THRIVING PLACES INDEX

METHODOLOGY & CALCULATIONS

Overall framework

The Happy City Index is a set of 48 indicators used to measure how well a local authority is doing in terms of achieving the drivers of wellbeing – factors which are known to improve people's wellbeing – and sustainability and equality.

As well as creating three overall scores (for Local Conditions, Equality and Sustainability), we also create scores for each of the five domains of Local Conditions, and each of the 17 subdomains, and indeed data on each individual variable is available in the data file. The number of indicators that make up the Index (48) reflects the fact that we wanted to make the Index as comprehensive as possible without making it too hard to understand down to its greatest level of complexity.

As noted, the Index measures the drivers of wellbeing, not wellbeing itself. Wellbeing data (in terms of subjective wellbeing) is available at the local level and is provided in the date file to complement the Index. At the same time, it does not measure the inputs that local authorities invest into achieving the drivers of wellbeing. So, for example, the index includes an indicator on the percentage of adults doing regular physical activity, but it does not include an indicator on the amount local authorities spend on physical activity programmes.

. Figure 1: The Happy City Index intends to fill the middle box in this diagram

The Happy City Index is designed to provide data at the upper tier local authority level. This geographical level allows us to include indicators which are not available at lower levels (e.g. second tier level and Super Output Areas), giving us a greater choice of indicators than similar indices such as the Index of Multiple Deprivation (IMD). In particular, this allows us to take advantage of some survey data, which is available down to the local authority level, such as data from the Labour Force Survey.

It is thanks to the survey data that we are able to make the Happy City Index distinct from something like the IMD in two ways. Firstly, the Happy City Index attempts to look at assets, not just deficits. So it measures the percentage of people in good jobs (based on data from the Labour Force Survey), rather than just the percentage of people in employment.

Secondly, it recognises that many determinants of wellbeing are too complex to be measured using objective data alone. For example, as well as measuring income inequality and health inequality, we also measure inequality in subjective wellbeing. That's useful, because there are many factors that determine inequality within a local authority, and including subjective wellbeing inequality allows us to capture some which are not easily measured objectively.

Indicator selection

Our starting point for the 2017 Happy City Index was a previous iteration conducted in 2016 for the nine core cities of England
(see http://www.happycity.org.uk/wp-content/uploads/2016/10/Happy-City-Index-2016-Report-FINAL.pdf).
Since then, Happy City has also created a set of local indicators with the What Works Centre for Wellbeing, on behalf of the ONS and PHE, and an adaptation of the Happy City Index for five Welsh local authorities. Both those projects have helped inform the development of this new indicator set.

Five criteria were considered in selecting indicators for this set:

1.   **Availability.** First and foremost, the Index is something that can be used today. As such, we have drawn on data that is already available, rather than creating a wishlist of ideal indicators. All the indicators included are available for all (or almost all) English local authorities. Of course, this rules out any data that local authorities choose to collect themselves – for example through resident surveys. Nevertheless, the Index is intended to be forward-looking, and the selection of domains and subdomains is intended to signal the direction where more data collection is needed when currently available data is far from ideal. For example, the only indicator on social isolation at present, refers only to those who are in social care, rather than the population as a whole. In contrast, in Wales, we have been able to include an indicator of loneliness for the population as a whole – we hope that such an indicator will become available in England in the future.

2.   **Related to subjective wellbeing.** The Index measures the drivers of wellbeing. One key requirement for indicators was that they measure, or were a proxy for something which is known to influence subjective wellbeing.

3.   **Validity.** We only include indicators that are robust. For example, when surveys were concerned, we only used surveys with sample sizes large enough to provide estimates at the local authority level. Almost all indicators come from pre-existing official data sets.

4.   **Regularly updated.** Happy City's Index is intended to be updated regularly. For that to be the case, the constituent indicators need to be updated regularly. This is not the case for all indicators – for example some are based on census data which is only updated every 10 years, but this was a selection criterion.

5.   **Amenable to local action.** As noted, the Index is intended to be used by local authorities and their partners to improve local wellbeing. As such, the indicators included need to reflect things that can be influenced by local action.

STANDARDISATION AND AGGREGATION

Local authorities included

The Thriving Places Index covers all 150 upper-tier local authorities in England. That means it includes counties (but not districts), unitary authorities, London and metropolitan boroughs. It does not include the two sui generis councils of City of London and Isles of Scilly because many indicators are not available for them.

Data collection

First, values for all 150 local authorities for all 48 indicators were sourced. In most cases indicators were readily available, or rates were simply calculated by dividing counts by the population of a local authority. In some cases, basic bespoke calculation was required:

● **Crime Severity Index**

To calculate the Crime Severity Index for a particular local authority we first used the number of incidents for all 158 different 'categories' of crime (eg. criminal damage to a vehicle) for each local authority and calculated a rate per 1000 people. Then we used weightings from ONS that indicate the severity of the crime. The ONS calculated these weightings based on average sentences associated with each crime category. Then for each of these categories, we multiply the rate per 1000 people by the weighting of the crime. Then to calculate the Crime Severity Index for an area we summed all these values across all the crime categories.

● **Distance to services**

In this case, the data available was average road distances to a post office, primary school, general store or supermarket and GP surgery, each in kilometres. We took a simple average of these four values, to generate our Distance to Services indicator.

● **Mental health disorders**

With data containing the separately estimated prevalence of eight mental health disorders (Mixed Anxiety and Depressive Disorder, Generalised Anxiety Disorder, Depressive Episode, All Phobias, Obsessive Compulsive Disorder, Panic Disorder, Eating Disorder and Post-Traumatic Stress Disorder), we took an average of them.

- **% of full-time employees with low relative income**

Firstly, we took 'low relative income' to be an income that is less than 70% of the UK median wage. We used weekly pay figures from 2016. The UK median weekly wage was £538.7 so for each of the 152 local authorities we were looking for the percentage of people who work full-time and earn less than £377.09 weekly. We estimated a logarithmic best-fit line for the relationship between percentiles and income. This was using data at percentiles 10, 20, 25, 30, 40, 60, 70, 75, 80 and 90 where available – some areas didn't have data for the 90th percentile for example (using the LOGEST function in Excel). Then we could estimate the percentage of those with 'low relative income' using this best-fit line and finding the percentile value that corresponds to the income value of £377.09.

- **Local business**

The data needed for this indicator was simply the number of enterprises and the number of local units for each local authority. Then we divided the number of enterprises by the number of local units to produce the ratio of enterprises to local units.

- **Social fragmentation index**

The Social Fragmentation Index was developed by Professor Peter Congdon in 1996 to study the predictors of suicide. We calculated it at the local level using the following percentages drawn from census data:

  - percentage of 1-person household
  - percentage of people renting privately
  - percentage of people who have moved to their current address within the last year
  - percentage of people who are not living as a couple
  -

The index is calculated from these percentages using a similar methodology to that used for Happy City's Index overall (see section on standardisation below) – that is to say by calculating z-scores for each of the four components and then taking an average. However, rather than calculate z-scores based on the 2011 census, we have used the formula originally used by Professor Congdon, which is based on the 1991 census, in effect benchmarking our index against levels of social fragmentation in that year.

- **80/20 income ratio**

To calculate the ratio we took the 80th and 20th percentile of weekly earnings and divided the value at the 80th percentile by the value at the 20th for each local authority.

Two indicators – on adult lifelong learning, and the percentage of the labour force in good jobs – were calculated by the ONS on our behalf for the earlier Local Indicators Project. We have used the same indicators for the Index.

To create the index, two further pieces of information were needed for each variable – the average for England, and the standard deviation between local authorities within England. In most cases, the England average was available from the same data source as the data for individual local authorities. In several cases, however, when the England average was not directly available in the same data set as the data on local authorities, we calculated the English average by taking a weighted average of all local authorities (weighted by their population). That was the case for about 16 indicators, including those sourced from the IMD.

Standardisation

We then calculated z-scores for each indicator for each LA, by subtracting the mean for England and dividing by the standard deviation between the LAs:

$$z_{ij} = \frac{raw_{ij} - \overline{raw_i}}{SD_i}$$

where raw_{ij} indicates the original indicator value for indicator i for LA j, etc.

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

Calculating z-scores allow us to compare a LA's performance on two indicators even if they are measured on different scales. So if an LA scores -1.0 on one indicator, and -2.0 on another, then it

means that it is 1 standard deviation below the English mean for the former, but 2 standard deviations below the mean for the latter – indicating that the second indicator may be more of a priority for the LA.

Note that, in future years, to allow comparison over time, it will be possible to calculate 'pseudo z-scores' where the data for new years is benchmarked against the mean and standard deviation from this first Index. That means that while for this year, the average z-score for any indicator is by definition 0, in future years, the average could rise or fall.

Combining

We averaged all indicators within each subdomain first. In almost all cases, all indicators were given the same weighting. We then averaged all subdomains 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 Local Conditions to create a Local Conditions score.

Calibrating

z-scores are hard to interpret for most people. We converted them to a scale that runs between 0 and 10, with 5 indicating the average for England (for this year). A 10 on such a scale indicates an exceptionally good performance, and a 0 indicates an exceptionally bad performance. To do so, each z-score was multiplied by 5/3 and then 5 was added, as shown below:

$$Recalibrated_{ij} = z_{ij} + 5$$

Scores above 10 were capped at 10, and those below 0 were capped at 0.

This may seem, and indeed is, somewhat arbitrary, and the formula was designed purely to ensure a reasonable spread of scores between 0 and 10. With this formula, any variation beyond 3 standard deviations away from the mean is ignored. So, for example a LA which has a z-score of 3.1 on a particular domain would get 10/10, as would a local authority which had a z-score of 7.1. The implication is that any variation beyond a certain range is fairly irrelevant. As it happens, out of the 2700 subdomain scores for the 150 local authorities, only 8 z-scores fell beyond the ±3 range, and were therefore capped.

Presentation

As well as calculating 0-10 scores, we also devised a colour scheme for presenting scores. These are shown below.

The thresholds were chosen to ensure a reasonable spread across the colours. So for example, 18% of subdomain scores are in the bottom category, 21% in the second category, 27% in the third category, and so on.

Score	Label
< 3.5	Lowest
3.5 - 4.5	Low
4.5 - 5.5	Average
5.4 - 6.5	High
> 6.5	Highest