

Cost of Living: Vulnerable Households Analysis

Using experimental small area indicators developed by
Oxford Consultants for Social Inclusion (OCSI)

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Introduction

The UK “cost of living crisis” started in late 2021, and the term refers to the fall in “real” disposable incomes (that is, adjusted for inflation and after taxes and benefits) that the UK has experienced. It is being caused predominantly by high inflation outstripping wage and benefit increases.¹

The “cost of living” is a measurement based on the average amount of money people in a particular place need to be able to afford basic living expenses such as housing, food, taxes and clothing.

The Office for National Statistics state that, in April 2022, UK inflation has continued to rise, reaching a 40-year high. There are three main estimates produced by the ONS to measure inflation: the consumer prices index (CPI); consumer prices index including owner-occupiers' housing costs (CPIH); and the retail prices index (RPI). ONS have stated that “the continuing challenge surrounding higher fuel and food costs has seen our Consumer Prices Index (CPI) rise by 9.0% in the 12 months to April 2022... It has also seen our Consumer Prices Index including owner occupiers' housing costs (CPIH) rise by 7.8% in the 12 months to April...”.²

The causes for this are complex, including rising costs linked to the pandemic, and other economic factors. The conflict in Ukraine has also pushed fuel prices higher.

The cost of living crisis will affect all households to some extent, but the impact is likely to be greatest on low income families, with research by the Economic Observatory suggesting: “The cost of living crisis is disproportionately affecting poorer households. With fewer resources to cover rising bills, many are taking on debt just to get by. This has consequences in the short term, but also lengthens the effects of this crisis for the most vulnerable.”³ This report will look at the areas in Gloucestershire where residents are most likely to be vulnerable to the increasing cost of living.

The Cost of Living Indicator (OCSI)

In March 2022, Oxford Consultants for Social Inclusion (OCSI) produced an experimental, small area “Cost of Living: Vulnerable Households” indicator. As there is currently very little information available around the cost of living, particularly at local level, this modelled data can provide some insight as to where the cost of living crisis might impact most within the county.

The dataset covers small geographies in England down to Local Super Output Area (LSOA)⁴ level and indicates the relative risk of households falling below an acceptable standard of living as a result of rising costs.

¹ <https://www.instituteforgovernment.org.uk/explainers/cost-living-crisis>

²

<https://www.ons.gov.uk/economy/inflationandpriceindices/articles/thecostoflivingcurrentandupcomingwork/june2022>

³ <https://www.economicsobservatory.com/how-might-the-cost-of-living-crisis-affect-long-term-poverty>

⁴ Local Super Output Areas (LSOAs) are small geographical units averaging 1,600 people.

The measure combines data from:

- Joseph Rowntree Foundation (JRF) on a Minimum Income Standard
- The most comprehensive data available on household incomes

The combined data produce a relative measure – where a higher score indicates higher vulnerability to cost of living pressures. Scores range from 0 to 9, with a score of 9 showing the highest risk. The full methodology can be found in Appendix A at the end of this report.

The National Picture

OCSI have found that the highest concentrations of vulnerable households in England are located in seaside resort towns, industrial cities in the North and Midlands, and parts of London. Unsurprisingly, there is a strong association between vulnerability to the cost of living crisis and high benefit claimant rates. However, there are a small number of areas identified as having higher vulnerability than would be expected given overall levels of benefit dependency. These include many of the smaller seaside resorts around Devon, Cornwall and the Isle of Wight and poorly connected rural market towns including Kings Lynn, Wisbech and Boston, characterised by high levels of part-time and seasonal employment and low pay.⁵

Gloucestershire Data

Gloucestershire is regarded as being one of the more affluent counties in the UK, with a resilient economy and a generally high standard of living for local residents in comparison to the rest of the UK. This is evidenced by Gloucestershire's deprivation score - Gloucestershire is ranked 126 out of 151 upper-tier authorities, placing the county in the least deprived quintile for overall deprivation.⁶

Given this context it is unsurprising that Gloucestershire's overall cost of living score is 1.33 which is lower than the average score for England of 1.53.

Figure 1 shows that when compared to its statistical neighbours⁷ Gloucestershire sits midway with a rank of 8 out of 15. Staffordshire has the same cost of living score as Gloucestershire at 1.33, and Worcestershire is the next closest neighbour with a score of 1.35.

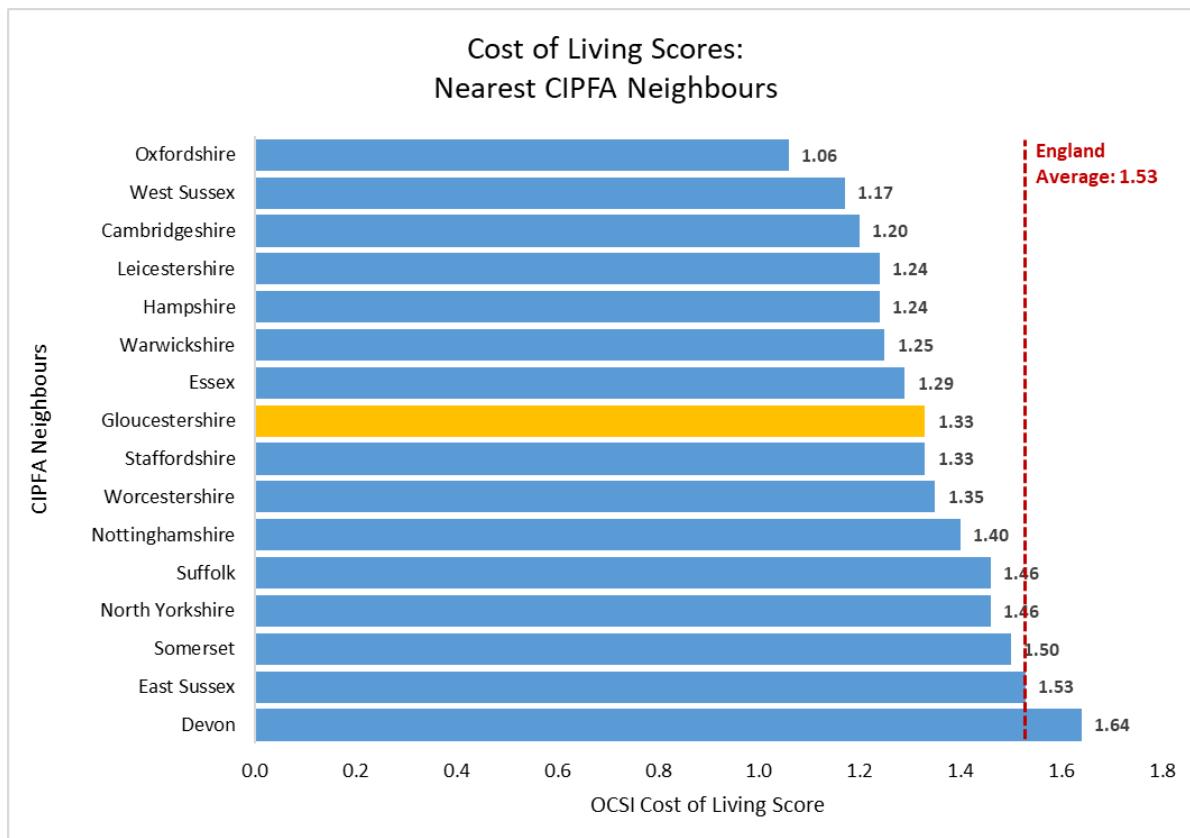
All of these statistical neighbours have cost of living scores lower than the national average of 1.53, except Devon which is shows higher vulnerability at 1.64, and East Sussex which matches England's average score.

⁵ <https://ocsi.uk/2022/04/21/where-is-the-cost-of-living-crisis-likely-to-be-hitting-hardest/>

⁶ English Indices of Deprivation 2019, Ministry of Housing, Communities & Local Government (MHCLG) <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

⁷ Areas which share similar characteristics to Gloucestershire and are used to compare outcomes. Chartered Institute of Public Finance and Accountancy (CIPFA) – Nearest Neighbours developed to aid local authorities in comparative and benchmarking exercises, the models provide a wide range of SSA based, socio-economic indicators upon which the specific family group is calculated.

Figure 1 – Gloucestershire’s Cost of Living Score compared with Nearest CIPFA Neighbours



District Level Data

The average cost of living scores for Gloucestershire’s districts are shown in Table 1. The average scores for Cheltenham, Forest of Dean and Gloucester are higher than the county score. Furthermore, Cheltenham scores higher than the national score, highlighting potential difficulties for many residents within the borough.

Table 1: Cost of Living Indicator Scores by District, with County and National Scores

Area	Overall Cost of Living Score
Cheltenham	1.56
Cotswold	1.28
Forest of Dean	1.49
Gloucester	1.38
Stroud	1.16
Tewkesbury	1.06
Gloucestershire	1.33
England	1.53

Small Area Data

To identify differences within districts, vulnerability scores have been calculated for small areas known as Lower Super Output Areas⁸. When interpreting the results for LSOAs in Gloucestershire, it is worth noting that although the highest possible cost of living score for LSOAs is 9, currently the highest score in England is 7; in Gloucestershire currently, the highest LSOA score is 4. These scores indicate that Gloucestershire has a lower proportion of households falling below the minimum income standard (MIS) than some other more vulnerable parts of the country.

Table 2 illustrates that Cheltenham Borough is the only district containing an LSOA with a score of 4, the highest score in Gloucestershire (St Paul's 4). This means that 0.3% of Gloucestershire's LSOAs have a score of 4 or above; this is considerably lower than the national percentage of 2.8% of LSOAs.

The second highest score in the county is 3. Gloucester City and Cheltenham Borough are the only two districts with LSOAs with this score, with 7 LSOAs in Cheltenham, and 6 in Gloucester. These areas account for 3.5% of Gloucestershire's LSOAs - considerably lower than the national percentage of 6.4%.

The most common score across Gloucestershire is 1, with 262 out of the total 373 LSOAs having this score, equating to 70.2% of LSOAs. In addition, there are 2 LSOAs with a score of 0 (least risk). These LSOAs both fall within Tewkesbury Borough - Churchdown St John's 3, and Tewkesbury Prior's Park 1. These two areas account for 0.5% of the county's LSOAs, compared with 2.5% nationally.

Around 71% of Gloucestershire's population live in LSOAs with these lowest two scores, compared with around 60% nationally.⁹

Table 2: Number of LSOAs per District by National Cost of Living Score

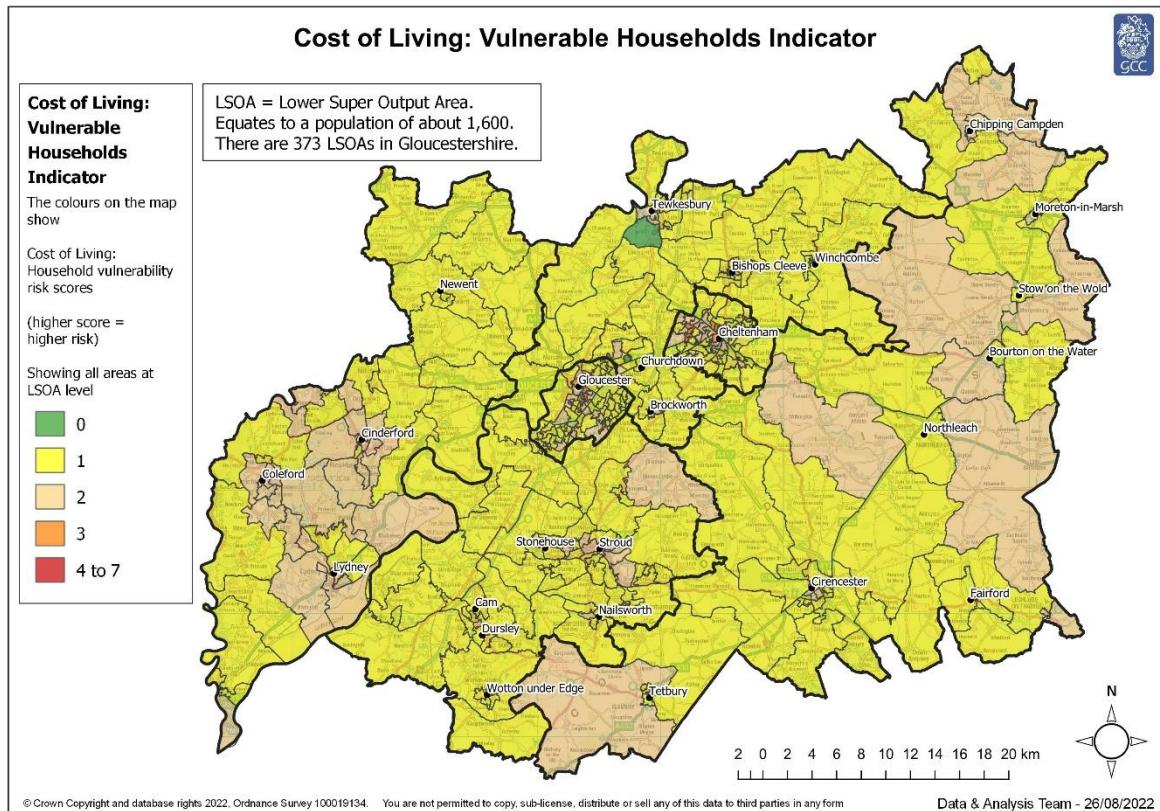
Score (0=least vulnerable 7=most vulnerable)	LSOAs															
	Cheltenham		Cotswold		Forest of Dean		Gloucester		Stroud		Tewkesbury		Gloucestershire		England	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0	-	-	-	-	-	-	-	-	-	-	2	4.0%	2	0.5%	806	2.5%
1	44	58.7%	37	72.5%	25	50.0%	54	69.2%	59	85.5%	43	86.0%	262	70.2%	18,829	57.3%
2	23	30.7%	14	27.5%	25	50.0%	18	23.1%	10	14.5%	5	10.0%	95	25.5%	10,193	31.0%
3	7	9.3%	-	-	-	-	6	7.7%	-	-	-	-	13	3.5%	2,088	6.4%
4	1	1.3%	-	-	-	-	-	-	-	-	-	-	1	0.3%	647	2.0%
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	246	0.7%
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34	0.1%
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.0%
Total	75	100.0%	51	100.0%	50	100.0%	78	100.0%	69	100.0%	50	100.0%	373	100.0%	32,844	100.0%

⁸ Local Super Output Areas (LSOAs) are small geographical units averaging 1,600 people.

⁹ MYE-2020 Population Estimates, Office for National Statistics

Figure 2 shows the geographical spread of the cost of living scores across Gloucestershire, with the highest risk areas shown in red (scores of 4 and above), and the lowest risk in green (score of 0).

Figure 2 – Map showing Cost of Living: Vulnerable Households in Gloucestershire by LSOA



Figures 3 and 4 show the geographical spread of the Cost of Living Scores in Gloucester and Cheltenham.

In Cheltenham (Figure 3) there are two clearly defined areas of higher vulnerability (scores 3 or above). The first area is focused around the St Paul's area, covering the LSOAs:

- St Paul's 1
- St Paul's 2
- St Paul's 3
- St Paul's 4
- Lansdown 4

The second area is towards the west of the borough around Hesters Way, covering the LSOAs:

- Hesters Way 1
- Hesters Way 2
- St Mark's 1

Figure 3 – Map showing Cost of Living: Vulnerable Households in Cheltenham by LSOA

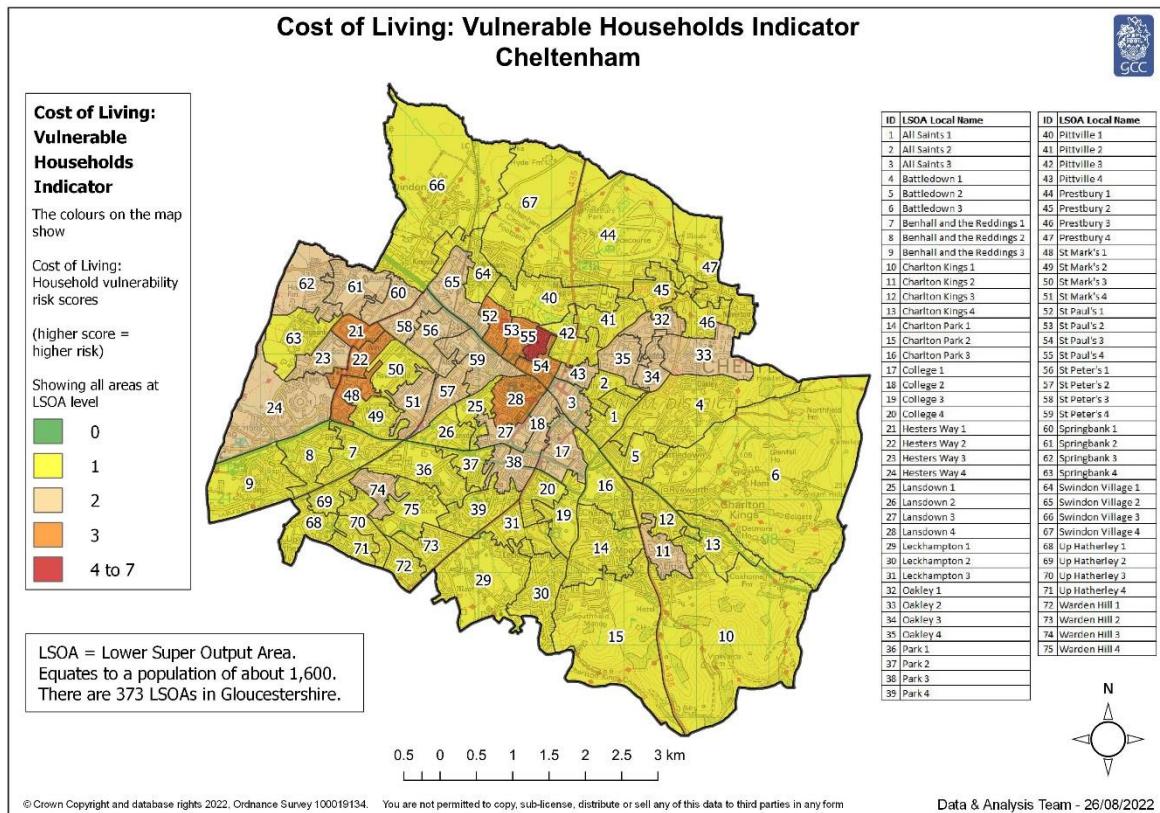


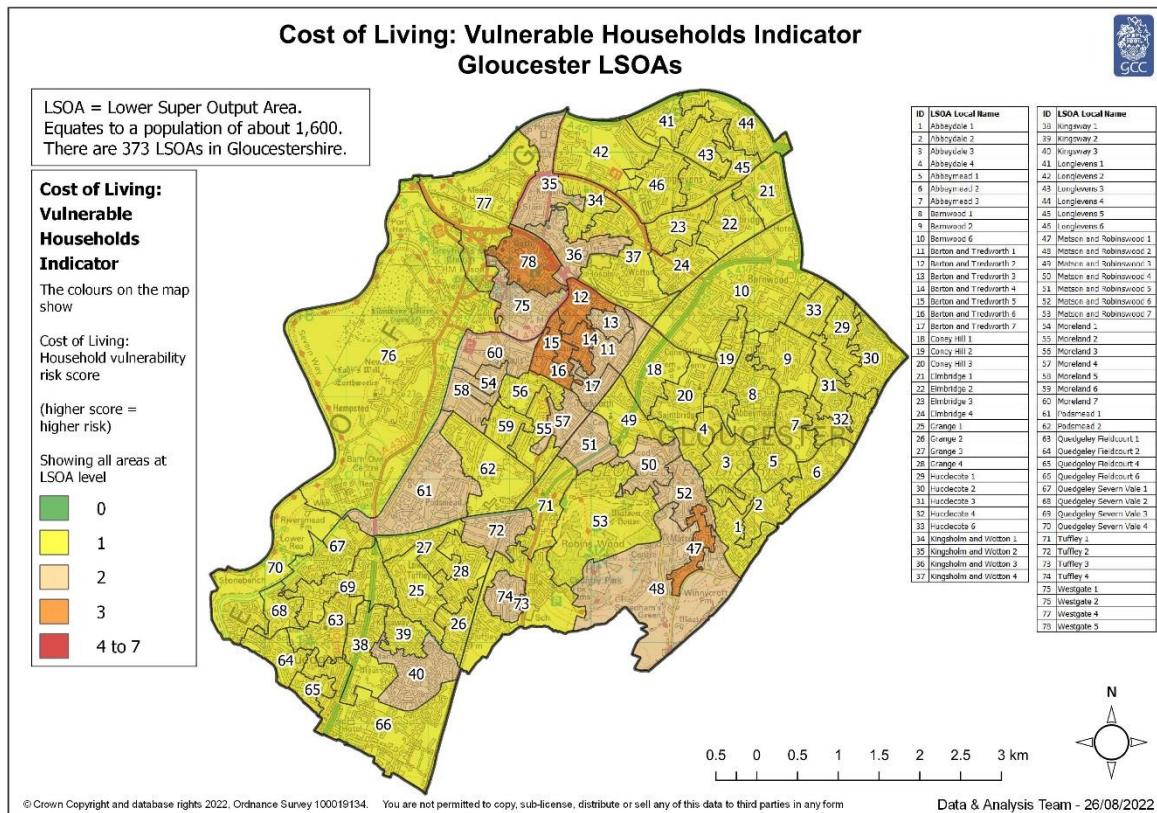
Figure 4 shows there are also two areas with higher vulnerability scores (scores of 3 and above) in Gloucester. The largest area is around Barton and Tredworth, covering the LSOAs:

- Barton and Tredworth 2
- Barton and Tredworth 4
- Barton and Tredworth 5
- Barton and Tredworth 6
- Westgate 5

The second, smaller area is:

- Matson and Robinswood 1

Figure 4 – Map showing Cost of Living: Vulnerable Households in Gloucester by LSOA



This suggests there does not appear to be a clear correlation between the most deprived areas in the county and those most vulnerable to the cost of living. However, these 8 LSOAs within Cheltenham and Gloucester could be particularly vulnerable to both cost of living and deprivation, with people living here potentially facing higher economic pressures.

Table 3 - Index of Multiple Deprivation 2019 Ranks: Gloucestershire LSOAs in the most deprived 20% nationally, shown against their respective cost of living scores¹¹

District	LSOA	IMD National Rank (1 = most deprived)	OCSI Cost of Living Score (0 = least vulnerable)	OCSI Cost of Living Indicator (higher score = higher risk)
Cheltenham	St Mark's 1	2,178	3	3
	St Paul's 2	2,368	3	3
	Hesters Way 3	3,984	2	2
	Hesters Way 1	4,937	3	3
	Oakley 1	5,117	2	2
	Oakley 3	5,439	2	2
	Swindon Village 2	5,916	2	2
	Springbank 2	6,078	2	2
Forest of Dean	Cinderford West 1	2,729	2	2
Gloucester	Podsmead 1	621	2	2
	Matson and Robinswood 1	735	3	3
	Westgate 1	1,183	2	2
	Kingsholm and Wotton 3	1,456	2	2
	Westgate 5	1,579	3	3
	Moreland 4	2,221	2	2
	Tuffley 4	2,801	2	2
	Matson and Robinswood 5	2,948	2	2
	Barton and Tredworth 4	3,126	3	3
	Matson and Robinswood 6	3,508	2	2
	Matson and Robinswood 4	3,800	2	2
	Barton and Tredworth 2	4,101	3	3
	Moreland 7	4,897	2	2
	Coney Hill 2	5,091	1	1
	Westgate 4	5,109	1	1
	Barton and Tredworth 5	5,136	3	3
	Moreland 3	5,238	1	1
	Barton and Tredworth 3	5,660	2	2
	Matson and Robinswood 2	5,681	2	2
	Barton and Tredworth 1	5,747	2	2
	Coney Hill 1	6,076	1	1
Tewkesbury	Tewkesbury South 3	4,199	2	2

¹¹ English Indices of Deprivation 2019, Ministry of Housing, Communities & Local Government (MHCLG)
<https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

Fuel Poverty¹²

One of the factors contributing to the cost of living crisis is rising energy prices. Fuel poverty is a measure which highlights areas where households could be facing increasing financial pressures due to energy costs. In England, the fuel poverty indicator is based on households which have both low energy efficiency, and low income.¹³

Fuel poverty data at LSOA level are modelled and should therefore be used with caution. They cannot be used to identify detailed trends over time but do help to identify areas of particularly high or low fuel poverty.¹⁴

Table 4 shows those areas in Gloucestershire which are in the top 20% nationally in terms of levels of fuel poverty, alongside their cost of living scores. There are 23 LSOAs within Gloucestershire which, when their fuel scores are ranked nationally, are in the top 20% of highest fuel poverty in England.

Unlike the deprivation data, St Paul's 4, which has the highest cost of living score in the county, appears in the list of the LSOAs with the highest levels of fuel poverty. Of the 13 LSOAs with a cost of living score of 3, just over half (7) appear amongst the LSOAs with the highest levels of fuel poverty.

¹² Department for Business, Energy and Industrial Strategy: Sub-regional fuel poverty data 2022: Fuel poverty 2020 data measured as low income low energy efficiency (LILEE)

<https://www.gov.uk/government/statistics/sub-regional-fuel-poverty-data-2022>

¹³ Fuel poverty statistics <https://www.gov.uk/government/collections/fuel-poverty-statistics>

¹⁴ Fuel poverty: sub-regional methodology and documentation

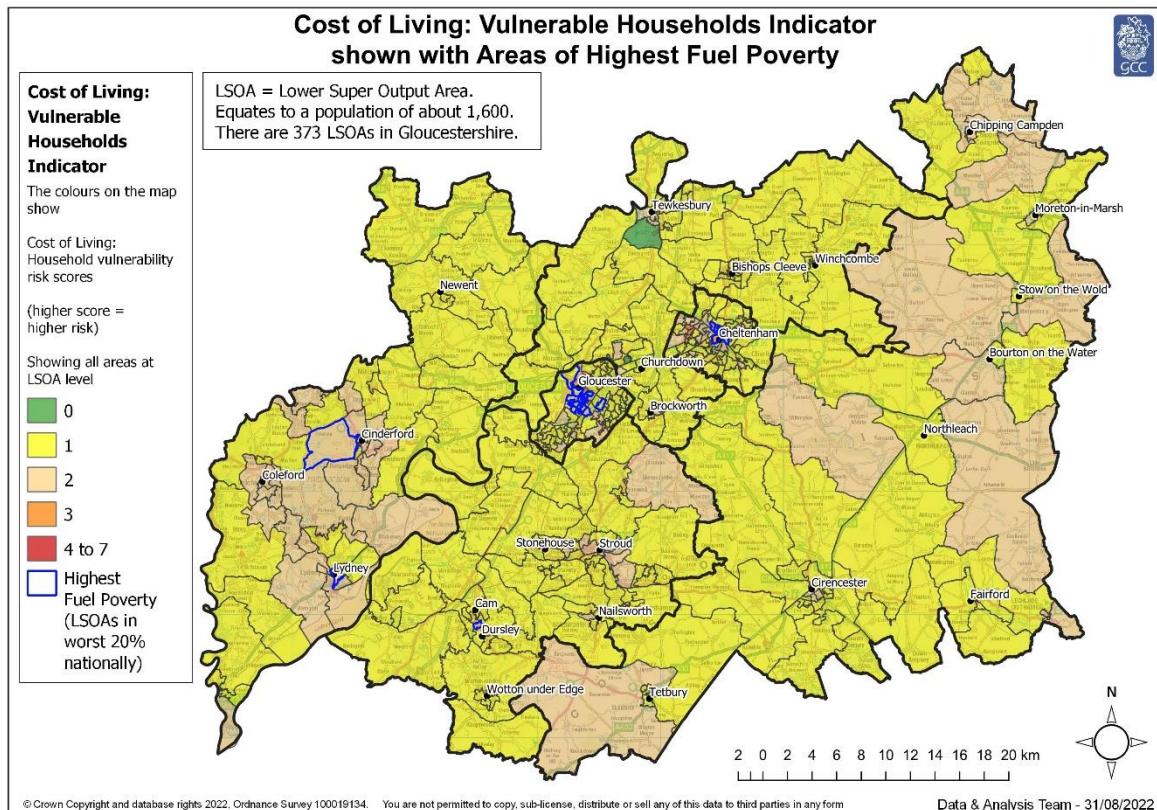
<https://www.gov.uk/government/publications/fuel-poverty-sub-regional-methodology-and-documentation>

Table 4 – Fuel Poverty: List of Gloucestershire LSOAs ranking in the national top 20% of highest fuel poverty, shown against their respective cost of living scores

District	LSOA	OCSI Cost of Living Score (0 = least vulnerable)	OCSI Cost of Living Indicator (higher score = higher risk)
Cheltenham	All Saints 3	2	0
	Lansdown 4	3	1
	Oakley 3	2	2
	St Paul's 1	3	3
	St Paul's 2	3	3
	St Paul's 3	3	3
	St Paul's 4	4	4 to 7
Forest of Dean	Cinderford West 1	2	0
	Lydney East 3	2	0
Gloucester	Barton and Tredworth 3	2	0
	Barton and Tredworth 4	3	1
	Barton and Tredworth 5	3	1
	Barton and Tredworth 6	3	1
	Coney Hill 3	1	0
	Matson And Robinswood 5	2	0
	Moreland 1	2	0
	Moreland 3	1	0
	Moreland 4	2	0
	Moreland 6	1	0
	Moreland 7	2	0
	Westgate 1	2	0
	Westgate 4	1	0
Stroud	Dursley 4	2	0

Figure 5 shows the geographic spread of these areas. The map shows the cost of living scores, and areas with high levels of fuel poverty are overlayed and outlined in blue.

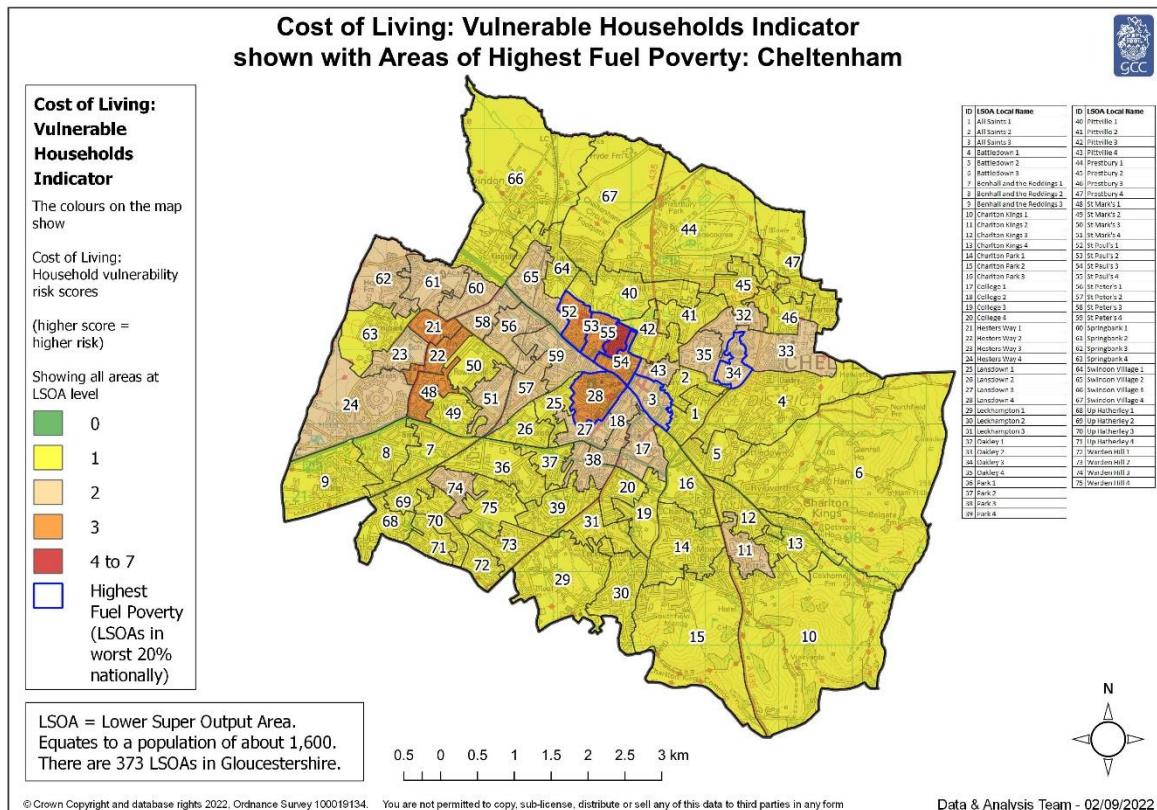
Figure 5 – Map overlaying Households in Fuel Poverty in Gloucestershire by LSOA



Zoomed maps of Cheltenham and Gloucester can be seen in Figure 6 and Figure 7.

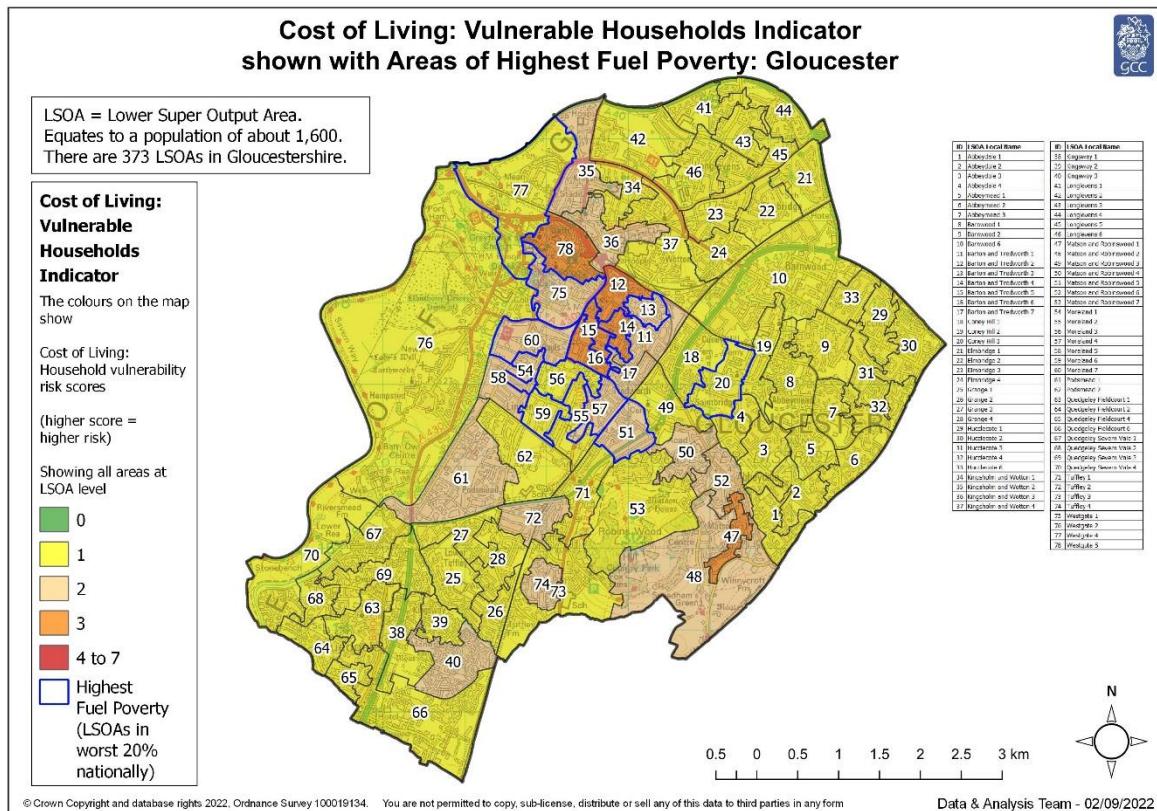
The Cheltenham map (Figure 6) shows that the main area of overlap of both indicators is around the St Paul's area.

Figure 6 – Map overlaying Households in Fuel Poverty in Cheltenham by LSOA



The Gloucester map (Figure 7) shows that the main areas of overlap are around the Barton and Tredworth area.

Figure 7 – Map overlaying Households in Fuel Poverty in Gloucester by LSOA



Summary

- Gloucestershire ranks lower than the national average for risk of cost of living vulnerability.
- Cheltenham Borough ranks higher than the national average for risk of cost of living vulnerability.
- Despite the county generally having a low risk of cost of living vulnerability, there are small areas which have much higher vulnerability. St Paul's 4 in Cheltenham shows the highest risk of cost of living vulnerability in the county with a score of 4, placing it in the top 20% of (high) risk nationally.
- There is some overlap in areas of high fuel poverty, and areas of vulnerability to the cost of living – particularly in Cheltenham around the St Paul's area, and around the Barton and Tredworth area in Gloucester.

Appendix A

Indicator Methodology (OCSI)

OSCI state their methodology in producing the indicator as follows:

The cost of living is calculated using the 2021 Minimum Income Standard (MIS) developed at Loughborough University's Centre for Research in Social Policy (CRSP).¹⁵ The Minimum Income Standard (MIS) presents a vision of the living standards that we, as a society, consider everyone in the UK should be able to achieve, based on what members of the public think we all need for an acceptable minimum standard of living.

The 2021 MIS thresholds have been upweighted by applying the Consumer Prices Index including owner occupiers' housing costs (CPIH) inflation figure between April 2021 and March 2022 to reflect the rising living costs over the last 12 months.

An MIS score has been applied to each local area based on their household characteristics (including number and ages of adults and children in the household).

This has been matched against local equivalised household incomes to measure the extent to which households are falling below the MIS and therefore below the 'acceptable' standard of living threshold due to rising living costs.

The admin-based income estimates of net income using data from HM Revenue and Customs' (HMRC) Pay As You Earn (PAYE), Self-Assessment and the Department for Work and Pensions' (DWP) benefit systems for 2016 is used as the base for household income. This dataset provides estimates of net equivalised household PAYE, self-employment derived from Self-Assessment and benefits income. Data is from 2016 and has been upweighted based on national rises in median equivalised household income between 2016 and 2020.¹⁶

The data can be viewed down to LSOA geography level and shows the equivalised income level threshold across each decile in an LSOA. A decile splits the population (by households) into 10 equal parts e.g. if there were 1,000 households in an LSOA, the bottom decile is the 100 households with the lowest income, the 2nd decile is the 100 households in the next 10-20% of household income, the top decile is the 100 households with the top 10% of household income.

A score is calculated based on the number of decile thresholds that fall below the adjusted Minimum Income Standard (MIS). A higher score indicates that a greater number of deciles fall below the MIS i.e. an area has a higher proportion of households falling below the MIS:

- If all deciles are above the threshold the area gets a score of 0.
- If the 10th percentile is below the threshold but the 20th percentile is above the threshold the LSOA would get a score of 1.
- If the 80th percentile is below the threshold and the 90th percentile is above the threshold the LSOA would get a score of 8.

¹⁵ Minimum Income Standard (MIS) 2021, Loughborough University/Joseph Rowntree Foundation <https://www.jrf.org.uk/report/minimum-income-standard-uk-2021>

¹⁶

<https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/articles/adminbasedincomeenglandandwales/taxyearending2016revisedresults#admin-based-income-statistics-data>

- And if no areas are above the threshold the LSOA receives a score of 9.

Therefore, the LSOA score is shown as a whole number. The figures at higher than LSOA level represent average LSOA scores in each area so include decimal places. The mapped data are grouped into quintile bands - however, due to the large number of equal values these quintile bands do not contain equal numbers of LSOAs.

Caveats of use (OCSI)¹⁷

As this measure is experimental in nature, it is important to note and understand the limits of what it can and can't be used for.

This measure can be used to:

- Measure relative levels of vulnerability and local variations in concentrations of 'at risk' households.
- To identify a broader set of at risk households than those captured through DWP benefits alone. And compare this data against expenditure figures which take into account the different cost pressures for different household sizes.

This measure can't be used to:

- Measure absolute risk and understand the percentage of people living below the MIS threshold with confidence.
- Provide an up to date understanding of income levels in each area.
- Capture variations in cost of living for areas with high housing or fuel costs or additional cost pressures due to specific needs (e.g. disability).

OCSI made a number of assumptions due to the limitations of available data at small area level.

1. 2011 Census data has been used to adjust the MIS for household composition for single occupancy households. Any changes to household composition since 2011 will not be reflected in the data (we will update the data once new figures are available).
2. While expenditure levels in different parts of the country are adjusted for variations in single occupancy, we have not adjusted the expenditure levels to reflect different costs for key items such as fuel, housing, health needs or food costs in different parts of the country.
3. It is not possible to get precise figures for the proportion of people who fall below expenditure thresholds as the income data is produced for broad decile thresholds – so it is only possible to identify whether a 10 percent band is above or below the threshold.
4. Income figures have been adjusted upwards using the national median estimate of changes in income between 2016 and 2021. This assumes that all areas have seen

¹⁷ <https://ocsi.uk/2022/04/21/where-is-the-cost-of-living-crisis-likely-to-be-hitting-hardest/>

the same income uplift over the period and that people across the whole income spectrum have achieved an equal uplift.

5. The income figures are experimental statistics as both the income measure and coverage are currently incomplete, and the dataset has not received full national statistics designation.