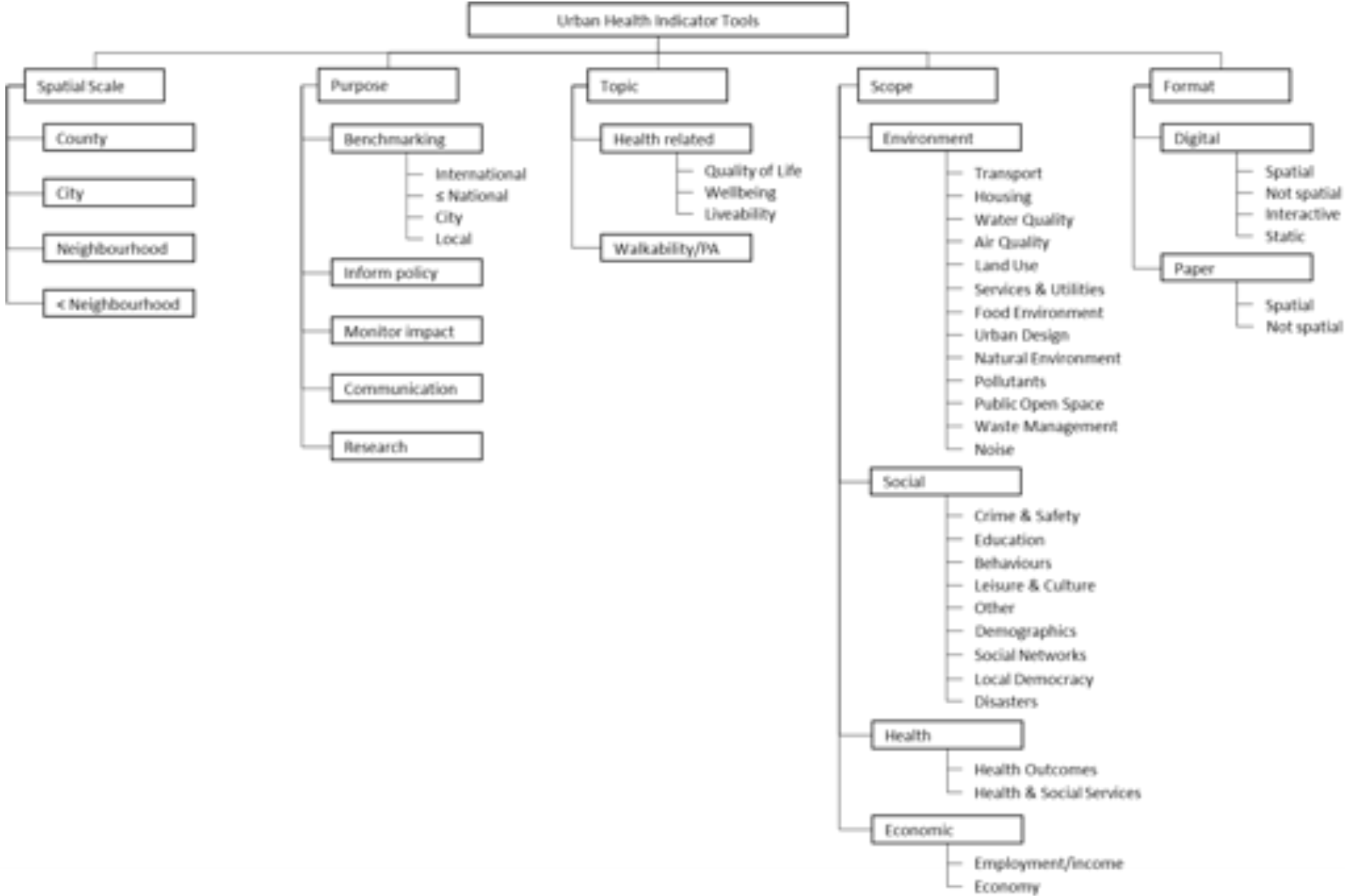
## PRISMA flow chart

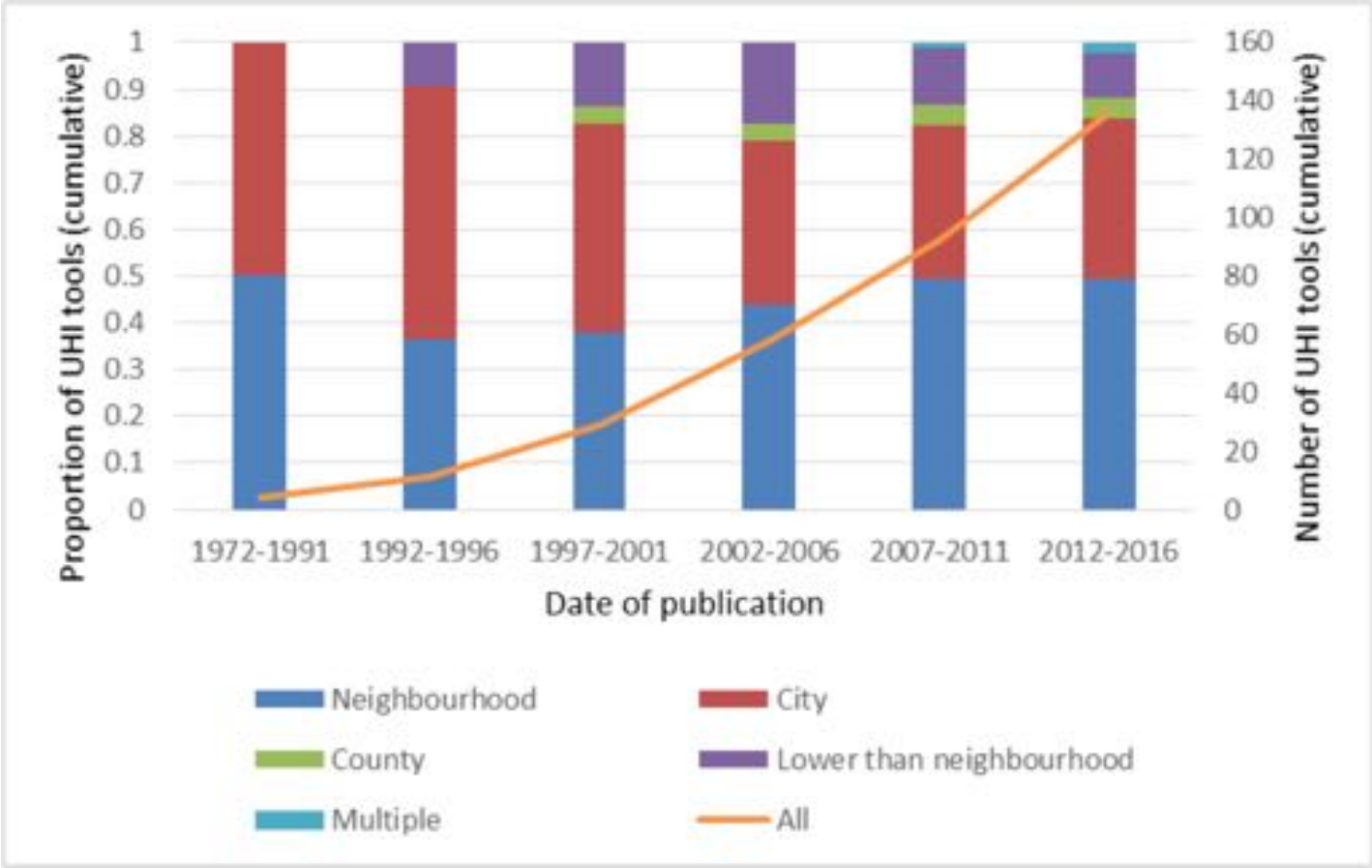




# 145 Urban Health Indicator tools (8006 indicators)







Change over time of proportion of UHI tools by spatial scale compared with cumulative growth of UHI tools. N.B. Missing data for 9/145 UHI tools: 7 did not report a date of publication and 2 did not report spatial scale.



## Complexity in the UHI tool methodologies

‘Indicators are used to simplify information about complex phenomena, ...in order to make communication easier and quantification possible.’

Hardi and Pintér, 2006, p.130

‘...it is clear that single figure measures can mask a much more complex situation.’

London Sustainable Development Commission, 2004, p.8

‘policy action may not easily follow the identification of environmental health problems ... [due] to the complexity of the policy process.’

Hunt and Lewin, 2011, p.189

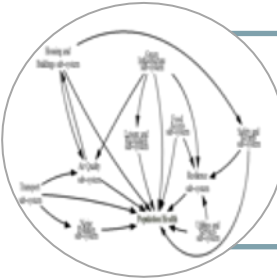
# Key findings



Neighbourhood scale and digital UHI tools are increasing



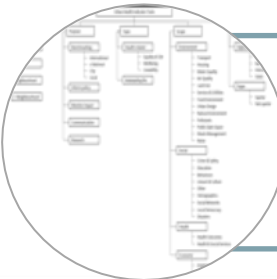
Majority of UHI tools *intend* to inform policy and decision-making...



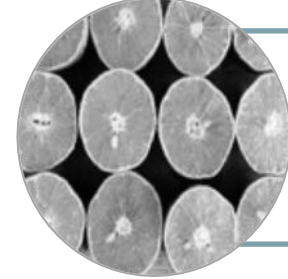
Nature of how UHI tool methodologies address complexity



Majority of UHI tools are evidence-based...



Developed UHI tool taxonomy



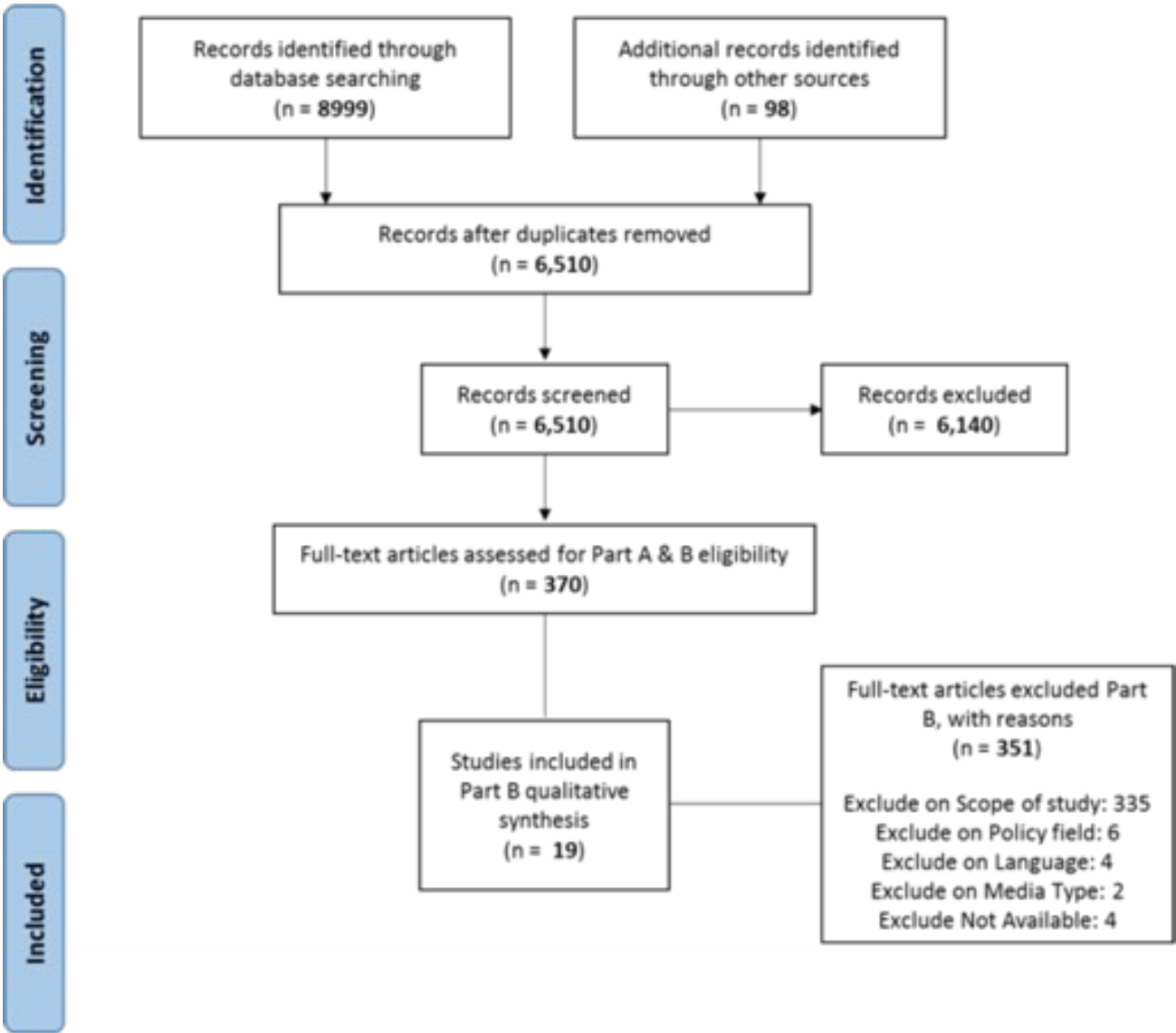
Similarity in the domains measured across UHI tool topics

A blurred photograph of a city street. In the foreground, a cyclist in a red jacket is riding a black bicycle. In the middle ground, a silver car is driving away. Further back, another cyclist in a dark jacket and a bright yellow helmet is riding. The street is lined with buildings and trees. The overall scene is in motion, with a shallow depth of field.

# UHI tools in planning policy and decision-making (part B)

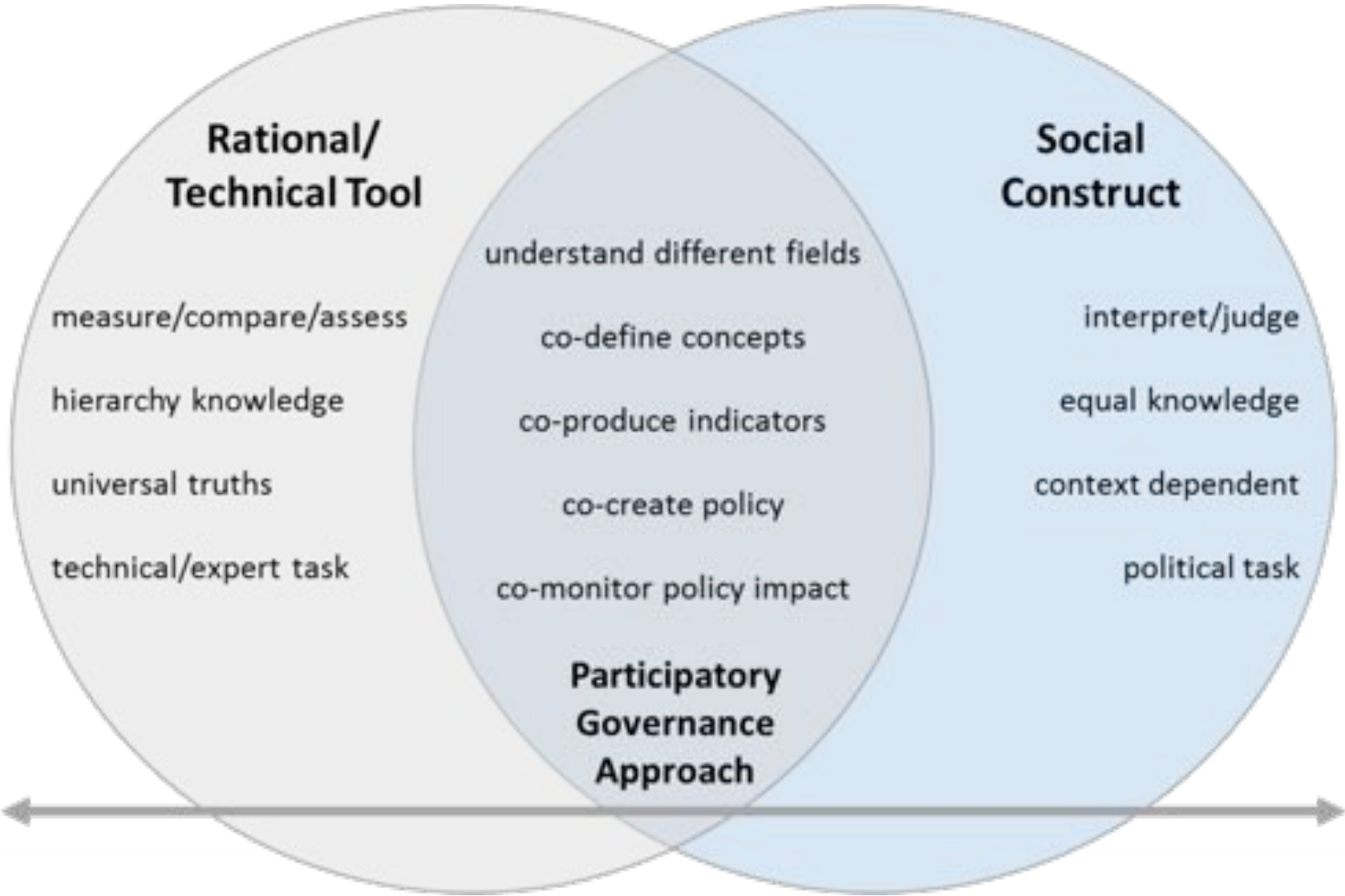


# Systematic Review Part B – Early Results



## Studies about the use of urban health indicators

Place	Year	Authors	Method	Researchers also producers
Melbourne, Australia	2015	Lowe et al	Workshops	Yes
Richmond, USA	2014	Corburn et al.	Case study	Yes
San Francisco, USA	2014	Bhatia	Case study	Yes
Richmond, USA Nairobi, Kenya	2012	Corburn & Cohen	Case study	Yes
Seattle, USA	2011	Lerman	Project report	Yes
Ghent, Belgium	2010	Van Assche et al	Case study	Yes
Bristol, UK	2009	Shepherd & McMahon	Case study	Unknown
San Francisco, USA	2008	Farhang et al.	Case study	Yes
Cape Town, South Africa Lucknow, India Calcutta, India Howrah, India	2000	Hunt & Lewin	Ethnographic	Yes
United States (32 cities)	1988	Landis & Sawicki	Survey	No





# Case study: Southwark, London





Image: Southwark Council

## Using the BRE Healthy Cities Index

- International index of urban health indicators
- Exposure-based and focused on built environment
- 10 categories and 58 indicators
- BRE Causal Pathways Framework
- Launch date TBC

Pineo, H., Zimmermann, N., Cosgrave, E., Aldridge, R., Acuto, M., Rutter, H. In Press. Promoting a healthy cities agenda through indicators: development of a global urban environment and health index. *Cities & Health*.

## Impact of BRE Causal Pathways Framework in Southwark

- Used to frame discussions – moving from the ‘Health Outcomes’ side of the Framework working back to the ‘Urban Environment Exposures’
- Demonstrated the interconnected built environment issues affecting the council’s biggest health concern, non-communicable diseases
- Helped expose tensions between health objectives and other goals
- Highlighted the importance of individual design decisions and how these are measured over time

More information available here...



**Translating community perceptions of health and place into local planning policy and monitoring frameworks**

*Helen Pinoso, Simon Bevan, Andrew Fluck, Dr Doug McNab and Clizia Deidda | 08 Feb 2018*

This paper describes research looking at three key health themes – social interaction and isolation, obesity and inactivity, and health service provision and access – and which focused on two key regeneration areas.

There are many aspects of the physical urban environment that can impact residents' health and wellbeing, both positively and negatively. Transport systems, for example, can support residents to achieve the recommended level of physical activity; they can also, however, create harmful air pollutants. In recognition of the relationship between the built environment and health, Southwark's planning department worked with public health colleagues in the council and in the neighbouring borough of Lambeth to explore residents' perceptions of health and place in areas with significant planned regeneration. The project was funded by Guy's and St Thomas's Charity. This paper outlines the process and findings of the local research project and describes how the results are being used by Southwark Council to inform planning policy for the borough and, specifically, the Old Kent Road Opportunity Area.


**Background**

Southwark is a London borough located along the south side of the River Thames with excellent access to the jobs and amenities of the city centre. Its population of 309,000 people is young and diverse, with almost half (45 per cent) of the borough's residents from a non-white background.<sup>1</sup>

Although the borough is ranked the 12th most deprived in London (23rd in England), the council covers some of London's most expensive property markets along the south bank of the river and is characterised by pockets of extreme wealth and deprivation.<sup>1</sup> Inequalities and deprivation contribute to some of the residents' primary health challenges, yet Southwark's major employers, good schools and community amenities make it a prime candidate to support healthy urban living.





There are some positive healthy behaviours related to the built environment in Southwark; for example, residents walk and cycle more than their London peers.<sup>2,3</sup> There are also some key challenges associated with the borough's environment. The data in table 1 show how Southwark compares against its neighbouring boroughs, London and England in several key factors related to health and the built environment. Notably, Southwark has lower rates of excess winter deaths and fuel poverty than its London peers and the England average. There are, however, many areas that require improvement such as air pollution, overcrowding, and use of outdoor space for health and exercise.

**Table 1: Comparison of natural and built environment indicators for Southwark, its neighbouring boroughs, London region and England.**



www.brighton.gov.uk

**Healthy Planning and Regeneration: innovations in community engagement, policy and monitoring**

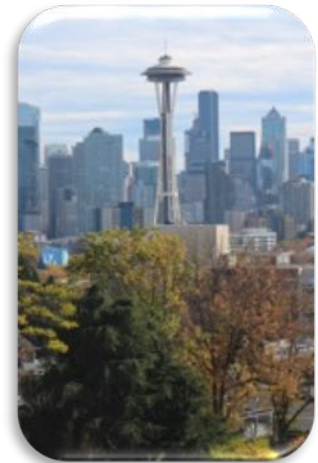
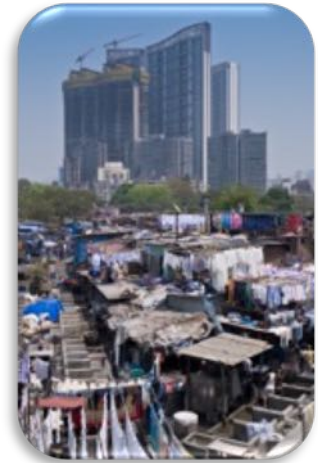




# Reflections and next steps

## Potential unintended consequences/challenges for urban health indicators

- Complexity of urban health and the policy process
- Validity of the indicators/assessment tools
- Comparing results in different contexts
- Data availability, aggregation, privacy
- May suggest inappropriate policy/design focus or responses
- Mismatch between indicator and design measures



## What do you think?

- Are you aware of planners who are making use of UHI tools in policy and decision-making?
- If not, why not?

**Please contact me if you'd like to discuss your experience in more detail to contribute to my research.**

[helen.pineo.15@ucl.ac.uk](mailto:helen.pineo.15@ucl.ac.uk)

## References

Cortright J. 2009. Walking the walk: How walkability raises home values in US cities. *CEOs for Cities*.

Kramer A, Lassar TJ, Federman M, Hammerschmidt S. 2014. Building for Wellness: The Business Case. Washington DC: Urban Land Institute.

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Pineo, H., Zimmermann, N., Cosgrave, E., Aldridge, R., Acuto, M., Rutter, H. In Press. *Promoting a healthy cities agenda through indicators: development of a global urban environment and health index*. *Cities & Health*.

Pineo H, Bevan S, Ruck A, McNab D, Deidda C. 2018. Translating community perceptions of health and place into local planning policy and monitoring frameworks. *Salus*. Available from: <http://www.salus.global/article-show/translating-community-perceptions-of-health-and-place-into-local-planning-policy-and-monitoring-frameworks-1>