Happy City Index 2016 Report

Produced in 2016

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and the Happy City Measurement & Policy Team

Special thanks to Cara Marie O'Keeffe and Zoe Travers

Contents

Executive Summary

Happy City Index is a progress report on the conditions for wellbeing at a city level. It helps decision makers understand and assess the determinants of wellbeing and establishes the foundation for better decisions and resource use for improving lives.

On a national and international scale, policymakers are beginning to focus on measures of prosperity beyond traditional economic indicators, such as GDP. In the UK, the National Wellbeing Programme uses national level indicators to "measure what matters". These measures are used to monitor the nation's progress and assess and develop policy. On a more local scale, however, there are no such wellbeing initiatives – a consistent framework that uses local authority level indicators to measure what matters for city wellbeing.

The Happy City Index (HCI) was developed by Happy City and the New Economics Foundation (NEF) in collaboration with an exceptional group of local, national and international expects. It has been designed to monitor **city progress, defined as a city's success in providing the conditions that create 'sustainable wellbeing'.** These conditions are "what matter" for individuals, communities and cities as a whole to thrive. We define sustainable wellbeing as providing equal opportunities to thrive for present **and** future generations

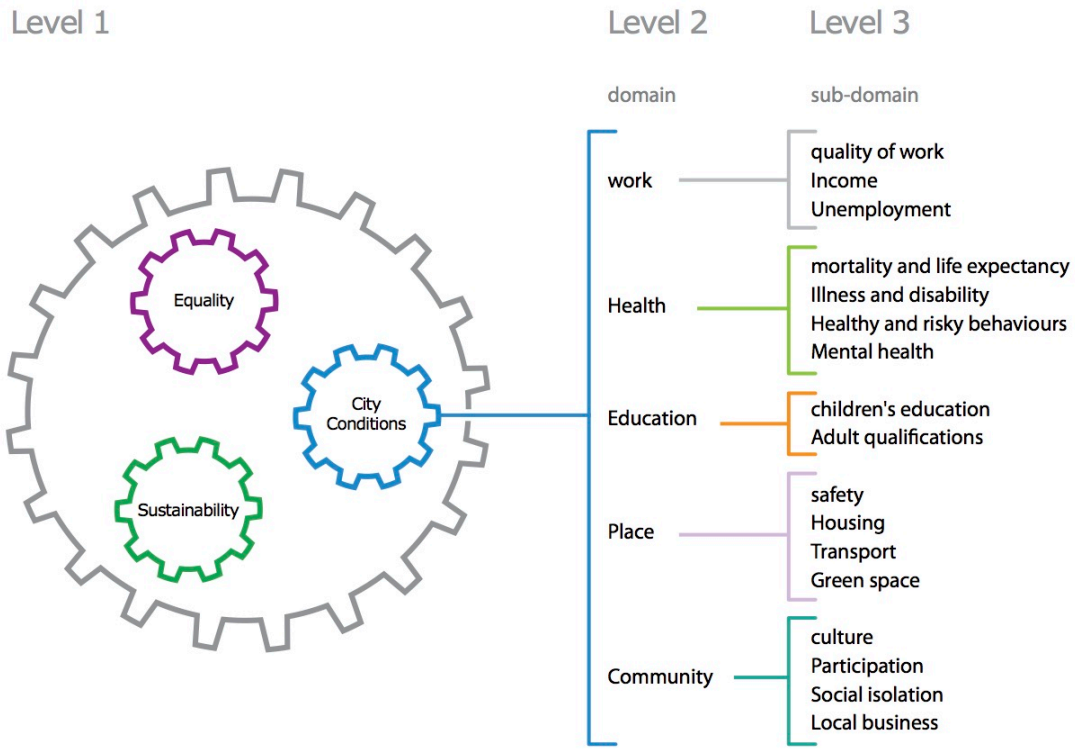
The HCI aims to be a practical tool that can help local policymakers understand how well their city is doing in comparison to the other cities and prioritise key policy areas. These insights are currently delivered in two forms:

1. City Maps: With city scores and rankings for each of the England core cities on a) City Conditions, b) Equality and c) Sustainability. This provides an instant picture of how major cities across England are doing at fairly and sustainably providing the conditions that create wellbeing.

2. City Scorecards: Local policymakers and citizens can 'drill down' on the City Conditions scores for each city, which include scores and rankings for each of the City Conditions domains and sub-domains. This provides cities with a coherent picture of their strengths and weaknesses and the key policy areas that need to be prioritized to improve citizen's wellbeing.

The HCI Maps and Scorecards can provide a systematic, empirical foundation to guide city progress – to both benchmark, target and plan new initiatives at a strategic level and stimulate public discussion over what matters for local policy.

Happy City Index Framework



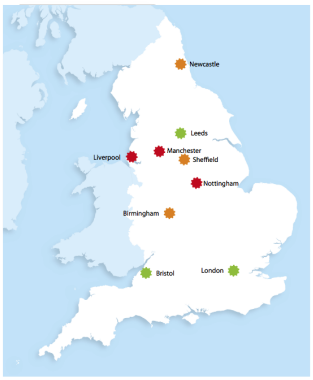
- The HCI framework is designed to show how well cities fairly and sustainably provide the conditions that create wellbeing. Cities are given overall scores and rankings in three dimensions: **City Conditions**, **Equality** and **Sustainability** (Level 1)
- **Equality** is assessed using indicators on inequalities in income, health and wellbeing across the city. **Sustainability** is assessed using indicators on CO2 emissions and household recycling and energy consumption levels.
- Cities can 'drill down' into the City Conditions dimension to see how well they are doing in five wellbeing domains – **Work**, **Health, Education, Place** and **Community** (Level 2)
- Each of these domains is further divided into sub-domains concerning key policy areas within each domain (Level 3)

This framework provides a systematic, empirical foundation to guide city progress. It collates a broad range of (60+) indicators from recognised national data sources, all of which are frequently updated and available at a local authority level for the England Core Cities (including London).

2016 Results: City Maps and Scorecards

The maps below shows how each Core Cities provide **conditions that create wellbeing** in a **fair** and **sustainable** way:

City conditions ranking



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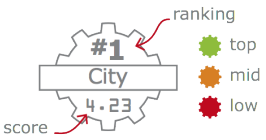
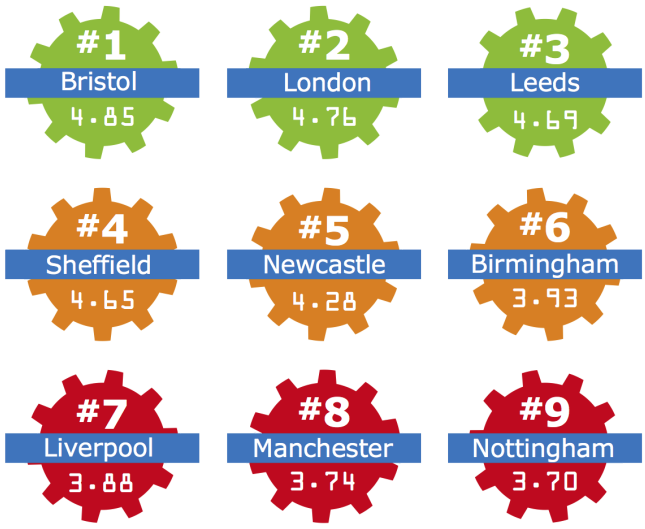
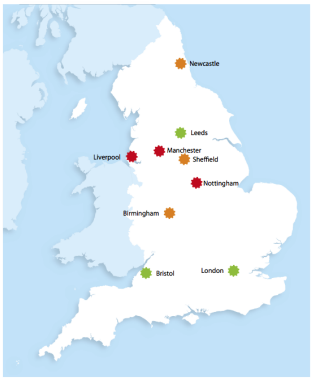




Equality ranking



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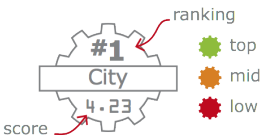
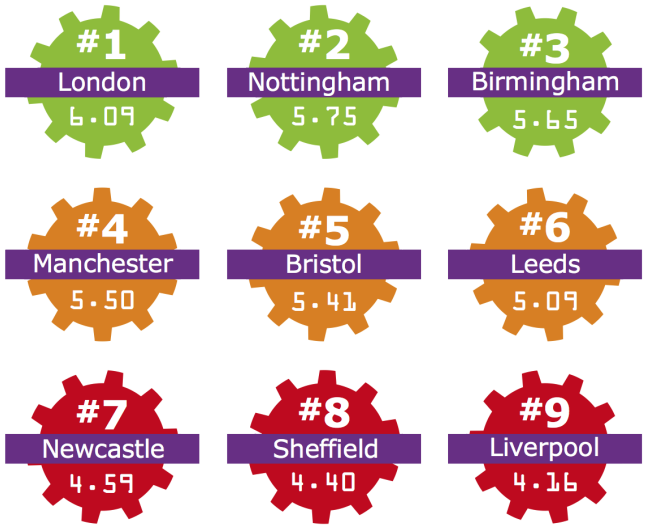
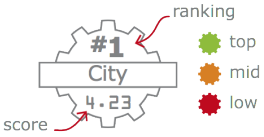


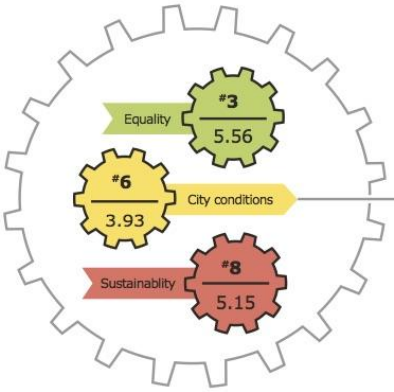


Sustainability ranking

Key:



City Scorecards: Birmingham



domain	score	rank	sub-domain	score	rank
Work	3.7	8	Quality of work	6.2	5
			Income	2.6	6
			Unemployment	2.2	9
Health	4.0	5	Mortality and life expectancy	3.9	5
			Illness and disability	4.1	6
			Healthy and risky behaviours	3.3	6
			Mental health	4.6	3
Education	3.7	6	Children's education	4.5	4
			Adult qualifications	2.9	9
Place	4.3	9	Safety	4.7	1
			Housing	3.6	8
			Transport	5.9	9
			Green space	4.1	9
Community	4.0	7	Culture	3.1	9
			Participation	4.3	6
			Social isolation	4.7	6
			Local business	4.0	5

City Scorecards: Bristol

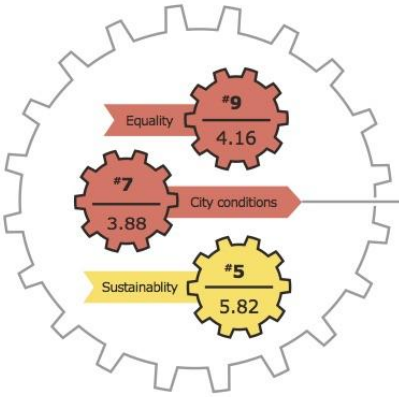
domain	score	rank	sub-domain	score	rank
Work	4.9	1	Quality of work	5.8	7
			Income	3.9	3
			Unemployment	5.0	1
Health	4.4	2	Mortality and life expectancy	4.7	2
			Illness and disability	5.0	3
			Healthy and risky behaviours	4.4	2
			Mental health	1.0	7
Education	5.3	2	Children's education	6.2	1
			Adult qualifications	4.4	5
Place	5.2	1	Safety	3.9	7
			Housing	4.2	7
			Transport	5.3	4
			Green space	7.5	1
Community	4.5	3	Culture	3.7	6
			Participation	4.0	2
			Social isolation	5.2	3
			Local business	4.0	3

City Scorecards: Leeds

domain	score	rank	sub-domain	score	rank
Work	4.8	2	Quality of work	5.7	8
			Income	4.3	1
			Unemployment	4.5	3
Health	4.4	3	Mortality and life expectancy	4.4	4
			Illness and disability	5.2	2
			Healthy and risky behaviours	3.4	5
			Mental health	4.5	4
Education	4.9	3	Children's education	4.7	3
			Adult qualifications	5.1	3
Place	4.9	3	Safety	4.1	4
			Housing	4.9	2
			Transport	5.1	6
			Green space	5.6	4
Community	4.4	4	Culture	3.8	5
			Participation	5.0	4
			Social isolation	4.9	5
			Local business	4.0	4

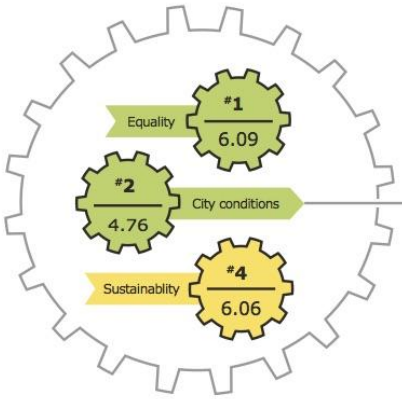
City

Scorecards: Liverpool



domain	score	rank	sub-domain	score	rank
Work	4.1	5	Quality of work	6.5	1
			Income	1.9	6
			Unemployment	3.9	5
Health	3.0	8	Mortality and life expectancy	3.0	8
			Illness and disability	2.2	9
			Healthy and risky behaviours	3.6	3
			Mental health	3.2	8
Education	3.5	8	Children's education	3.5	7
			Adult qualifications	3.6	8
Place	4.5	6	Safety	4.0	6
			Housing	4.5	6
			Transport	5.1	5
			Green space	4.4	8
Community	4.3	5	Culture	3.7	8
			Participation	4.1	7
			Social isolation	6.2	1
			Local business	3.1	7

City Scorecards: London

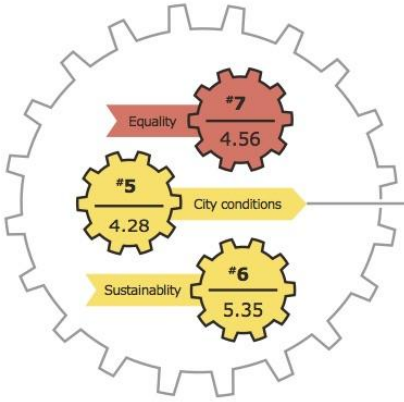


domain	score	rank	sub-domain	score	rank
Work	3.6	9	Quality of work	3.3	9
			Income	2.8	9
			Unemployment	4.7	2
Health	5.2	1	Mortality and life expectancy	5.1	1
			Illness and disability	5.5	1
			Healthy and risky behaviours	4.5	1
			Mental health	6.6	1
Education	5.7	1	Children's education	5.7	1
			Adult qualifications	5.6	2
Place	4.5	5	Safety	4.1	5
			Housing	3.4	9
			Transport	5.9	1
			Green space	4.8	6
Community	4.8	1	Culture	3.9	3
			Participation	5.6	2
			Social isolation	4.2	7
			Local business	5.6	1

City Scorecards: Manchester

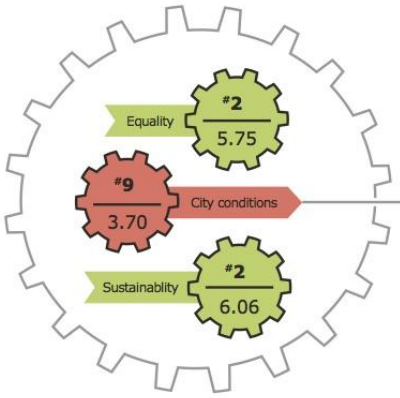
domain	score	rank	sub-domain	score	rank
Work	4.0	6	Quality of work	6.5	3
			Income	1.5	9
			Unemployment	4.0	4
Health	2.9	9	Mortality and life expectancy	2.0	9
			Illness and disability	3.0	8
			Healthy and risky behaviours	3.6	8
			Mental health	3.1	9
Education	3.6	7	Children's education	3.3	8
			Adult qualifications	4.0	6
Place	4.4	8	Safety	3.4	8
			Housing	4.3	6
			Transport	5.4	3
			Green space	4.4	7
Community	3.8	8	Culture	4.4	1
			Participation	4.1	8
			Social isolation	3.5	8
			Local business	3.2	6

City Scorecards: Newcastle



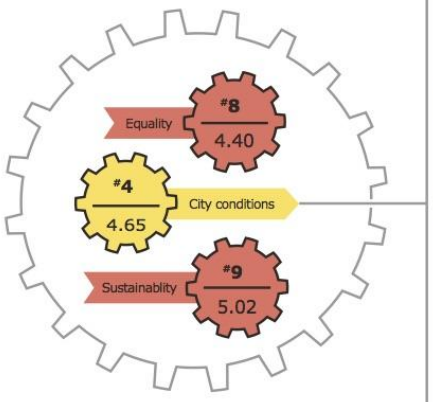
domain	score	rank	sub-domain	score	rank
Work	4.2	4	Quality of work	6.0	6
			Income	3.2	4
			Unemployment	3.5	7
Health	3.5	7	Mortality and life expectancy	3.8	6
			Illness and disability	4.1	7
			Healthy and risky behaviours	2.8	9
			Mental health	3.6	6
Education	4.6	5	Children's education	4.7	2
			Adult qualifications	4.4	5
Place	5.0	2	Safety	4.5	3
			Housing	4.7	3
			Transport	5.4	2
			Green space	5.4	3
Community	4.0	6	Culture	4.3	2
			Participation	4.5	5
			Social isolation	5.2	2
			Local business	2.1	9

City Scorecards: Nottingham



domain	score	rank	sub-domain	score	rank
Work	3.8	7	Quality of work	6.5	2
			Income	2.3	7
			Unemployment	2.6	8
Health	3.8	6	Mortality and life expectancy	3.5	7
			Illness and disability	4.1	5
			Healthy and risky behaviours	3.4	4
			Mental health	4.2	5
Education	3.1	9	Children's education	4.0	6
			Adult qualifications	2.3	6
Place	4.4	7	Safety	3.0	9
			Housing	4.6	4
			Transport	4.9	8
			Green space	5.1	4
Community	3.3	9	Culture	3.8	4
			Participation	2.9	8
			Social isolation	2.9	9
			Local business	3.9	9

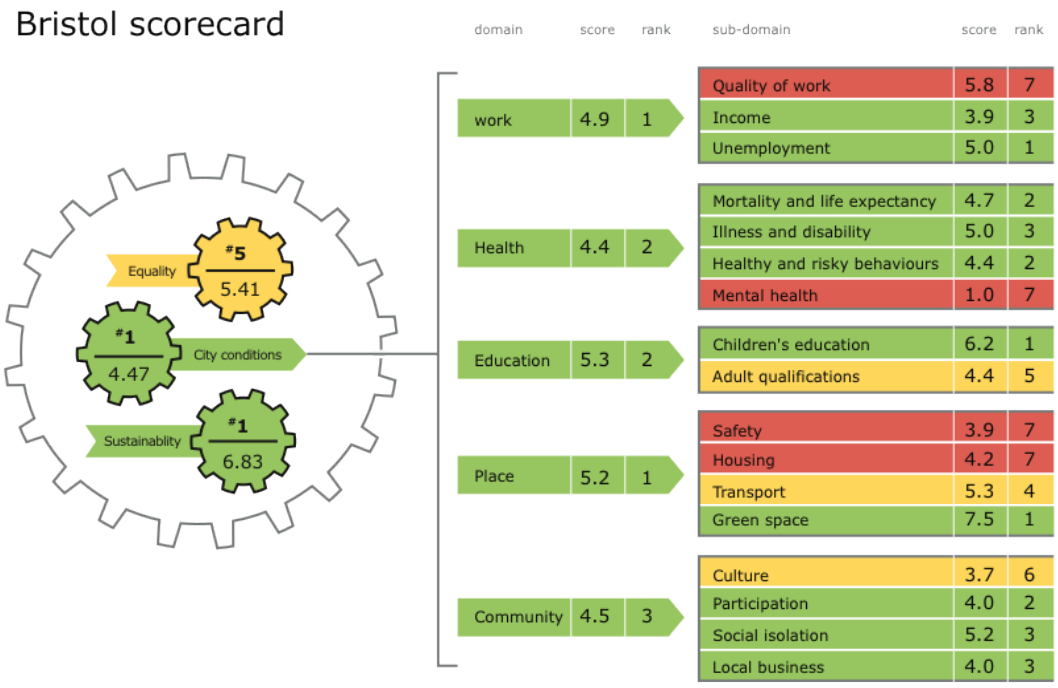
City Scorecards: Sheffield



domain	score	rank	sub-domain	score	rank
Work	4.6	3	Quality of work	6.3	4
			Income	3.9	2
			Unemployment	3.6	6
Health	4.3	4	Mortality and life expectancy	4.6	3
			Illness and disability	4.5	4
			Healthy and risky behaviours	3.3	7
			Mental health	5.0	2
Education	4.6	4	Children's education	4.4	5
			Adult qualifications	4.7	4
Place	4.9	4	Safety	4.6	2
			Housing	5.1	1
			Transport	4.9	7
			Green space	4.9	5
Community	4.8	2	Culture	3.7	7
			Participation	6.4	1
			Social isolation	5.0	4
			Local business	4.0	2

Example Case Study: Bristol

The Bristol Scorecard shows that it is the highest ranked England Core City at providing the conditions that create wellbeing. It is also providing these conditions in a sustainable way. However, although Bristol has a high overall City Conditions score, this does not mean it is providing all the conditions that matter for people's wellbeing. Bristol has low scores in four of the City Conditions sub-domains, namely quality of work, mental health, safety and housing. Mental health in particular has been shown to be one of the largest determinants of personal wellbeing (Fleche and Layard 2015).



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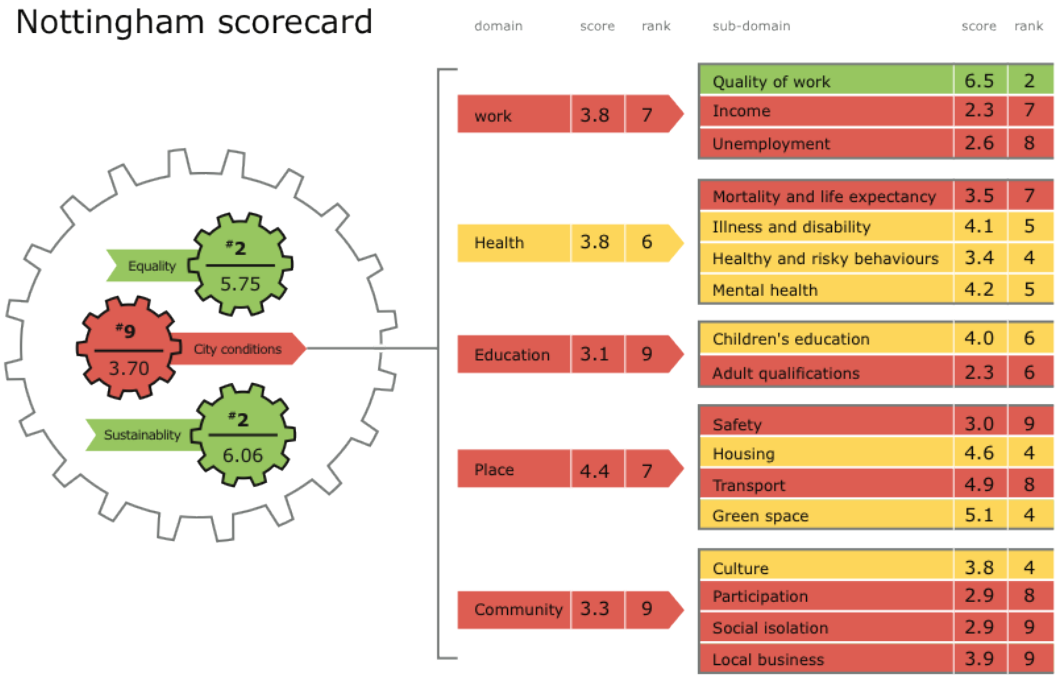
			Mental health	1.0	7
Education	5.3	2	Children's education	6.2	1
			Adult qualifications	4.4	5
Place	5.2	1	Safety	3.9	7
			Housing	4.2	7
			Transport	5.3	4
			Green space	7.5	1
Community	4.5	3	Culture	3.7	6
			Participation	4.0	2
			Social isolation	5.2	3
			Local business	4.0	3

Example Case Study: Nottingham

In contrast to Bristol, the Nottingham Scorecard shows that it is the lowest ranked England Core City at providing the conditions that create wellbeing. However, although the average level of quality of life in Nottingham is low, the city is providing some of the conditions that create wellbeing (in particular quality of work) in a way that is both fair and within environmental limits. Nottingham is the only highest ranked city for both Equality and Sustainability, which is a major achievement and important foundation for future improvements in wellbeing.



domain	score	rank	sub-domain	score	rank
work	3.8	7	Quality of work	6.5	2
			Income	2.3	7
			Unemployment	2.6	8
Health	3.8	6	Mortality and life expectancy	3.5	7
			Illness and disability	4.1	5
			Healthy and risky behaviours	3.4	4
			Mental health	4.2	5
Education	3.1	9	Children's education	4.0	6
			Adult qualifications	2.3	6
Place	4.4	7	Safety	3.0	9
			Housing	4.6	4
			Transport	4.9	8
			Green space	5.1	4
Community	3.3	9	Culture	3.8	4
			Participation	2.9	8
			Social isolation	2.9	9
			Local business	3.9	9

What Next for the Happy City Index?

The Happy City Index will be published on an annual basis and a range of exciting new digital ways for decision makers and citizens to explore and use the data are being developed.

In parallel to developing the Happy City Index, Happy City has also developed a ground-breaking new personal measurement tool, the Happiness Pulse, a world leading interactive survey getting to the heart of how people feel and function in their lives, work and communities. The Pulse can be used by organisations and cities to uncover far more detail about the reality of wellbeing in the lives of those they support. Bespoke versions are in development for various sectors.

We have also launched the WellWorth Policy Tool which assesses the impact and cost benefits of wellbeing interventions across key policy areas . The WellWorth tool converts wellbeing data into social & economic policy outcomes and demonstrates long-term worth and cost-effectiveness of wellbeing improvements on the wider city system

To find out more about any of these tools, please get in touch at:

info@happycity.org.uk

Introduction

On a national and international scale, policymakers are beginning to focus on measures of prosperity beyond traditional economic indicators, such as GDP. In the UK, the National Wellbeing Programme uses national level indicators to "measure what matters". These measures are used to monitor the nation's progress and assess and develop policy. On a more local scale, however, there are no such wellbeing initiatives – a framework that uses local authority level indicators to measure what matters for city wellbeing.

The Happy City Index provides a systematic, empirical foundation to guide city progress. It collates a broad range of (60+) indicators from recognised national data sources, all of which are frequently updated and available at a local authority level for the England Core Cities (including London).

These indicators are grouped into three dimensions – City Conditions, Equality and Sustainability. Cities are given scores and rankings for each dimension, showing how well they are providing the conditions that create wellbeing in a way that is fair and environmentally sustainable.

Local policymakers can drill down into the City Conditions dimension, which is divided into five key wellbeing domains – Work, Health, Education, Place and Community. Each of these domains is further divided into sub-domains concerning key policy areas within each domain. Cities are given scores and rankings for each domain and sub-domain, providing a coherent picture of how well they are providing the conditions that matter for wellbeing. This data can be used by policymakers to prioritise key policy areas for improvement.

Aims of the Happy City Index

The Happy City Index (HCI) was developed by Happy City and the New Economics Foundation (NEF) in collaboration with an exceptional group of local, national and international expects. It has been designed to monitor city progress, whereby city progress is defined as providing the conditions that create wellbeing in a way that is both fair and sustainable. These conditions are "what matter" for individuals, communities and cities as a whole to thrive. Providing these conditions in a fair and sustainable way is important to make sure that everyone is able to flourish, both in the present and future.

The HCI aims to be a practical tool that can help local policymakers compare how well their city is doing in comparison to the other cities and prioritise key policy areas. These insights are delivered in two forms:

1. City Maps: With city scores and rankings for each of the England core cities on a) City Conditions, b) Equality and c) Sustainability. This provides an instant picture of how major cities across England are doing at fairly and sustainably providing the conditions that create wellbeing.
2. City Scorecards: Local policymakers and citizens can 'drill down' on the City Conditions scores for each city, which include scores and rankings for each of the City Conditions domains and sub-domains. This provides cities with a coherent picture of their strengths and weaknesses and the key policy areas that need to be prioritized to improve citizen's wellbeing.

The HCI Maps and Scorecards can provide a systematic, empirical foundation to guide city progress – to both benchmark and plan new initiatives at a strategic level and stimulate public discussion over what matters for local policy.

Scope of the Happy City Index

The HCI incorporates ten key design principles:

1. Outputs not inputs
The HCI measures city outcomes not inputs – it is concerned with the actual conditions faced by people within a city. For example, the Health domain consists in indicators on mortality and life expectancy, illness and disability, healthy and risky behaviours and mental health, rather than measuring the amount of money spent on public health.

2. Drivers of wellbeing
The HCI does not directly measure personal wellbeing. Instead, it measures the City Conditions that create wellbeing (i.e. the 'Drivers of wellbeing'). Many of these conditions are considered to be policy outcomes in themselves, such as health, quality work, accommodation, neighborhood safety, and so on. Although indicators of personal wellbeing are available at a local level, they do not provide the same level of detail as available indicators on the city conditions that create wellbeing.

For example, overall measures of personal wellbeing measures, such as life satisfaction, may not be responsive to changes in health or quality work, despite these conditions being important drivers of wellbeing. We recommend that local authorities collect a wider range of personal wellbeing indicators, which can be used to understand both the drivers of wellbeing and citizens' actual wellbeing.

3. Equality and Sustainability
In addition to City Conditions that create wellbeing, the HCI collates separate indicators on both Equality and Sustainability. This emphasizes the importance of how cities are providing drivers of wellbeing, namely that they are doing so in a fair and sustainable way.

Although it is possible to collect data on the distribution of particular city conditions, this data is not available for all indicators. Moreover, collecting general indicators on equality enables the comparison of key aspects of equality, such as income, health and wellbeing inequality. The same can be said of general sustainability indicators, such as carbon emissions, energy consumption and household recycling.

4. Wide range of indicators
The HCI is made up of indicators on a large range of policy areas and topics, with 60+ indicators from a number of different recognised national data sources (for a list of data sources see Appendix B).

For instance, the City Conditions indicators are grouped into five domains shown by wellbeing research to be important aspects of wellbeing, namely Work, Health, Education, Place and Community. For each policy topic measured, there are multiple indicators related to that area. For instance, within the Place domain,

there are five indicators for the topic of Transport, namely indicators on public transport and active transport (walking, cycling), air pollution, traffic, road maintenance and road traffic accidents. This ensures a number of key aspects are covered for each policy topic.

This broad range of indicators reflects the increasing understanding that wellbeing is a multi-dimensional concept, determined by a number of diverse factors. Moreover, these factors tend to be causally connected to each other to create a 'web' of conditions that impact on people's wellbeing. In order to effectively and systematically improve people's wellbeing, policymakers need to consider all of these indicators together, rather than trying to improve particular factors in isolation.

5. Accounting for measurement 'gaps'
The HCI dimensions, domains and sub-domains do not include equal amounts of indicators – with a number of policy topics there are 'gaps' in the indicators available. For instance, on the topic of Social isolation, there is only one available indicator for all England Core Cities, which focuses on the social isolation experienced by care workers. This indicator can be improved on in the future, with a wider focus, as well as being complemented by additional indicators on social isolation. Nonetheless, the topic was included within the HCI to reflect its importance for people's wellbeing and inspire local authorities to account for such measurement gaps in the future.

6. Broad range of objective and subjective indicators:
The HCI aims to gather both objective and subjective indicators on each topic. For instance, within the Community domain, there are two indicators for the topic of Culture, one objective (number of museums, libraries etc. per capita) and one subjective (how often people access museums, libraries etc.). This mix of objective and subjective indicators provides a richer understanding of the topic.

However, both objective and subjective indicators are not available for each topic included in the HCI. For example, within the Place domain, there are five indicators for Safety. Currently, each indicator is objective, relating to the crime rate per capita. In the future, these objective indicators could potentially be complemented with subjective indicators, such as perceive neighbourhood trust, safety or security.

7. Frequently updated
The HCI indicators were chosen to understand city progress over time, with the majority of indicators being updated on an annual basis. This enables local policymakers to see what conditions in the city are getting better or worse and thereby which policy areas they need to prioritise to improve people's wellbeing.

8. High-level data
The HCI consists in high-level city data – indicators available at a local authority level, rather than at lower levels, such as ward-level or LSOA-level. The wide range of indicators that make up the HCI is unfortunately not available at lower levels.

Future iterations of the HCI could include data on the indicators available at both a local authority level and lower levels. This can provide local policymakers with the

capacity to further 'drill down' on the data and see how key policy outcomes vary across the city.

9. England Core Cities

The HCI project collects data for each of the England Core Cities, including London. This enables cities to compare how well they are doing in comparison with similar cities. The wide range of indicators that make up the HCI is unfortunately not available for the other UK Core Cities, in Wales, Scotland and Northern Ireland.

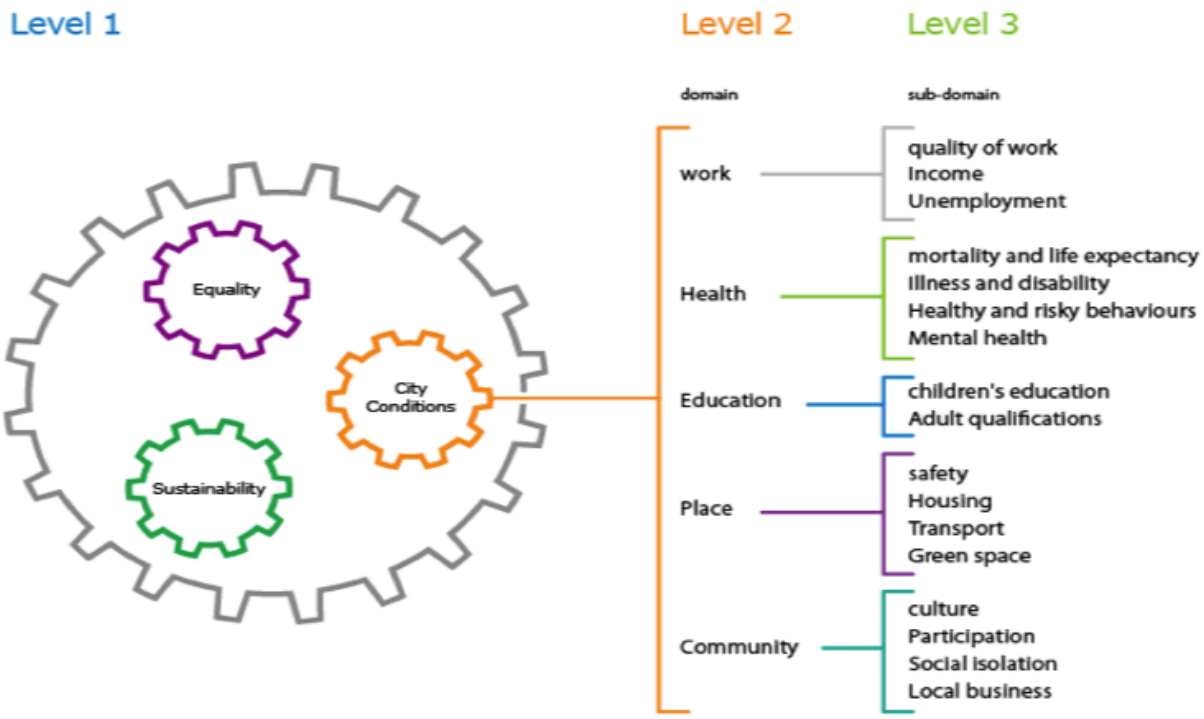
Similar to lower levels of data, future iterations of the HCI could include data on the indicators available for both England and other UK Core Cities. Data can also be collected for a larger range of local authorities in the UK, including cities and towns that are not part of the Core Cities network.

10.Urban and Rural

The HCI is a unified dataset for both urban and rural local authorities. This accounts for the fact that many local authorities cover both urban and rural areas and require a unified set of progress indicators.

The conditions that create wellbeing are different for urban and rural contexts. For example, the amount of citizens that walk or cycle to work, in comparison to using 'non-active' transport (e.g. driving a car) will be greater in urban areas than rural areas. This does not necessarily reflect the fact that rural areas are doing worse than urban areas in this respect. These kinds of considerations are important when interpreting the HCI results and comparing different local authorities.

HCI Framework



- The HCI framework is designed to show how well cities fairly and sustainably provide the conditions that create wellbeing. Cities are given overall scores and rankings in three dimensions: **City Conditions**, **Equality** and **Sustainability** (Level 1)
- Cities can 'drill down' into the City Conditions dimension to see how well they are doing in five wellbeing domains – **Work**, **Health, Education, Place** and **Community** (Level 2)
- Each of these domains is further divided into sub-domains concerning key policy areas within each domain (Level 3)

<u>Domains and sub-domains</u>

The City Conditions dimension is divided up into five wellbeing domains – Work, Health, Education, Place and Community. These are the broad categories of city conditions important for creating wellbeing. A city's overall City Conditions score is calculated as the equally weighted average of their score for each of the five wellbeing domains.

Each of the five City Conditions domains is further divided up into sub-domains. For instance, the Community domain is divided up into four sub-domains – Participation, Local Business, Culture and Social Isolation. Each of the overall wellbeing domain scores is calculated as the equally weighted average of the sub-domain scores within the domain.

The selection of the City Conditions domains and sub-domains occurred through an iterative process involving two stages. Firstly, conducting a literature review of the conditions that create wellbeing. Secondly, consulting local policymakers and decision-makers to understand how cities can use the HCI framework.

Each of the resultant domains and sub-domains are weighted equally because there is no clear theoretical or empirical reason to weight any of the domains or sub-domains differently to any other. These 'building blocks' of the City Conditions dimension are all considered to be essential parts of city progress.

Indicators

Each of the City Conditions sub-domains is made up of indicators that measure key policy areas within each sub-domain. Each sub-domain score is calculated as the equally weighted average of a city's indicators scores within that domain.

(Scores for the Equality and Sustainability dimensions are also calculated this way – as the equally weighted average of the equality and sustainability indicator scores respectively.)

The HCI only includes indicators from recognised national data sources, all of which are frequently updated and available at a local authority level for the England Core Cities (including London). Each indicator must meet three criteria:

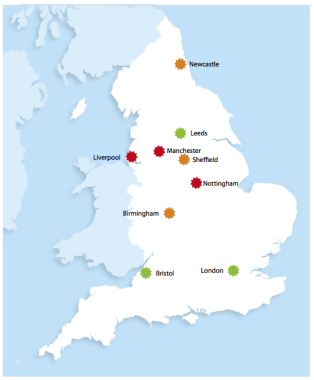
- Academic rigour: All indicators must be from nationally recognised data sources to ensure the procedures used to produce them are sound and the data is valid and reliable. (For a list of data sources, see Appendix B.)
- Publicly available: To be transparent, indicator data must be available to the public. (For data on each indicator, see Appendix C.)
- Geographically extensive: Each indicator must be available for all of the England Core Cities and potentially other UK local authorities.

2016 Results

England Core Cities

The maps below shows how each Core Cities provide **conditions that create wellbeing** in a **fair** and **sustainable** way:

City conditions ranking



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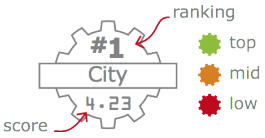
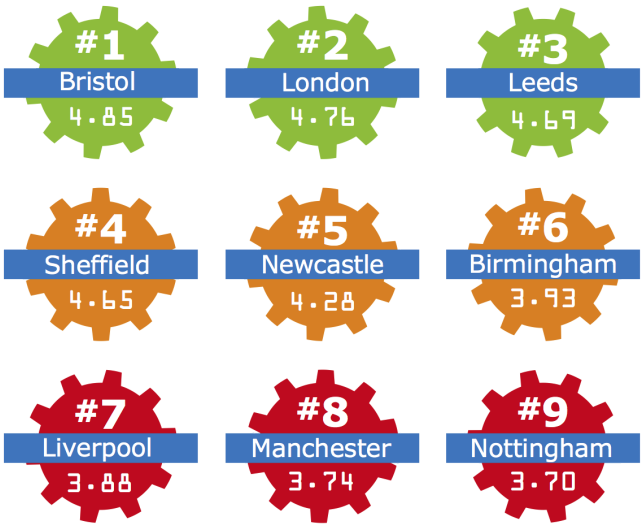
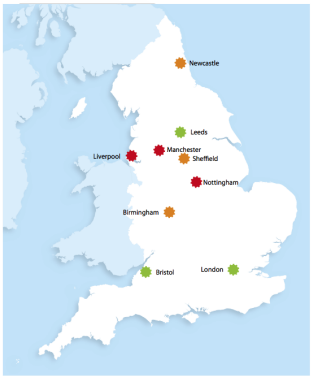




Equality ranking



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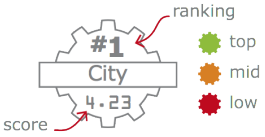
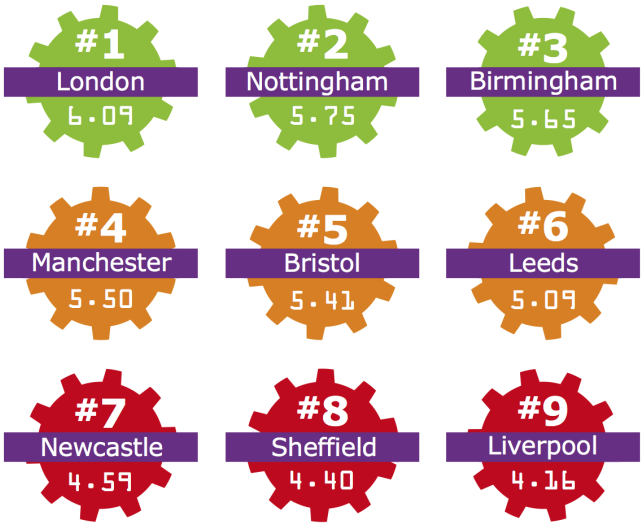
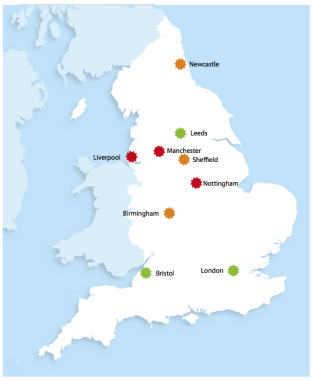
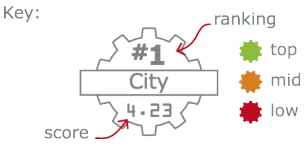




Sustainability ranking





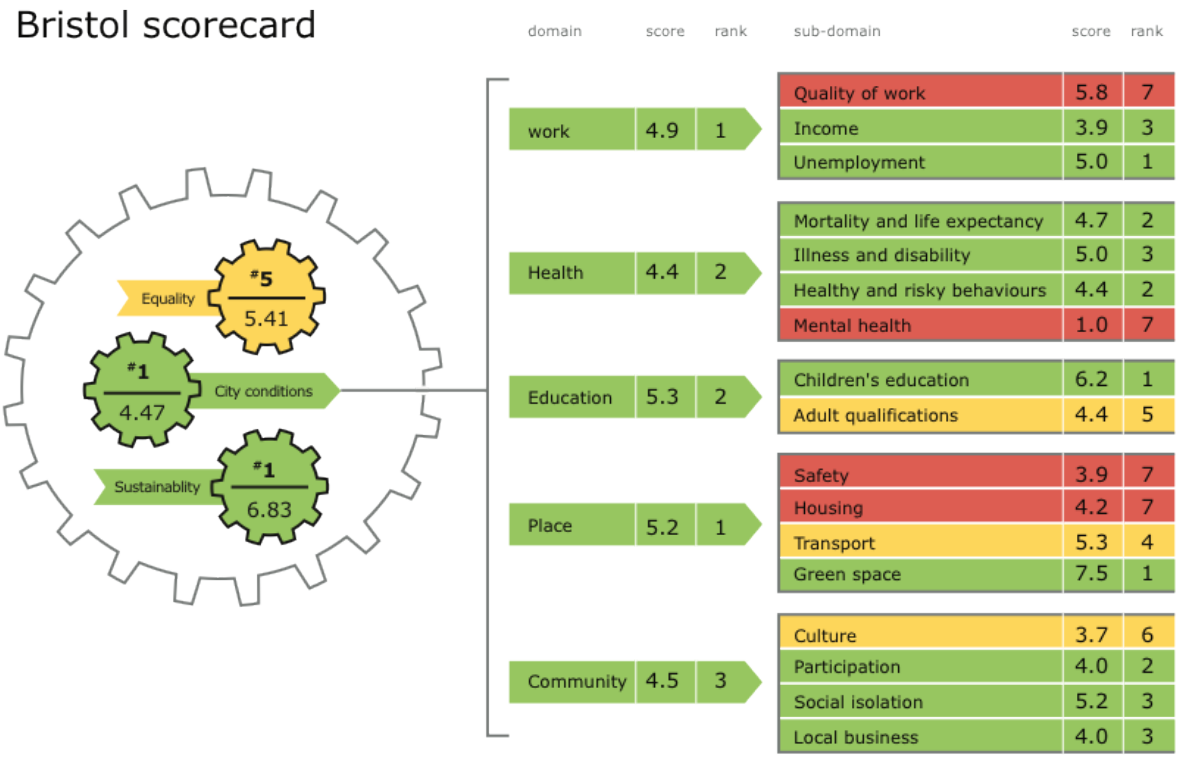
From the maps you can see that Bristol is the highest ranked England Core City at providing the conditions that create wellbeing. However, although Bristol has a high overall City Conditions score, this does not mean that it is doing well at providing all the condition that matter for people's wellbeing. We investigate this in more detail in the 'City Scorecards' section below.

In contrast to Bristol, Nottingham is the lowest ranked England Core City at providing the conditions that wellbeing. However, Nottingham does have high levels of both Equality and Sustainability. Thus, even if the average level of quality of life in Nottingham is low, the city is providing some of the conditions that create wellbeing in a way that is both just and doesn't cost the earth.

City Scorecards

Example 1: Bristol

The Scorecard below shows how well Bristol is fairly and sustainably providing the conditions that create wellbeing:



From the Scorecard you can see that Bristol is the highest ranked England Core City at providing the conditions that create wellbeing.

Bristol ranks highest in two of the City Conditions domains - **Work** and **Place** - and is one of the highest ranking cities for each of the other HCI domains - Health, Education and Community.

It also ranks highest in three of the City Conditions sub-domains - **unemployment, children's education** and **green space** - and is one of the highest ranking cities for a number of other City Conditions sub-domains - deprivation, mortality and life expectancy, illness and disability, healthy and risky behaviours, participation, local business and social isolation.

Bristol is managing to provide these conditions in a way that doesn't cost the earth - it is the highest ranked England Core City in terms of **Sustainability**. However, not everyone in Bristol is benefiting from this high average level of

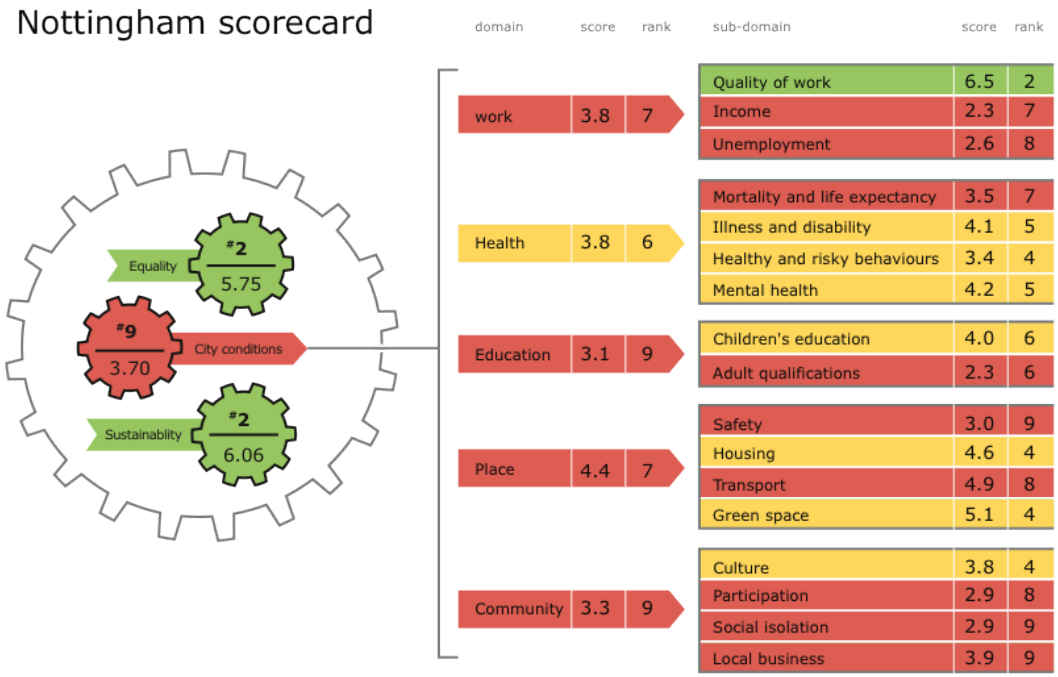
quality of life - it does not have high levels of Equality in comparison to other England UK Core Cities, such as London, Birmingham and Nottingham.

Although Bristol has a high overall City Conditions score, this does not mean that it is doing well at providing all the conditions that matter for people's wellbeing. Despite having high scores across all of the City Conditions domains, it has low scores in four of the City Conditions sub-domains, namely **quality of work, mental health, safety** and **housing**. Mental health in particular has been shown to be one of the largest determinants of personal wellbeing. For instance, research has shown that mental illness determines 48% of the variation in low levels of personal wellbeing in comparison to physical health problems, poverty and unemployment, which determine 22%, 20% and 7% respectively (Fleche and Layard 2015).

In addition, as part of a citywide pilot in Bristol of a new wellbeing measurement tool - the Happiness Pulse - mental health satisfaction and work satisfaction were the two largest determinants of personal wellbeing. These are clearly two priority areas for local policymakers in Bristol to consider, alongside safety and housing, in improving people's wellbeing.

Example 2: Nottingham

The Scorecard below shows how well Nottingham is fairly and sustainably providing the conditions that create wellbeing:



From the Scorecard you can see that Nottingham is the lowest ranked England Core City at providing the conditions that create wellbeing.

Nottingham ranks lowest in two of the City Conditions domains - **Education** and **Community** - and is one of the lowest ranking cities for two of the other City Conditions domains - Work and Place.

However, although the average level of quality of life in Nottingham is low, the city is managing to provide some of the conditions that create wellbeing in a way that is both fair and within environmental limits. Out of all the England Core Cities, Nottingham has the largest difference between its City Conditions score and its scores for **Equality** and **Sustainability**. It is the only highest ranked city for both Equality and Sustainability, which is a major achievement.

Nottingham is fairly and sustainability creating at least one of the main conditions that matter for people's wellbeing, namely **quality of work**. We know from the study of wellbeing that this is one of the key determinants of people's wellbeing.

Appendix A: Indicators & Data Sources

Domain	Sub-domain	Topic	Indicator	Source
Place	Transport	Mode of transport breakdown	% respondents who go to work (as driver) by car or van	ONS
Place	Transport	Mode of transport breakdown	% respondents who go to work (as passenger) by car or van	ONS
Place	Transport	Mode of transport breakdown	% respondents who go to work by bus, minibus or coach	ONS
Place	Transport	Mode of transport breakdown	% respondents who go to work by cycle	ONS
Place	Transport	Mode of transport breakdown	% respondents who go to work by motorcycle/scooter/moped	ONS
Place	Transport	Mode of transport breakdown	% respondents who go to work by train	ONS
Place	Transport	Mode of transport breakdown	% respondents who go to work by walking	ONS
Place	Transport	Traffic	Car vehicle traffic (million vehicle miles)	DoT
Place	Transport	Air Pollution	Combined Air Quality Index (made of of the levels of 4 pollutants)	IMD
Place	Transport	Accidents	Road traffic accidents rate (per 1000 resident and workplace population)	IMD
Place	Security	Criminal Damage	Recorded number of criminal damage	data.gov.uk
Place	Security	Youth offending	First time entrants to the youth justice system (per 100,000)	PHOF
Place	Security	Theft	Reported theft from the person	ONS
Place	Security	Crime rate	Count of non domestic and domestic burglaries	ONS
Place	Security	Crime rate	Count of criminal damage and arson	ONS
Place	Security	Crime rate	Count of violence with injury	ONS
Place	Security	Crime rate	Count of violence without injury (includes harrassment and assault)	ONS
Place	Security	Crime rate	Homicide	ONS
Place	Housing	Poor housing	Social and private housing in poor condition (proportion)	IMD
Place	Housing	Can't afford housing	HOUSING AFFORDABILITY INDICATOR - Difficulty of access to owner-occupation (local authority district level) – proportion of households aged under 35 whose income means they are unable to afford to enter owner occupation	IMD
Place	Housing	Homelessness rate	Homelessness –Numbers accepted as being homeless and in priority need under the homelessness provisions of the 1996 Housing Act (number per 1000 households)	www.gov.uk
Place	Housing	Noise	Noise complaints (per year per local authority about noise per thousand population)	PHOF
Place	Green space	Conservation areas	Number of conservation areas	RSA Heritage Index
Place	Green space	Exercise	Utilisation of outdoor space for exercise/health reasons	PHOF
Health	Mortality and life expectancy	Life Expectancy	Life expectancy at birth (years) AVERAGE	PHOF
Health	Mortality and life expectancy	Mortality rates (overall, cancer)	Under 75 cancer mortality rate per 100,000 population	PHOF
Health	Mortality and life expectancy	Mortality rates (overall, cancer)	All age, all cause mortality rate per 100,000 population	Local Government Association
Health	Illness and disability	Ilness and disability	Comparative Illness and Disability Ratio – an age and sex standardised measure of morbidity and disability	Indices of deprivation
Health	Ilness and disability	Subjective disability	% of those with a reported long term illness disability (that limits day-to-day activities alot)	NOMIS
Health	Ilness and disability	Subjective health	% rate health as very good, good, or fair	census 2011
Health	Ilness and disability	Heart disease	Under 75 mortality rate from all cardiovascular diseases (per 100,000)	PHOF
Health	Ilness and disability	Obesity/overweight & child obesity/overweight	% obesity and overweight in children in Year 6 (2014/15)	PHOF
Health	Healthy and risky behaviours	Underage pregnancies	Conceptions in those aged under 16	PHOF
Health	Healthy and risky behaviours	Emergency Admissions	Measure of Emergency Admissions to Hospital ID	IMD

Health	Healthy and risky behaviours	Mortality from preventable causes	Mortality from causes that are preventable	PHOF
Health	Mental health	Mood/anxiety disorders	Proportion of adults under 60 suffering from mood or anxiety disorders – a modelled indicator for the proportion of adults suffering from mood and anxiety disorders.	IMD
Health	Mental health	Suicide	Age-standardised mortality rate from suicide and injury of undetermined intent per 100,000 population	PHOF
Education	Education	Adults with no/low skills	% respondents with no qualifications of level unknown	NOMIS
Education	Education	Educational attainment of kids	% five or more GCSEs A* to C including English and Maths	ONS
Work	Good work	Unemployment	Unemployment rate	NOMIS
Work	Good work	Overworked	49 or more hours worked (% of working population)	NOMIS
Work	Deprivation	deprivation affecting older people	Income Deprivation Affecting Older People (IDAOPI) - Average score	IMD
Work	Deprivation	Deprivation affecting children	Income Deprivation Affecting Children Index (IDACI)	IMD
Community	Participation	Vote	2014 european parliment election voter turnout	Electoral Commision
Community	Participation	Volunteering	Number of TCVs (The Conservation Volunteers) (individual)	RSA Heritage Index
Community	Local business	Proportions of local business from register	Ratio of enterprises to local units	ONS
Community	Culture	Museums	Museums (accredited by Arts Council England)	RSA Heritage Index
Community	Culture	Museums	% of local authority population visiting museum	RSA Heritage Index
Community	Culture	Sight-seeing	Sightseeing, tours, viewing and visitor centres	RSA Heritage Index

Community	Culture	Heritage Sites	% of local authority population visiting industrial heritage site in last 12 months	RSA Heritage Index
Community	Social isolation	Social isolation in adult social care users	Percentage of adult social care users who DO have as much social contact as they would like	PHOF
Sustainability	emissions	CO2 emissions	Per capita Local CO2 emission estimates; industry, domestic and transport sectors	ONS
Sustainability	waste	Household recycling	% of household waste that is recycyled	ONS
Sustainability	energy	Energy consumption per household	Average domestic consumption per househaold (onnes of oil equivilant)	ONS
Equality	Inequality	Income Inequality	80/20 percentile ratio of weekly earnings (a bigger ration means there is a bigger difference between percentiles and thus more inequality)	ASHE
Equality	Inequality	Health Inequality	Slope index of inequality (SII) in disability-free life expectancy at births for males (SII years)	ONS
Equality	Inequality	Wellbeing Inequality		ONS
Personal Wellbeing	Happiness	Self reported happiness	Self reported happiness average score on 0-10 scale	ONS
Personal Wellbeing	Life Satisfaction	Self reported life satisfaction	Self reported life satisfaction on 0-10 scale	ONS
Personal Wellbeing	Worthwile	Worthwile	Overall, to what extent do you feel the things you do in your life are worthwhile 0-10 scale	ONS
Personal Wellbeing	anxiety	Anxiety	Anxiety - Average (mean) rating (0-10 scale) LOWER IS BETTER / higher = more anxiety	ONS

Appendix D: Methodology for calculating the HCI

Data required

To be able to compare cities all data needed to be in a comparable format. This means that, for example, measures like numbers of crimes, needed to be converted into rates per capita.

Sometimes we did not have a figure for London, but rather for each London borough. We took the average for the London boroughs relying on the fact that they each have similar populations.

As well as figures for each city, we also needed an average for England as a whole. This was not always available, so sometimes needed to be estimated:

- In some cases we had the average for England & Wales. We estimated the average for England by using this, the average for the cities of England, and the average for Cardiff, assuming that the difference between the average for all of England, and the average for the English cities is the same as the difference between the average for England and Wales, and the average for the English and Welsh cities.
- In some cases we had the average for Great Britain. We estimated the average for England by using this, the average for the cities of England, and the average for Cardiff, Glasgow and Edinburgh, assuming that the difference between the average for all of England, and the average for the English cities is the same as the difference between the average for Great Britain, and the average for all British cities.

Some indicators were removed from the set at this stage including:

- Barriers to housing & services
- All age, all cause mortality rate per 100,000 population (as the variable 'Mortality from causes that are preventable' was deemed more relevant)

Some data was combined at this early stage.

- A figure for % commuting by public transport was created by adding %s for bus and for train
- A figure for % commuting using active transport was created by adding % walking to % cycling.

Z-scores

We calculated z-scores for each indicator for each English city, by subtracting the mean for England and dividing by the standard deviation between English cities:

zcity=city score-England mean/England standard deviation

Where necessary indicators were reversed so that positive numbers are better than average.

Combining

We averaged all indicators within each sub-domain first. In most cases, all indicators were given the same weighting.

We then averaged all sub-domains within each domain. Note that we had two measures of wellbeing inequality, so these were averaged together, before combining them with the other two measures of inequality.

We then averaged for all the domains for the City Conditions to create a City Conditions score.

Calibrating

Z-scores are tricky to interpret for lay people. We converted them to a scale that will run roughly between 0 and 10, with 5 indicating the average for England. To do so, we identified the highest and lowest z-scores for any single indicator. The lowest was -5.3 for Birmingham number of conservation areas, and the highest was 3.8 for London traffic.

We applied a simply method adding 5 to each z-score, so that 5 becomes the mean. The lowest score would by -0.3, but as z-scores are never reported for individual indicators, this was not a problem. The lowest score becomes 1.5 for Manchester deprivation, the highest 7.5 for Bristol green space. This simple method has advantages in being transparent, and easy to understand. From a technical perspective, it maintains linearity (vis a vis the method we used in NAWB which distorts linearity), and that from a mathematical perspective, we can say that every 1 point difference is equivalent to 1 standard deviation.