

URBAN COMMUNITY INDEX

EVIDENCE-BASED URBAN DESIGN & PLANNING TOOL

OVERVIEW

Contemporary urban environments are marked by an unparalleled degree of complexity. There is growing pressure to redress inequality, meet environmental and demographic challenges and create liveable places. The Urban Community Index (UCI) is a framework and tool aimed at cutting through those challenges.

Increasingly, we are seeing the importance of data and technology in evidence-based urban design, to guide our understanding of urban communities and the built context. Bringing together this understanding of 'human' and 'data', Atkins have developed an Urban Community Index and corresponding Digital UCI Tool. The aim of this tool is to map and evaluate urban environments to identify opportunities for interventions to improve the health, equity and resilience of these communities.

APPROACH

At the heart of the Urban Community Index is our definition of a flourishing and equitable urban community. We define this as a community where key services and facilities are accessible, the natural environment is conducive to good health, and the built environment is safe and inclusive. The Urban Community Index framework and metrics (Figs 1 & 2) were developed through literature review and focus group research to reflect this definition and capture the priorities for urban communities.

Visualising and connecting data is central to our evidence-based approach in the Digital UCI Tool (Fig 4). The Urban Community Index charts amenities, socio-economic and open-source geospatial data to accurately identify the unique characteristics of an area. By combining spatial connectivity of community infrastructure with demographic information, the index aims to provide a structure for understanding the complexity of relationships between people and places.

PROJECT OBJECTIVES

- Create a single, digital portal to quickly and clearly visualise data layers within the proposed framework
- Develop a framework for assessing urban environments in the context of health, equity and resilience for people and communities
- Generate indicators (with related open-source data) to support evidence-based design for built environment professionals

CONCLUSIONS

The UCI framework and Digital Tool provide a mechanism that allows geospatial data to be more readily accessed, visualised and utilised by urban design and masterplanning teams. The creation of comparable metrics provides valuable insights for early-stage engagement with clients and stakeholders, and supports evidence-based design.

It allows us to answer questions with greater precision than ever before, arming decision makers with quantitative knowledge to complement the existing body of qualitative engagement about how our communities are operating. It also unlocks opportunities that were previously hidden. By connecting practical conversations with underlying metrics, we can now see the importance of green spaces, community centres and high streets, tying communities together.

URBAN COMMUNITY INDEX FRAMEWORK



Fig 1: Framework

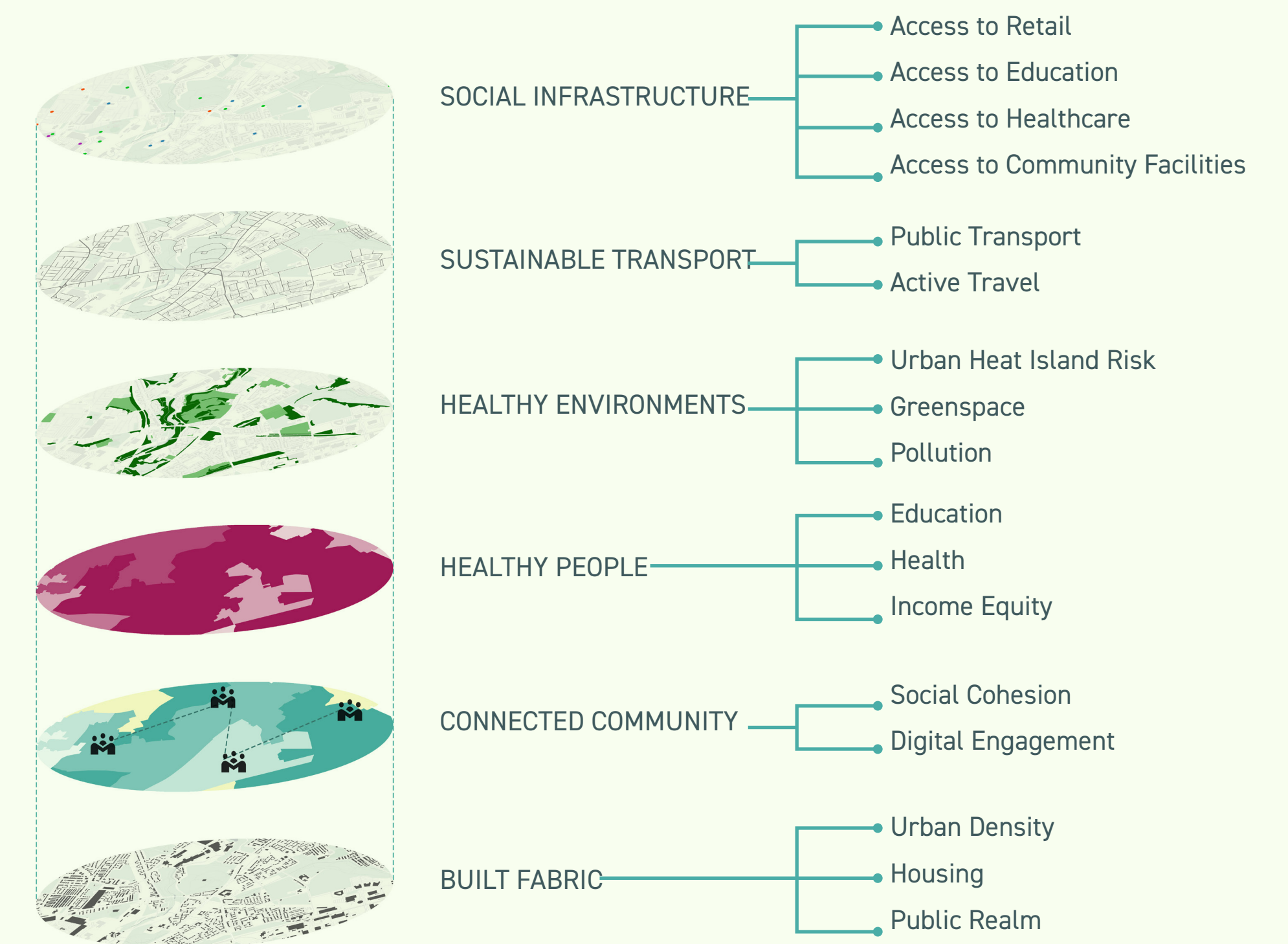


Fig 2: GIS Data Layers & Metrics

METHODOLOGY

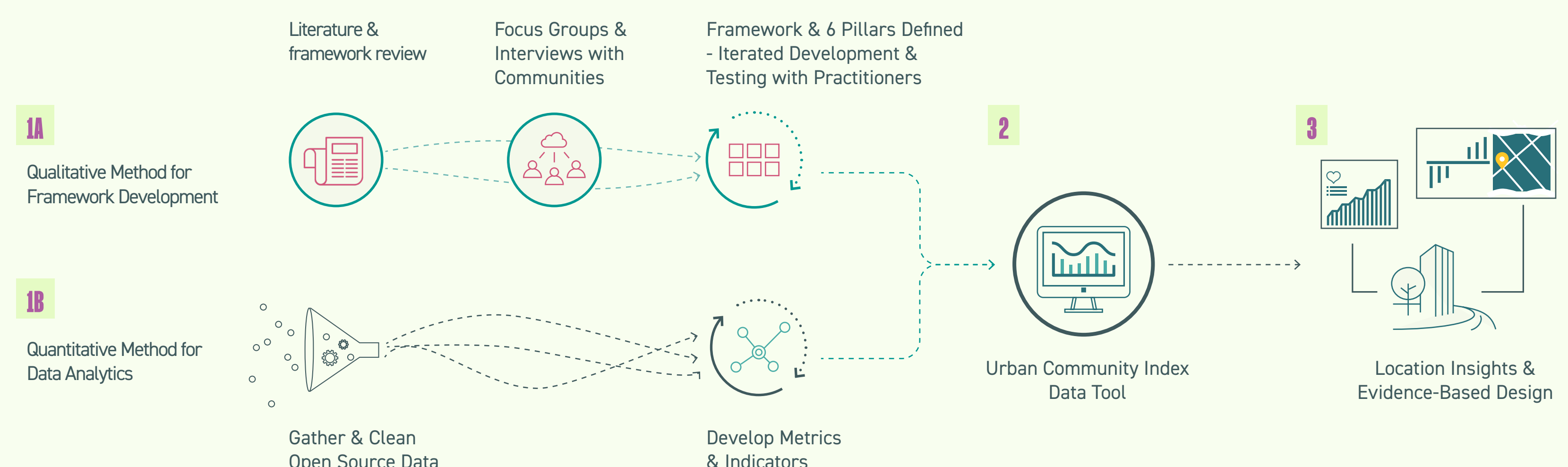
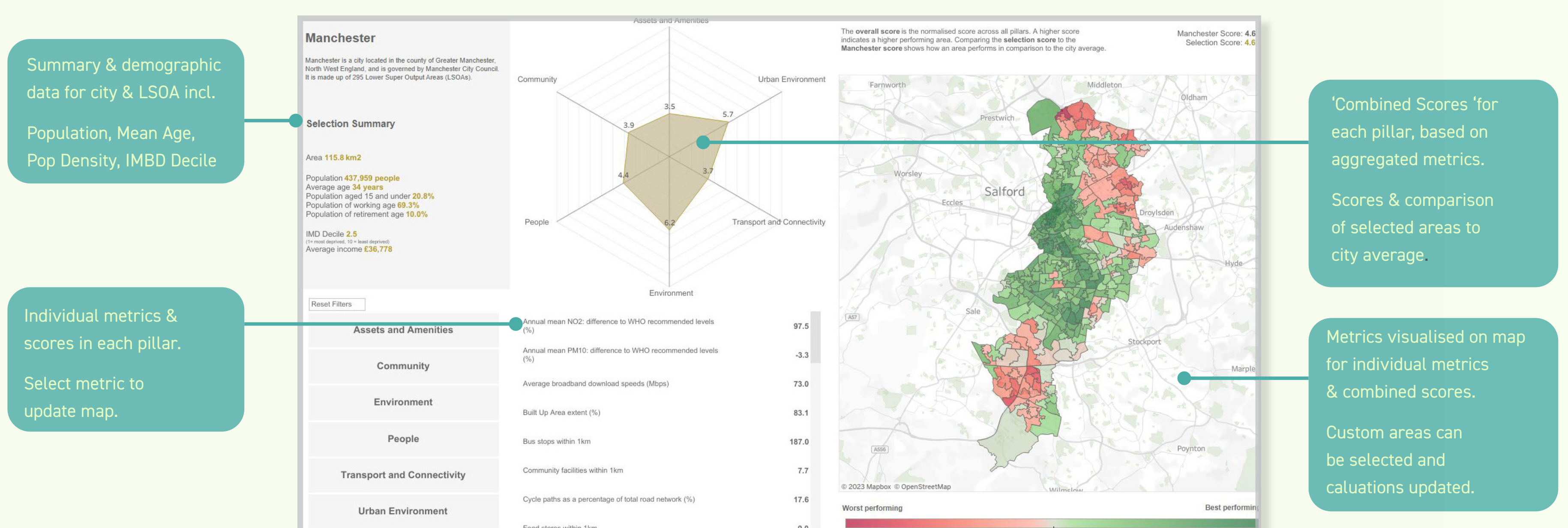
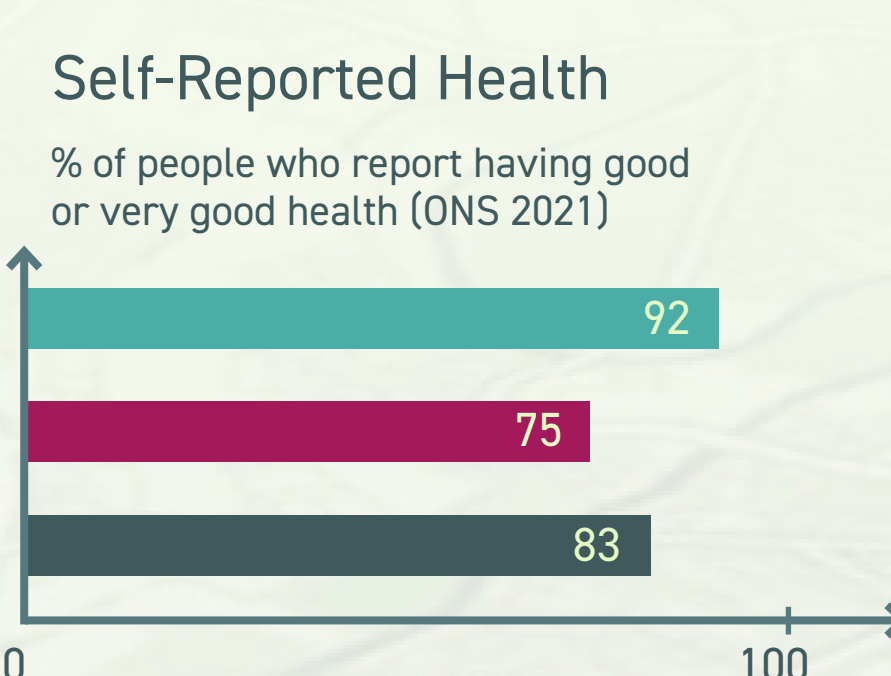


Fig 3: Methodology

UCI DATA TOOL



CASE STUDY



Case Study: Manchester City, governed by Manchester City Council

The case study considered the difference between scores for two areas in Manchester city (at LSOA scale), and how these compared to scores for Manchester City overall average.

- 'Healthy People' Pillar shows distinct difference
- Detail of Self-reported Health explored

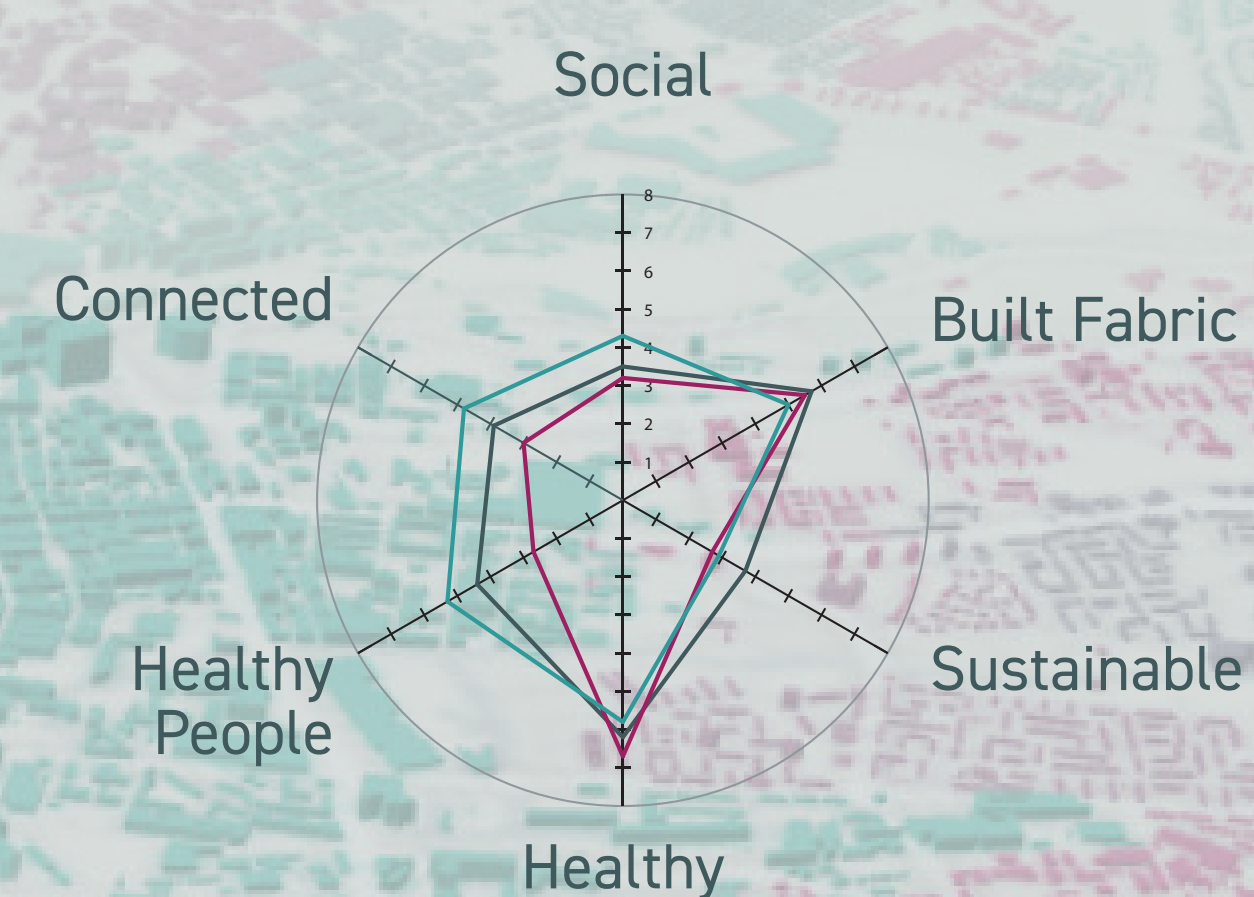


Fig 5: 3D visualisation of Manchester City metrics