THRIVING PLACES INDEX

CENTRE FOR THRIVING PLACES
The new name for HAPPY CITY

METHODOLOGY

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Contents

Acknowledgements

Centre for Thriving Places

The Thriving Places Index is produced by the Centre for Thriving Places.

Centre for Thriving Places (formerly Happy City) was founded in 2010, with the aim to change the economic compass from pointing to consumption and growth toward wellbeing for people, place and planet. We bring this vision to life through place-based strategic consulting, training and our evidence-based measurement tools the Thriving Places Index and Happiness Pulse. We work with local authorities, organisations and individuals to provide practical pathways to measure, understand and improve wellbeing.

Our team

We would like to acknowledge the involvement of the following team members, associates and interns:

Lisa Muller, Soraya Safazadeh, Saamah Abdallah, Liz Zeidler, Courtenay Crawford, Wren Aigaki-Lander, Laura Steele, Sophie Sayer, Dave Forman, Marc George, Jamie Juniper, Torunn Jegleim, Hope Mayhew.

This methodology was authored by Soraya Safazadeh, Saamah Abdallah, and Lisa Muller.

Data acknowledgements

Office for National Statistics

The good jobs, lifelong learning, and Social Fragmentation Index indicators were produced using statistical data from ONS (Labour Force Survey). The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.

Understanding Society Survey

The neighbourhood trust, organisation membership and safety at dark indicators were produced using data from the Understanding Society Survey. Understanding Society is an initiative funded by the Economic and Social Research Council and various Government Departments, with scientific leadership by the Institute for Social and Economic Research, University of Essex, and survey delivery by NatCen Social Research and Kantar Public. The research data are distributed by the UK Data Service.

Planning Statistics

The dataset used to obtain land use change statistics for the land use change indicator was provided by the Ministry of Housing, Communities & Local Government. Our use of this data is covered under an End User License agreement.

Tree cover

Currently the best estimates of total tree cover across all local authorities in England and Wales is produced by Bluesky International Limited. We obtained this data via Friends of the Earth; Bluesky provided the data to Friends of the Earth free of charge. Bluesky created National Tree Map™ using a combination of vertical aerial survey data, height data and colour infrared imagery to map all trees over 3m high across England and Wales. Local authorities use this to map tree preservation orders, prioritise leaf-clearing schedules, and target areas for tree planting, as well as other uses. For more detail visit Bluesky.

Social Fragmentation Index

The equation used to calculate the social fragmentation index was developed by Sir Peter Congdon, Queen Mary University.
Congdon, P (1996) The incidence of suicide and parasuicide: a small area study, Urban Studies, 33, 137 – 158.

Green land cover

The dataset used to calculate the green land cover indicator was produced by Professor Alasdair Rae, University of Sheffield.

1. GENERAL METHODOLOGY

1.1. Selecting indicators

Each year, indicators are selected in order to:

- Replace indicators that are no longer suitable
- Add new indicators for gaps that could not previously be filled
- Drop indicators that are no longer suitable if a replacement cannot be found

We first and foremost search for new indicators on the Office for National Statistics, gov.uk, and Public Health England fingertips websites.

The following criteria are used in the selection of indicators:

1. Timeliness - More recent data is favoured.
2. Frequency - Datasets that are regularly updated are favoured.
3. Reputability - We look for data from reputable sources such as the Office for National Statistics, government departments, and Public Health England. Otherwise we interrogate the methodology used more carefully.
4. Availability - Data must be available for the vast majority of upper-tier LAs. We favour data that is also available for second-tier LAs and available for Welsh LAs.
5. Public - We favour datasets that are available to the public. We make exceptions only if an indicator is needed to fill a gap in the TPI framework that can only be filled by using data that is not published for public use.

1.2. Modifying the TPI framework

The TPI framework is somewhat iterative; it is occasionally modified when new subdomains or domains are able to be added. This is particularly true for the sustainability and equality elements as we continue to develop these and more relevant datasets become available.

1.3. Data gathering

The process of gathering raw data for the TPI is different depending on the type or status of the indicator. There are 5 types:

New: An indicator that is new to the current iteration of the TPI. I.e. it was not in the TPI the previous year.
Replacement: An indicator that is new to the current iteration of the TPI, but has replaced an indicator that was in the TPI the previous year.

Updated: An indicator that was in the TPI the previous year and is also included in the current iteration. New data is available so the indicator values are updated in the dataset.
Same as last year: An indicator that was in the TPI the previous year and is also included in the current iteration. There is no new data
Dropped: An indicator that was in the TPI the previous year, and is not in the current iteration.

For new, replacement, and updated indicators:
Raw data is obtained from the sources used, such as the ONS website.

For indicators same as last year:
As these indicators cannot be updated, the raw values are simply copied over from the previous version of the index. The average for England and standard deviation used for standardisation (see 'standardising the raw values') are also copied from the previous version of the index.

1.4. Calculating indicator values

1.4.1. Raw TPI values

Some indicator values are ready 'off-the-shelf' from the data source. This is true for many of the Public Health England indicators we use.

In some cases, we perform calculations to derive the values that form our raw dataset. The types of calculations carried out include:

- Standardising the data to make it comparable between local authorities (e.g. calculate a value per 1000 residents).
- (Thriving Places England only) Deriving values for upper tier local authorities where the data was provided at district local authority level only. We took weighted averages to aggregate the data to upper tier local authority level.
- Basic bespoke calculation. For example, from Understanding Society Survey data, we were able to calculate the percentage of people who agree or strongly agree that the people in their neighbourhood can be trusted. See the separate indicator calculations document for a full description of these calculations.

1.4.2. Standardising the raw values

After gathering data for all indicators, we standardised the raw values by transforming them to z-scores using the following formula, so that all indicator values had a mean of 0 and a standard deviation of 1:

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

(raw value - national mean) / (standard deviation between upper tier LAs across England)
Where necessary indicator values were reversed so that all positive z-scores indicate values that are better than average.
Calculating z-scores allow us to compare a local authority's performance on two indicators even if they are measured on different scales. If a local authority scores -1.0 on one indicator, and -2.0 on another, this 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 local authority.

Note that upper tier and district values are held in separate datasets. The mean and standard deviation for upper tier local authorities is used for standardising both data sets.

1.4.3. Capping the standardised values

To avoid extreme values affecting the overall spread of scores on the scorecards, we then capped the z-scores at -5 and +5, so that z-scores below -5 become -5, and scores above 5 become 5.

1.5. Calculating the TPI scores

1.5.1. Combining indicators

To calculate sub-domain values, we averaged the z-scores for indicators within each sub-domain.
To calculate Local Conditions domain values, we averaged the sub-domain values within each domain.
To calculate Local Conditions headline element values, we averaged the domain values within Local Conditions.
To calculate Sustainability and Equality headline element values, we averaged the domain values within each headline element.

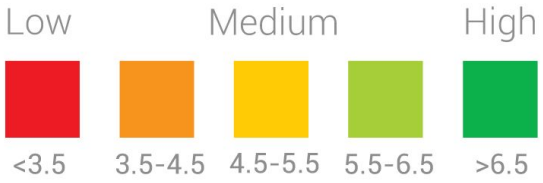
1.5.2. Re-scaling

To make the scores easier to interpret, we rescale the sub-domain, domain and headline element values to fall on a 0-10 scale, with 5 representing the average national score for the current year. We do this using the following formula: $Recalibrated_{ij} = z_{ij} + 5$
Scores are also capped at 0 and 10, so that scores below 0 become 0 and scores above 10 become 10.

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. For example in 2019, out of the 9446 sub-domain scores for the 150 local authorities, only 138 z-scores fell beyond the ±3 range, and were therefore capped.

1.5.3. Presentation of scores

As well as calculating 0-10 scores, we also use a colour scheme for presenting scores:



1.6. Data checking

Indicator values of 0 are checked to verify that they are true zeroes and not a missing value that has been incorrectly formatted. Missing values are also checked to verify that they should be missing.
Calculations for any brand new or updated indicators are checked independently by two data analysts.
The final dataset is then sense checked.

1.7. Missing data

There are few missing data points in the TPI dataset as complete data is one of our criteria for selecting indicators. However, occasionally an indicator has a small number of missing data points. As there is a small proportion of missing data points we do not employ any data imputation techniques.
Missing data is more of an issue for districts than upper tier local authorities. As districts are smaller, data is more likely to be suppressed.
See notes and cautions (section 2.7) for details on which indicators have missing data points.

1.8. TPI Wales

Data Cymru calculates the Thriving Places Wales using the same general methodology covered here. Centre for Thriving Places also checks the dataset produced by Data Cymru.
See the Thriving Places Wales website for further information: www.thrivingplaces.wales.

1.9. Further information

If you have any further questions about the TPI methodology, please email us at hello@centreforthrivingplaces.org.

2. CHANGES IN THE TPI 2020

This section covers TPI methodology specific to the TPI 2020. General methodology is covered in section 1.

2.1. Geographical scope

The Thriving Places Index 2020 provides scores for 341 Local Authorities (LAs) in England. 149 of these are upper tier LAs, including unitary and two-tier LAs. 192 of these are district, second-tier LAs. Isles of Scilly and City of London are excluded as most data is unavailable for these small *sui generis* local authorities.

2.2. Changes to local authorities

2.2.1. Description of changes as of April 2019

There were three sets of changes to the structure of local authorities made as of April 2019. Firstly, five of the six districts in Dorset county were combined to form a new Unitary Authority: Dorset UA. The remaining district - Christchurch - was combined with the two pre-existing urban UAs within the county - Bournemouth and Poole - to produce a single new UA: Bournemouth, Christchurch and Poole UA (abbreviated on the TPI website to Bournem., Christch. and Poole).

Secondly, four former districts in Suffolk were combined into two larger districts - Suffolk Coastal and Waveney became East Suffolk, and Forest Heath and St. Edmundsbury became West Suffolk. The changes reduced the number of districts in the Suffolk two-tier LA from seven to five.

Lastly, two former districts in the Somerset two-tier LA - Taunton Deane and West Somerset were combined into one larger district - Somerset West and Taunton. This change reduced the number of districts in Somerset from five to four.

The changes are summarised in the tables below.

Pre-April 2019

Upper-tier	**District**
Bournemouth Poole Dorset (two-tier LA)	Christchurch East Dorset North Dorset Purbeck West Dorset Weymouth and Portland

Post April-2019 (TPI 2020)

Tier	**LA**	**Comment**
Upper	Bournemouth, Christchurch & Poole	Replaces the now defunct Bournemouth and Christchurch upper-tier Local Authorities, and Christchurch district.
Upper	Dorset	Replaces the now defunct districts: East Dorset, North Dorset, Purbeck, West Dorset, Weymouth and Portland.
Upper	Somerset West and Taunton	Replaces the now defunct districts West Somerset and Taunton Deane.
District	East Suffolk	Replaces the now defunct districts: Suffolk Coastal and Waveney.
District	West Suffolk	Replaces the now defunct districts: Forest Heath and St Edmundsbury.

2.2.2. Implications for the TPI

The TPI 2020 uses the new, post-April 2019 LA structure. Given that much of the indicator data is from pre-April 2019, some indicator values for new post-April 2019 LAs were calculated by combining data for defunct LAs- for example aggregating data from the old districts to calculate a value for the new district. Such aggregation was always conducted with

consideration of the denominator used for the indicator in question. This usually involved taking a weighted average of the district values, weighting them based on their overall population, although there were some exceptions where the denominator was not a population.

Furthermore, data was not available for all indicators used in the Upper Tier data set for Christchurch, as it was previously a district (and several indicators are only available for Upper Tier LAs). Where Christchurch data was not available, we omitted Christchurch from the Bournemouth, Christchurch and Poole UA and used the old Dorset council values (which included Christchurch) for the new Dorset UA. Where this had to be done, there will of course be small errors. Given that Christchurch only represents around 12% of the population of Bournemouth, Christchurch and Poole, and only 11% of the former Dorset County, this is unlikely to have had a major effect on results.

The TPI 2019 data for pre-April 2019 LAs is still available on the TPI website.

2.3. Indicator list

You can download the complete TPI 2020 indicator list on the TPI 'How we measured this' page (visit www.thrivingplacesindex.org). The list includes a description for each indicator, the source of the data, the time period the indicator pertains to, and whether we performed further calculations to arrive at the final TPI indicator values.
Note that not all indicators are available at district level. Whether an indicator is available at district level is shown in the indicator list.

2.4. Summary of changes to TPI 2020

This section summarises the differences between the TPI 2020 and TPI 2019.

2.4.1. New indicators

The following indicators have been added to the TPI dataset:

Domain/ sub-domain	**Indicator**	**Description**	**Source**	**Rationale**
Local environment	Access to woodland	% of population with access to a 2ha+ wood within 500m of where they live	Woodland Trust	The TPI already includes an indicator of green land cover, but there are no suitable indicators of use of green space. Access to woodland has been added to serve as a

				proxy for use of green space, though we acknowledge that it does not measure actual use.
Safety	Safety at dark	Percentage of people who feel safe walking alone in their area after dark	Understanding Society Survey	This indicator adds a subjective measure of safety to the TPI, in addition to the existing objective measures such as the Crime Severity Index.
Participation	Organisation membership	% of people who are a member of an organisation	Understanding Society Survey	The TPI includes a measure of participation in heritage-related organisations (see clubs and societies indicator). This indicator was added as a measure of participation in organisations in general. Both indicators have shortcomings - the clubs and societies indicator is based on three arbitrary organisations which provide data at a LA level, while this new organisation membership indicator comes from Understanding Society, which has relatively small sample sizes for some LAs. However, together they should provide a reasonable picture.
Neighbourhood	Neighbourhood trust	Percentage of people who agree or strongly agree that people in their neighbourhood can be trusted.	Understanding Society Survey	Neighbourhood trust is an aspect of community cohesion and social capital. This indicator adds a subjective measure of social capital to the TPI, in addition to the more objective, but more theoretical, social fragmentation indicator.
Ethnicity	BAME representation of local councillors	Disparity between % of local councillors that are BAME and % of	Operation Black Vote	This indicator was added to capture ethnic representation, and in recognition of the notion that inequalities in decision-making are

		population that is BAME		important. Of course, this is only one small element of ethnic diversity, but it is currently the best indicator available.
Energy use	Housing energy efficiency	Percent of newly registered lodgements with domestic EPC ratings of C or above.	Department of Energy and Climate Change	This is an aspect of energy use that was not previously captured in the TPI. The addition of this indicator means there are now three aspects of energy use in the TPI: efficiency, consumption, and emissions.
Waste	Household waste generation	Collected household waste per person (kg)	Department for Environment, Food and Rural Affairs (DEFRA)	The household recycling indicator captures what percentage of household waste is recycled, but it does not capture how much waste is being generated in total. Part of living sustainably is generating less waste.

2.4.2. Dropped indicators

The following indicators have been removed from the TPI dataset:

Domain/ sub-domain	**Indicator**	**Description**	**Source**	**Rationale**
Transport	Percentage using public transport	% of those who commute to work via public transport.	Census	Issues with timeliness and frequency (2011 census indicator). Also, this indicator was intended to capture use of public transport, but it also somewhat duplicated the car traffic indicator as lower car traffic is likely to mean greater use of public transport.
Participation	Conservation organisations	Number of TCVs	RSA Heritage Index	Issues with timeliness and frequency. RSA created the indicator in 2016 and it is

		Organisations per 1000 people		unknown when, or whether, it will be updated. Volunteering rates are better captured by the volunteering in sport indicator. Analysis also revealed that the volunteering in sport indicator correlated better (at the LA level) with average subjective wellbeing as well as other People and Community indicators.
Employment inequality		Gap in the employment rate between those with a learning disability and the overall employment rate		See section on changes to the equality element (2.4.4)
Wellbeing inequality	Wellbeing inequality (SD)	Average standard deviation of four personal wellbeing measures (ONS4) used in the Annual Population Survey.	What Works Centre for Wellbeing	See section on changes to the equality element (2.4.4).
Wellbeing inequality	Wellbeing inequality (MPD)	Average Mean Pair Distance of four personal wellbeing measures (ONS4) used in the Annual Population Survey.	What Works Centre for Wellbeing	See section on changes to the equality element (2.4.4).

2.4.3. Replacement indicators

One indicator replaced a previous indicator:

Domain/ sub-domain	Indicator	Description	Source	Rationale
Transport	Percentage using active transport	Combination of the percentage of adults walking or cycling for travel at least three days per week	Public Health England	PHE replaced their previous active transport indicator, the percentage using active transport to travel work which came from census data, with two new indicators created using data from 2017-2018: the percentage of adults walking for travel at least three days per week and the percentage of adults cycling for travel at least three days per week. The new data was provided to PHE by the Department for Transport. As the previous indicator had timeliness issues we used PHEs replacement.

2.4.4. Changes to equality element

Faced with concern that there were some counterintuitive results for equality in the last TPI, we decided to review the element this year. Three changes were made as a result:

1. We removed the indicator 'Employment inequality for learning disabilities'. This indicator had been labelled as 'employment inequality' but it was a rather arbitrary selection based on data availability. It was felt that it was better to focus on more general inequalities in the main TPI data set, and keep aside indicators such as this one for more detailed analysis.
2. We removed the two subjective wellbeing inequality indicators. This decision was made for two reasons. Firstly, because subjective wellbeing itself is not included in the TPI. Secondly, because many of the LAs that have low wellbeing inequality do so because everyone has low wellbeing, rather than because everyone has high wellbeing. Given that a context where everyone has low wellbeing is not desirable, even if that means low wellbeing inequality, and that the negative aspect of this context is not acknowledged in the TPI as we do not include *average* wellbeing, we felt that including

subjective wellbeing inequality at the moment in the TPI may be misleading. Please note that subjective wellbeing is now presented on the TPI website - see section 2.6. on personal wellbeing for information on this addition.

3. A new indicator of ethnic diversity in political representation was added.

There is only one indicator in each equality 'domain'. This means the domain scores on the scorecard are based on a single indicator.

2.4.5. Changes to sustainability element

We have not dropped any of the sustainability indicators used last year; we have only added to the indicator set. In the TPI 2019 there was only one indicator in each sustainability 'domain', whereas in the TPI 2020 there are enough indicators to group them into true domains: energy use, waste, and green infrastructure.

2.5. New indicator calculations

Please see the TPI indicator calculations document for full details, including the calculations of indicators new to the TPI 2020.

2.6. Personal wellbeing

While the Thriving Places Index shows what is important for wellbeing at the local level, other measures capture the personal wellbeing of individuals. Each LA results page on the TPI website includes annual average personal wellbeing scores at Local Authority level, which are National Statistics. These are measured by four questions known as the ONS4, which are asked in a national survey. The TPI website presents the average ONS4 alongside the TPI scorecard for ease of reference.

2.7. Indicator notes and cautions

This section includes notes and cautions pertaining to individual indicators in the TPI.

Exposure to transport related noise:
The data from Public Health England is modelled data - no actual noise measurements were made. Values are missing for Bournemouth, Christchurch and Poole UA for 2016. No values are available from the source for Bournemouth and Poole LAs (now defunct).

Housing Affordability:
As a value for the now defunct West Somerset LA is missing, a value for the new Somerset West and Taunton LA cannot be calculated. We assigned the value for Taunton Deane to the

new Somerset West and Taunton district. Given that Taunton Deane was much larger than West Somerset, this should not introduce much error.

Unwillingly out of work:
For some districts, the "economically inactive but want a job" value needed to calculate this indicator is missing. We impute these by creating a regression model using the available districts.

Income inequality - 80/20 percentile ratio and Percentage with low income:
For LAs where the 80th percentile was not available, it was estimated using a logarithmic line of best fit. The 80th percentile was estimated using the 10th-75th percentiles, or the 10th-70th percentiles where the 75th percentile was not available. For LAs where the 70th percentile was not available, the 80th percentile was not estimated and hence the indicator value is missing for those LAs.

Housing affordability ratio:
This variable was not provided by the ONS for the new local authorities (created in 2019). For these LAs we therefore calculated the housing affordability ratio using house price data and median gross annual earnings data from 2018. There is likely to be a slight discrepancy between our estimation and what the ONS will publish for these LAs in future.

Household recycling:
Values missing for: Cambridge, South Cambridgeshire, Babergh.
Chiltern district council jointly reports household waste with Wycombe district council, so they are assigned the same value for this indicator.
From 2017/18, 6 local authorities started reporting as Somerset Waste Partnership. These are Somerset County Council, Mendip, Sedgmoor, South Somerset, Taunton Deane, West Somerset. These LAs are assigned the same value for this indicator.
Dorset LA is assigned the value for Dorset Waste Partnership.

Neighbourhood trust
The cross-sectional weights provided by Understanding Society Survey only allow the survey sample to be representative at the UK level, and not at the local level. Therefore the weights are not strictly designed for using the data at local authority level. There is random error in how unrepresentative samples are for each LA. Despite these caveats, we found that the LA averages correlated well with related indicators such as social fragmentation and the ONS4. Currently this is still the best estimate available of neighbourhood trust.
Values suppressed for LAs due to small sample sizes (below 50): Hartlepool, Rutland, Kensington and Chelsea.

Safety at dark
Values suppressed for LAs due to small sample sizes (below 50):Hartlepool, Thurrock, Hammersmith and Fulham, Rutland, Kensington and Chelsea.

Organisation membership
Values suppressed for LAs due to small sample sizes (below 50): Hartlepool, Rutland, Kensington and Chelsea.

Crime Severity Index
Many Community Safety Partnerships cover more than one local authority area. In these cases, the areas are assigned the same crime severity score.

Health inequality: Slope index of inequality
Values for this indicator for the new local authorities cannot be simply calculated by averaging the values for the constituent former LAs, as the slope index is a measure of inequality between neighbourhoods. As such, we attempted to calculate new values for the new LAs directly, using the same data on life expectancy at MSOA level that PHE use to calculate the Slope Index normally. We used a Slope Index of Inequality Tool provided by PHE to carry out the calculations. The Tool requires the populations for each MSOA - we used 2016 mid-year estimates.

Tree cover
The tree cover data used is categorical, rather than a true percentage. For counties, furthermore, we estimated the tree cover % category using the data available for their comprising districts and the size of each district.

Apprenticeship starts
We have amended the denominator used to calculate the rate of apprenticeship starts. In TPI 2019, total population was used; we have changed this to the working age population (16+) in the TPI 2020.

Educational attainment
To calculate average attainment 8 scores for the 3 new second tier LAs (East Suffolk, West Suffolk, Somerset West and Taunton), the required denominator was not available (number of eligible pupils), therefore the population aged 14-16 was used as the denominator.

Education: no qualifications
For eight districts no values were provided by NOMISs for the percentage with no qualifications due to disclosure rules (i.e. samples were too small). For 6 of these districts we used the figure for the previous available year (2017). In one case (South Bucks), the previous year was also not available, but values for earlier years were low so we estimated a value of 2.5%. In one case (Ribble Valley) no estimate could be made so it was left blank.

Percentage with low income
This indicator is calculated using the ASHE (Annual Survey of Household Earnings), which provides data on weekly pay at each decile across the income distribution for each local authority (and the first and fourth quartiles). To estimate the percentage in each local authority earning below the defined threshold (70% of UK median income), a best fit line is estimated for each local authority. For smaller local authorities, there is some missing data, with values not available at the highest and sometimes lowest deciles. We used as much data as was available, which included at a minimum seven data points.

BAME representation of councillors
The data published by Operation Black Vote is for upper tier local authorities only, excluding counties. We were unable to calculate this indicator for county upper tier local authorities as the data is not available for these counties or their comprising district local authorities.

ONS4 Anxiety (personal wellbeing)
Somerset West and Taunton - Assigned value for Taunton Deane as value for West Somerset is suppressed in the raw data from ONS.

Further information

If you have any further questions about the Thriving Places Index methodology, please contact Centre for Thriving Places via hello@centreforthrivingplaces.org.