

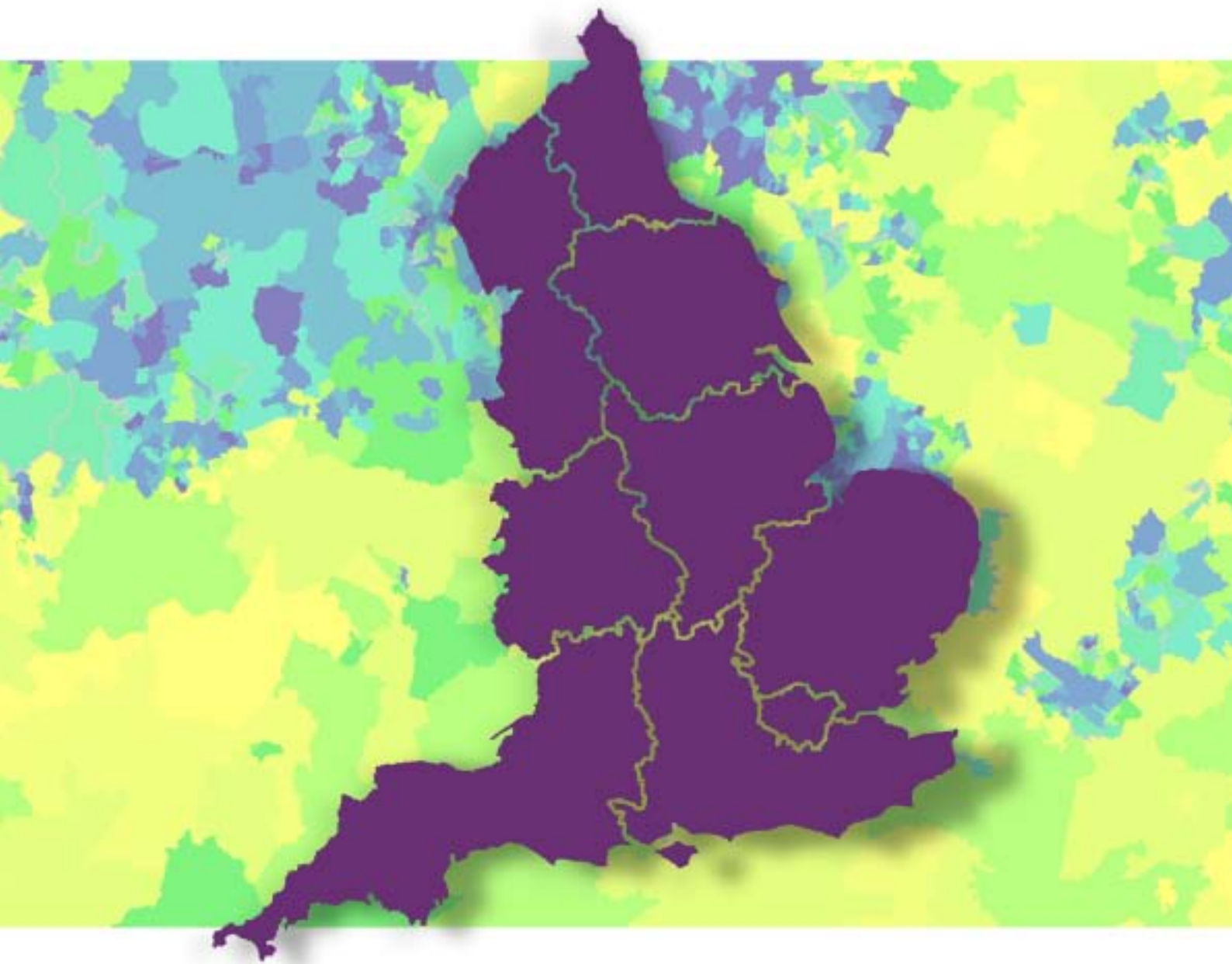


Office of the  
Deputy Prime Minister  

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Creating sustainable communities

# *The English Indices of Deprivation 2004 (revised)*



Neighbourhood  
Renewal Unit



Office of the  
Deputy Prime Minister

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Creating sustainable communities

# The English Indices of Deprivation 2004

The findings and recommendations in this report are those of the consultant authors and do not necessarily represent the views or proposed policies of the Office of the Deputy Prime Minister.

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# Preface

The 'New Commitment to Neighbourhood Renewal: A National Strategy Action Plan', published in January 2001, set out the Government's vision for narrowing the gap between deprived neighbourhoods and the rest of the country. To continue to monitor this gap we need to ensure that we are using the most robust and up-to-date information available.

The Indices of Deprivation 2000 (ID 2000) have been an important tool for identifying the most disadvantaged areas but had increasingly become out of date. The Neighbourhood Renewal Unit in the Office of the Deputy Prime Minister commissioned the Social Disadvantage Research Centre (SDRC) at the University of Oxford to produce options for strengthening and updating the ID 2000. Following two periods of public consultation and an independent peer review, the new Indices – the Indices of Deprivation 2004 – have now been published.

This report rehearses the conceptualisation underpinning the model of multiple deprivation used and outlines the indicators and domains that go to make up the ID 2004. For the first time we have been able to include domains to cover the deprivation suffered as a result of crime and a poor living environment. The Index has been produced at Super Output Area Lower Layer, which allows us to better identify and target areas where small pockets of deprivation exist. These have been major achievements, which were identified by consultation respondents as being important in any measure of deprivation.

We would like to thank all those who assisted in the production of the new Index. In particular we thank all those who responded to the two periods of consultation, Professor Jonathan Bradshaw who peer reviewed the work of SDRC and the inter-departmental advisory group for their many helpful suggestions.



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# Introduction

The Office of the Deputy Prime Minister (ODPM) commissioned the Social Disadvantage Research Centre (SDRC) at the Department of Social Policy and Social Research at the University of Oxford to update the Indices of Deprivation 2000 (ID 2000) for England. Following two extensive public consultations (see **Annex A**), an academic peer review and a significant programme of work, the new Indices of Deprivation 2004 were produced.

The new Index of Multiple Deprivation 2004 (IMD 2004) is a Super Output Area (SOA) level measure of multiple deprivation and is made up of seven SOA level Domain Indices. There are also two supplementary Indices (Income Deprivation Affecting Children and Income Deprivation Affecting Older People). Summary measures of the IMD 2004 are presented at district level, county level and Primary Care Trust (PCT) level. The SOA level Domain Indices and IMD 2004, together with the district, county and PCT level summaries, are referred to as the Indices of Deprivation 2004 (ID 2004).

The new ID 2004 are based on the approach, structure and methodology that were used to create the previous ID 2000. The ID 2004 updates the ID 2000 in two key ways: first, more up-to-date data has been used; and second, new measures have been incorporated as new and improved data sources have become available. The new IMD 2004 contains seven Domains which relate to Income deprivation, Employment deprivation, Health deprivation and disability, Education, skills and training deprivation, Barriers to Housing and Services, Living environment deprivation and Crime.

This report presents the conceptual framework of the new ID 2004; the component indicators and Domains; the methodology for creating the Domains and the overall IMD; the SOA level results and the LA level summaries; and finally compares the ID 2004 with the ID 2000.

## Acknowledgements

The ID 2004 was constructed by the SDRC at the University of Oxford. The team comprised: Michael Noble, Gemma Wright, Chris Dibben, George Smith, David McLennan, Chelsie Anttila, Helen Barnes, Christina Mokhtar, Stefan Noble, Jo Gardner, Sean Braswell, Illaria Covizzi and Myfanwy Lloyd. In addition, the 'adult qualifications' indicator was constructed by Tarani Chandola from University College London; the 'air quality' indicator by Jon Fairburn at Staffordshire University; the 'housing affordability' indicator by Professor Glen Bramley at Heriot-Watt University; and GIS work was undertaken by SDRC's GIS consultant David Avenell.



The team would like to thank the ODPM's Advisory Group, the academic peer reviewer Professor Jonathan Bradshaw from the University of York and the many respondents to the two consultations, for all their helpful contributions.

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# CHAPTER 1

## Measuring Multiple Deprivation at the small area level: a conceptual framework

The Index of Multiple Deprivation 2004 (IMD 2004) is a measure of multiple deprivation at the small area level.<sup>1</sup> The model of multiple deprivation which underpins the IMD 2004 is based on the idea of distinct dimensions of deprivation which can be recognised and measured separately. These are experienced by individuals living in an area. People may be counted as deprived in one or more of the domains depending on the number of types of deprivation that they experience. The overall IMD is conceptualised as a weighted area level aggregation of these specific dimensions of deprivation. This chapter elaborates on the model of multiple deprivation that has been used and addresses issues relating to it.

### Background

*“We must first know what poverty is before we can identify where and when it is occurring or attempt to measure it; and before we can begin to do anything to alleviate it” (Alcock, 1997, p.57)*

In his 1979 account of *Poverty in the United Kingdom* Townsend sets out the case for defining poverty in terms of relative deprivation. Thus his definition of poverty is: *‘Individuals, families and groups can be said to be in poverty if they lack the resources to obtain the types of diet, participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged or approved in the societies to which they belong’* (Townsend, 1979, p.31). Though ‘poverty’ and ‘deprivation’ have often been used interchangeably, many have argued that a clear distinction should be made between them (see for example the discussion in Nolan and Whelan, 1996). It could be argued that the condition of poverty means not having enough financial resources to meet needs. Deprivation on the other hand refers to unmet need, which is caused by a lack of resources of all kinds, not just financial. In a similar vein, Atkinson (1998) notes that in recent debates on ‘Social Europe’, the terms ‘poverty’ and ‘social exclusion’ have been used on occasions interchangeably, but he defines poverty as a ‘lack of money or material

<sup>1</sup> For examples of other recent small area Indices of Deprivation please see Noble, Smith, Penhale et al, 2000a; Noble, Smith, Penhale et al, 2000b; Noble, Penhale et al, 2000a; Noble, Penhale et al, 2000b for the English Indices of Deprivation 2000; Noble, Smith, Wright et al, 2000 for the Welsh Index of Multiple Deprivation 2000; Noble, Smith, Wright et al, 2001 for the Northern Ireland Measures of Multiple Deprivation 2001; and Noble, Wright et al, 2003a; and Noble, Wright et al, 2003b for the Scottish Indices of Deprivation 2003.

possessions'. Townsend himself concurs. In his article 'Deprivation' Townsend argues that 'people can be said to be *deprived* if they lack the types of diet, clothing, housing, household facilities and fuel and environmental, educational, working and social conditions, activities and facilities which are customary...' [our italics]. People are in poverty if they lack the resources to escape deprivation (Townsend, 1987, p.131 and 140).

In his 1987 article Townsend elaborates distinctions between social and material deprivation. The former – which he acknowledges is more difficult to measure – he describes as 'providing a useful means of generalising the condition of those who do not or cannot enter into ordinary forms of family or other relationships'. The more easily measured material deprivation relates to diet, health, clothing, housing, household facilities, environment and work (Townsend, 1987, p.136). By identifying both social and material deprivation, he is anticipating some aspects of what one might now call 'social exclusion'. In this study Townsend also lays down the foundation for articulating multiple deprivation as an accumulation of several types of deprivation.

Townsend's formulation of multiple deprivation is the starting point for the model of small area deprivation which is presented here in respect of the design of new measures of deprivation for England.

## Area based measures

Though Townsend's work mainly (though not entirely) referred to individuals experiencing deprivation – single or multiple – the arguments can, in modified form, extend to area based measures. However, limitations of data availability inevitably cause some of the sophistication of his original concept to be lost in practice. At an area level it is very difficult to measure the percentage of the population experiencing deprivation on one, two or more dimensions. It is possible to look at single forms of deprivation at an area level and state that a certain proportion of the population experiences that deprivation or a proportion experiences some other forms of deprivation etc. and describe at an area level the combination of single deprivations as area level multiple deprivation. The approach used here conceptualises multiple deprivation as a composite of different dimensions or domains of deprivation. It, however, says little about the *individual* experience of *multiple* deprivation.

The area itself can be characterised as deprived *relative to other areas*, in a particular dimension of deprivation, on the basis of the proportion of people in the area experiencing the type of deprivation in question. In other words, the experience of the people in an area give the area its deprivation characteristics. The area itself is *not* deprived, but the presence of a concentration of people experiencing deprivation in an area may give rise to a compounding deprivation effect – this is still *measured* by reference to those individuals. Having attributed the aggregate of individual experience of deprivation to the area, it is possible to say that an area is deprived in that particular dimension. Once the specific dimensions of deprivation have been measured, these can be understood as elements of multiple deprivation.

## Dimensions of deprivation

The approach allows the separate measurement of different dimensions of deprivation, such as education deprivation and health deprivation. There is a question as to whether there should be an additional domain for low income, or one that measures the lack of socially perceived necessities (Gordon *et al*, 2000) (for example, adequate diet, consumer durables, ability to afford social activities etc.). To follow Townsend, within a multiple deprivation measure only the deprivations resulting from a low income would be included so low income itself would not be a component, but lack of socially perceived necessities would. However, there are no readily available small area data on the lack of socially perceived necessities and therefore low income is an important indicator for these aspects of material deprivation. Moreover, it could be argued that measures of consumption are themselves problematic as lack of certain items may be by choice rather than inability to pay for them. Therefore, it is appropriate to measure low income itself rather than the possession of certain items.

Despite recognising income deprivation in its own right, it should not be the only measure of area deprivation. Other dimensions of deprivation contribute crucial further information about an area. However, low income remains a central component of the definition of multiple deprivation for the ID 2004. As Townsend writes ‘while people experiencing some forms of deprivation may not all have low income, people experiencing multiple or single but very severe forms of deprivation are in almost every instance likely to have very little income and little or no other resources’ (Townsend, 1987, p.131).

‘Multiple deprivation’ is thus not a separate form of deprivation. It is simply a combination of more specific forms of deprivation, which themselves can be more or less directly measurable. It is an empirical question whether combinations of these different forms of deprivation are more than the sum of their parts, that is, whether they are not simply additive but interact and may have *greater* impact, if found in certain combinations.

This perspective accommodates the reality of varying combinations of deprivation and disadvantage in different types of areas, which has been a persistent finding on the geographical distribution of different forms of deprivation and disadvantage since the pioneering work of Richard Webber in Liverpool in the 1970s (Webber, 1975). But it does raise questions about the addition of items to form a measure of ‘multiple deprivation’. And if multiple deprivation cannot be *directly* quantified then there are problems in technically validating any overall multiple deprivation measure as this would require something against which the multiple deprivation measure can itself be compared. If this is correct, then the question of how components in the overall multiple deprivation measure might be weighted correctly becomes a central question.

Measuring different aspects of deprivation and combining these into an overall multiple deprivation measure raises a number of questions. Perhaps the most important one is the extent to which area deprivation in one dimension can be cancelled out by lack of deprivation in another dimension. Thus if an area is found to have high levels of income deprivation but relatively low levels of education deprivation, should the latter cancel out the former and if so to what extent? The IMD 2004 is essentially based on a weighted cumulative model and the argument for limited cancellation effects is presented.

Another question concerns the extent to which the same people or households are represented in more than one of the dimensions of deprivation. In previous indices based on Census data no explicit information is available on this aspect of the conceptual framework. The 'households with no access to a car' may well have been the same households who 'live in overcrowded accommodation'. The combination in earlier indices takes no account of possible double counting nor do the published accounts address the potential problem. The position taken in the IMD 2004 is that if a family or area experiences more than one form of deprivation this is 'worse' than experiencing only one form of deprivation. The aim is not to eliminate double counting *between* domains – indeed it is desirable and appropriate to measure situations where deprivation occurs on more than one dimension.

To summarize, the model which emerges from this theoretical framework is of a series of uni-dimensional domains of deprivation which may be combined, with appropriate weighting, into a single measure of multiple deprivation.

## Poor people or poor places?

The underlying conceptual model in the ID 2000 of multiple deprivation as an aggregate of specific deprivations has been broadly accepted as the basis for index construction. However, some specific points have been raised relating to aspects of the theoretical model: the question of whether there are 'area effects', where the concentration of the deprived people in an area causes an additional amount of deprivation; and the question of whether anti-deprivation policy should target areas in preference to targeting individuals.

Some commentators ascribe three different meanings to area deprivation: a compositional meaning, a collective meaning and an environmental meaning (Cemlyn *et al*, 2002, p.13). A compositional meaning of area deprivation is where an area is considered to be deprived if it contains a large number or proportion of deprived people. A collective meaning refers to the possible presence of 'area effects', that is the additional deprivation in an area which is above and beyond those attributable to the concentration of deprived people in the area. The environmental meaning refers to the deprivation in an area flowing from the lack of facilities in that area or some other area feature. In a summary area measure, the collective meaning cannot exist independently of the compositional meaning. It has been suggested that the ID 2000 confused the compositional and environmental meanings. In fact, all the Domains of the ID 2000 – and the ID 2004 – are 'compositional', in the sense outlined above. No assumption has been made regarding the possibility of area effects in the ID 2004 (or the ID 2000), as it is an empirical question as to whether such effects exist (Kleinman, 1999; McCulloch, 2001).

The conceptual framework is based on the premise that deprivation is ultimately *experienced* by individuals and hence that it is theoretically possible to account for the entirety of deprivation by measuring individual experiences of deprivation. However, this does not entail a commitment to the view that individual level explanations of deprivation can account for the entirety of the *causes* of deprivation. If the concentration of deprived people in an area does indeed have a compounding effect on the overall level of deprivation in that area, this deprivation must still be experienced by individuals. To deny this means adopting the position that areas themselves are deprived beyond the experiences of the people living in those areas.

While area measures derived from individual data might be criticised for failing to allow for the possibility of area effects, the converse argument has also been made. That is, that area measures in themselves imply that the causes of deprivation lie at the area level. The response to this argument is that the measures used in the ID 2000 and ID 2004 entail no conclusions on the *causes* of deprivation. Illustrating the geographical distribution of deprivation by creating area-level aggregates does not imply that any particular geographical level is fundamental to explaining the causes of deprivation. Area level aggregates are one way of obtaining a further understanding of these processes, but they do not assume in advance which level is most important.

Some of the commentaries on the ID 2000 rightly made the point that an area measured as relatively deprived by the Index may contain large numbers of people who are not deprived, and conversely, areas which are relatively less deprived might contain deprived people. There is a possibility that some people will wrongly interpret the sub district level IMD results – they may assume that individuals living in highly deprived areas must themselves be highly deprived. However, this is not an assumption built into the ID 2000 or the ID 2004. This point is usually made in the context of a criticism of the use of area based initiatives to target resources.

Area based policies have often been criticised on two grounds: first, because the majority of deprived people do not live in deprived areas, so policies which focus exclusively on such areas will not be effective in solving wider deprivation (Kleinman, 1999); second, such policies have been criticised for being less cost-effective than general anti-deprivation policies that target deprived individuals wherever they live (PIU, 2000). These are pertinent points and were accepted in the final report on the ID 2000. However, they do not undermine the ID 2000's approach to measuring multiple deprivation at the small area level. The presentation of data at different geographical levels should not be taken to imply assumptions about the fundamental causes of deprivation, nor should it be taken to imply assumptions about the appropriate solutions. The identification of deprived areas may be necessary if area-based solutions to deprivation are to be pursued, but identifying deprived areas in no way assumes that such solutions are the right ones.

# CHAPTER 2

## Domains and Indicators

### Section 1: An Introduction to the Domains and Indicators

#### **DOMAINS**

The IMD 2004 contains seven Domains of deprivation:

- Income deprivation.
- Employment deprivation.
- Health deprivation and disability.
- Education, skills and training deprivation.
- Barriers to Housing and Services.
- Living environment deprivation.
- Crime.

#### **INDICATORS**

Each Domain contains a number of indicators, totalling 37 overall. Where possible, the indicators relate to 2001. The criteria for inclusion of these indicators were that they should be:

- 'Domain specific' and appropriate for the purpose (as direct as possible measures of that form of deprivation);
- measuring major features of that deprivation (not conditions just experienced by a very small number of people or areas);
- up-to-date;
- capable of being updated on a regular basis;
- statistically robust; and
- available for the whole of England at a small area level in a consistent form.

The aim for each Domain was to include a parsimonious (ie, economical in number) collection of indicators that comprehensively captured the deprivation for each Domain, within the constraints of data availability and the criteria listed above.

**Annex B** lists the indicators on a Domain by Domain basis and **Annex C** lists the data sources.

For the rest of this section issues relating to the Domains of deprivation which comprise the Index of Multiple Deprivation are discussed in general terms and in the following sections of this chapter the Domains and their constituent indicators are presented.

## NUMBER OF DOMAINS AND INDICATORS

One of the crucial questions addressed in the updating of the ID 2000 was how far the number of Domains and indicators could be expanded. The increasing availability of data and the increasing co-operation between government initiatives made a larger number of Domains possible. This raised the dilemma of how new indicators or Domains should relate to those already in existence and whether there is a point at which transparency suffers in the pursuit of more information.

There was a consensus among commentators and consultees during the update of the ID 2000 that some measures of crime and social environment, and the physical environment, as well as broader measures of barriers to services would be desirable in an updated Index.<sup>2</sup> Consequently, a new Crime Domain has been introduced to the ID 2004. Furthermore, the former Housing Domain has been expanded to include not just 'indoors' (ie, housing quality) measures but also 'outdoors' measures, and has been renamed the 'Living Environment Domain'. Finally, the former 'Geographical Barriers to Services Domain' has been renamed the 'Barriers to Housing and Services Domain' and now contains a sub-domain for geographical barriers to services, and a sub-domain for wider barriers to housing and services. The latter currently contains measures relating to access to housing though in future could be broadened further to include non-geographical barriers to other services.

The presence of new sub-domains or Domains necessarily has ramifications for the weights of the Domains making up the Index of Multiple Deprivation. The new weighting for the Domains is discussed in Chapter 3.

In terms of indicators, the presence of new data does not in itself warrant the inclusion of new components within a Domain. It is important to retain a sense of the purpose of the Domain which is to measure deprivation in that area by reference to a parsimonious number of up-to-date indicators that at best do not overlap or replicate each other.

<sup>2</sup> These commentators include: B. Robson, I. Deas, M. Bradford, C. Wong, M. Andersen, *Deprivation in London: an alternative to IMD 2000*, CUPS, June 2001; Local Government Association, *Neighbourhood Renewal Fund briefing*, November, 2000; Ken Livingstone, 'The real national divide that Labour can duck no longer,' *The Independent*, 22 August, 2000.



## GEOGRAPHICAL UNITS FOR THE ID 2004

There was general consensus in the consultation that the ID 2004 should be constructed at the smallest practicable spatial scale and that the ideal geography should possess relatively even sized populations. The Office for National Statistics (ONS) have since developed geographical units called 'Super Output Areas' (SOAs). These are aggregates of Census Output areas and will be produced by ONS at three levels. The lowest level is a relatively small scale unit, containing an average of 1,500 people.

The Domains, the Index of Multiple Deprivation 2004 and the two supplementary Indices (Income Deprivation Affecting Children and Income Deprivation Affecting Older People) are all presented at SOA lower layer.<sup>3</sup> Summaries of the IMD 2004 are presented at district, county and Primary Care Trust (PCT) levels.

## DENOMINATORS

When 2001 Census numerators were used, the denominators were also drawn from the Census. However, when non-Census numerators were used, the denominators were mainly based on the 2001 Mid-Year Estimates (MYEs).<sup>4</sup> As the 2001 MYEs are produced at district level, SOA level denominators were created by apportioning the 2001 MYEs to the SOA level using Census derived ratios. **Annex D** lists the denominators that were used to create each of the indicators.

## PREPARING THE INDICATORS FOR COMBINATION: DEALING WITH SMALL NUMBERS

The shrinkage estimation methodology has been used, where necessary, to improve the reliability of an indicator where it is based on small numbers. The effect of shrinkage is to move such a score towards the district average for that indicator. The extent of movement depends on both the reliability of the indicator and the heterogeneity of the district. If scores are not unreliable, the movement is negligible as the amount of shrinkage is related to the standard error. A further advantage of the shrinkage technique is that movement is less in heterogeneous districts. The shrinkage technique does not mean that the score necessarily gets smaller, ie, less deprived. Where SOAs do move this may be in the direction of more deprivation if the 'unreliable' score shows less deprivation than the district mean. For further details about the shrinkage technique, please see **Annex E**.

## COMBINING INDICATORS TO CREATE A DOMAIN

For each Domain of deprivation (Income, Employment, etc.) the aim is to obtain a single summary measure whose interpretation is straightforward in that it is, if possible, expressed in meaningful units (for example, proportions of people or of households experiencing that form of deprivation). In two Domains (ie, the Income

<sup>3</sup> See A Guide to the Neighbourhood Statistics: Geography Policy (2nd December 2003).

<sup>4</sup> Mid-2001 Population Estimates – Provisional Results from the Manchester Matching Exercise. Released by the Office of National Statistics on 4th November 2003.

and Employment Domains) where the underlying metric is the same and where the indicators are nonoverlapping the indicators can be simply summed and divided by the population at risk to create an area rate.

In several of the Domains where a simple rate is not possible, Maximum Likelihood factor analysis has been used to find appropriate weights for combining indicators into a single score based on the inter-correlations between all the indicators. This has been applied to the following Domains or sub-domains: Health Deprivation and Disability Domain; Children/Young People sub-domain in the Education, skills and training deprivation Domain; and the Crime Domain. For further details about the factor analysis technique, please see **Annex F**.

## Section 2: Income deprivation Domain

### PURPOSE OF DOMAIN

The purpose of this Domain is to capture the proportions of the population experiencing income deprivation in an area.

### BACKGROUND

In the ID 2000 income deprivation was operationalised as those living in families reliant on means tested benefits. This formulation received general approval. The indicators selected allowed for a non overlapping count of the population living in low income families as defined by receipt of means tested benefits and were selected to be 'non overlapping' such that the numerator was simply a sum of such people and the denominator was the general population. The resultant Domain score was presented as a proportion of the population living in low-income families.

The Report on the ID 2000 signalled that an ideal measure of income deprivation might be 'the proportion of households below a particular low-income threshold'. This is one of a set of national indicators included in the Government's poverty and social exclusion report 'Opportunity for All', and is based on Households Below Average Income (HBAI) data. The headline measure used is the proportion of households living below 60% of median income. This measure has also been adopted by Eurostat and is widely used by academics.<sup>5</sup> Developments, indicated below, show that some progress towards this ideal has been possible.

### THE INDICATORS

- Adults and children in Income Support households (2001, Source: DWP).
- Adults and children in Income Based Job Seekers Allowance households (2001, Source: DWP).
- Adults and children in Working Families Tax Credit households whose equivalised income (excluding housing benefits) is below 60% of median before housing costs (2001, Source: Inland Revenue and DWP).
- Adults and children in Disabled Person's Tax Credit households whose equivalised income (excluding housing benefits) is below 60% of median before housing costs (2001, Source: Inland Revenue and DWP).
- National Asylum Support Service (NASS) supported asylum seekers in England in receipt of subsistence only and accommodation support (2002, Source: Home Office and NASS).

<sup>5</sup> Being below 60% of median income has become the standard income-poverty measure. See for example, Gordon, D. and Townsend, P. (eds.) (2001), *Breadline Europe: The Measurement Of Poverty*, The Policy Press: Bristol.

The first two indicators are the same as in the Income Domain of the ID 2000. These represent the adults and children living in families in receipt of 'out-of-work' means tested benefits.

In the ID 2000, those people on a low income receiving in-work support were represented by adults and children living in families in receipt of Family Credit (FC)/Disability Working Allowance (DWA). In October 1999 Family Credit was transformed into Working Families Tax Credit (WFTC) and DWA was transformed into Disabled Persons Tax Credit (DPTC). The new WFTC/DPTC reach people relatively high up the income distribution who might not be regarded as income deprived. The methodology used for the selection of WFTC/DPTC recipients in the Income Domain therefore restricts inclusion to those below 60% of national median income excluding Housing Benefit and before housing costs. The Department for Work and Pensions's Households Below Average Income (HBAI) Unit calculated this threshold and ensured that it was consistent with the level of income received by recipients of the Minimum Income Guarantee (MIG) which is one of the highest levels of Income Support. This was to ensure that there was some degree of equity between 'in-work' and 'out-of-work' indicators.

There was strong support for the inclusion of an indicator to represent the presence of asylum seekers. The indicator selected contains people who are not eligible for IS/JSA-IB/WFTC/DPTC and yet are income deprived.

## **INCOME DEPRIVATION AFFECTING CHILDREN INDEX**

A supplementary Income Deprivation Affecting Children (IDAC) Index has been created. This is a subset of the Income Deprivation Domain and comprises the percentage of an SOA's children under 16 who were living in families in receipt of IS and JSA(IB) or in families in receipt of WFTC/DPTC whose equivalised income is below 60% of median before housing costs.

## **INCOME DEPRIVATION AFFECTING OLDER PEOPLE INDEX**

A supplementary Income Deprivation Affecting Older People (IDAOP) Index has also been created. This is a subset of the Income Deprivation Domain and comprises the percentage of an SOA's population aged 60 and over who are IS/JSA-IB claimants aged 60 and over and their partners (if also aged 60 or over).

## **COMBINING THE INDICATORS**

The indicators in this Domain were simply summed and expressed as a rate of the whole population. The shrinkage technique was applied.

## **OTHER ISSUES CONSIDERED**

### **Take-up of Benefits**

Take-up of benefits can vary across England in terms of benefit type, claimant type and geographical area. Despite extensive work undertaken by the University of York and consultation with the DWP, it has not been possible in the time scale to

generate robust scaling factors with which to adjust the numerators to take into account small area variations in take-up of benefits. The ODPM is however committed to commission further work in this area.

### **Synthetic income estimation**

Since the publication of the ID 2000, work on synthetic estimation of income at small area level has been progressed by the Office for National Statistics (ONS, January 2003). Estimates for consultation have now been produced. However, they could not be used for the ID 2004 because they do not allow for the proportion of an area's population who live below a given threshold to be identified. Furthermore, until further work has been undertaken, ONS does not produce estimates at the required geography.

## Section 3: Employment deprivation Domain

### PURPOSE OF DOMAIN

This Domain measures employment deprivation conceptualised as involuntary exclusion of the working age population from the world of work.

### BACKGROUND

In the ID 2000 employment deprivation was operationalised as involuntary exclusion from the world of work. It moved beyond simply using a count of those registered as unemployed to include elements of the 'hidden unemployed' such as those who were out of the workforce through sickness.

The Stage 1 Consultation showed overwhelming support for this Domain. The inclusion of Incapacity Benefit/Severe Disablement Allowance (IB/SDA) claimants was supported. Some commentators, however, urged that men aged 60-64 in the claimant count or claiming IB/SDA are involuntarily out of work and should be included. This argument has been accepted and the indicators modified accordingly.

### THE INDICATORS

- Unemployment claimant count (JUVOS) of women aged 18-59 and men aged 18-64 averaged over 4 quarters (2001, Source: ONS).
- Incapacity Benefit claimants women aged 18-59 and men aged 18-64 (2001, Source: DWP).
- Severe Disablement Allowance claimants women aged 18-59 and men aged 18-64 (2001, Source: DWP).
- Participants in New Deal for the 18-24s who are not included in the claimant count (2001, Source: DWP).
- Participants in New Deal for 25+ who are not included in the claimant count (2001, Source: DWP).
- Participants in New Deal for Lone Parents aged 18 and over (2001, Source: DWP).

### COMBINING THE INDICATORS

The indicators for this Domain were summed and expressed as a rate of the relevant population (the whole population aged 18-59 plus men aged 60-64). The shrinkage technique was applied.

## **OTHER ISSUES CONSIDERED**

### **Lone Parents**

There was some debate as to whether this Domain should include lone parents from Income Support data or from the New Deal for Lone Parents. After consultation it was decided not to include all lone parents in receipt of IS because it is not clear whether they are excluded from work or simply choosing not to work. Respondents were divided on the issue of lone parents on the New Deal (NDLP). Though NDLP itself remains voluntary, the compulsory first interview makes it less certain that lone parents on NDLP are involuntarily out of the labour market. However, the balance of opinion was in favour of their inclusion at this time and they are therefore included.

### **Denominator**

Respondents were also divided as to whether the denominator should be the working age population or the economically active population. With the inclusion in the numerator of two significant sectors of the economically inactive population – those claiming IB/SDA and those on New Deal for Lone Parents, it was thought desirable to proceed using the whole population aged 18-59 plus men aged 60-64 as the denominator.

## Section 4: Health deprivation and disability Domain

### PURPOSE OF DOMAIN

This Domain identifies areas with relatively high rates of people who die prematurely or whose quality of life is impaired by poor health or who are disabled, across the whole population.

### BACKGROUND

It is generally accepted that as a person ages they are more likely to suffer from physical morbidity and will have a greater risk of death in any given time period than those younger than them. This greater risk of ill health and death is not deemed by society to be unfair or unjust. Everyone will experience this deficit of health in their lifetime and it is therefore seen as an acceptable and unavoidable aspect of life. What is defined as unjust, and is therefore defined here as health deprivation, is unexpected deaths or levels of ill health. The usual way of operationalising this principle in a measure is to age and sex standardise the data. That is to compare the number of deaths or level of morbidity in an area to what would be expected given the area's age and gender structure. For the measure of premature deaths, Years of Potential Life Lost, the level of unexpected mortality is also weighted by the age of the individual who has died. An unexpected younger person's death therefore has a greater impact on the overall score than someone who is older even if their death is also unexpected.

The measure of adults under 60 suffering from mood or anxiety disorders was not age and sex standardised. Although there are ages when a person is at higher risk of suffering from these mental health disorders and females are at greater risk than males, there is neither the same inevitability nor equality of distribution throughout all parts of society for it to be deemed an acceptable and unavoidable aspect of life. Age and gender is therefore not controlled for in the measure.

### THE INDICATORS

- Years of Potential Life Lost (YPLL) (1997 to 2001, Source: Mortality data from ONS).
- Comparative Illness and Disability Ratio (CIDR) (2001, Source: IS, AA, DLA, SDA, IB from DWP).
- Measures of emergency admissions to hospital, derived from Hospital Episode Statistics (1999/2000 to 2001/2002, Source: Department of Health).
- Measure of adults under 60 suffering from mood or anxiety disorders, based on prescribing (2001, Source: Prescribing Pricing Authority), Hospital Episode Statistics (1998/1999 to 2001/2002, Source: Department of Health), suicides (1997 to 2001, Source: ONS) and health benefits data (1999, Source: IB and SDA from DWP).



The 'Years of Potential Life Lost' (YPLL) indicator is a directly age and sex standardised measure of premature death (ie, under the age of 75). It is measured at SOA level, using a combination of 5 years of data. The shrinkage technique was applied to the individual age/sex death rates in order to reduce the impact of small number problems on the YPLL.

The 'Comparative Illness and Disability Ratio' (CIDR) indicator is a directly age and sex standardised morbidity/disability rate. It is derived from a non-overlapping count of individuals receiving any of the following benefits: Disability Living Allowance (DLA), Attendance Allowance (AA), Incapacity Benefit (IB), Severe Disablement Allowance (SDA) and the disability premium of Income Support.

Hospital episodes that begin as an emergency admission have been used to construct a measure of grave health problems. All emergency admissions have been included and the resulting measure is expressed as a directly age and sex standardised ratio. Hospital Episode data has been used to create a similar measure in the recently produced Scottish Indices of Deprivation (Noble, Wright, Lloyd *et al*, 2003b).

Prescription, hospital episode, suicide and health benefits data have been used as the sources of information to estimate the number of adults under 60 suffering from mood or anxiety disorders. The hospital episode and health benefits data were directly attributed to SOAs. However, prescription data had to be attributed to practices first and then distributed, as a practice rate, to SOAs through the practice list. The assumption was made that although all the indicators were likely to measure the 'true' underlying rate of those suffering from mood or anxiety disorders with error, this error would not be correlated across indicators, and therefore the overall combined score would be a better measure of the 'true' underlying rate than any one indicator. **Annex G** contains further details about this indicator.

## **COMBINING THE INDICATORS**

The shrinkage technique was applied to the indicators where necessary. For the age and sex standardised indicators, this meant applying shrinkage to each age-sex cell. The indicators were then standardised and combined using weights generated by factor analysis. The combination was carried out in two stages. First, the mood or anxiety disorders component indicators were combined to produce a single indicator; this indicator was then combined with the other three indicators to produce the final Domain score.

## **OTHER ISSUES CONSIDERED**

### **2001 Census measures**

The 2001 Census contained a question on limiting long-term illness and on general health status. These, on the face of it, might seem useful indicators to include in the Health Domain. However there were two persuasive reasons for not including them. First, they would not be updateable until the next Census. An important aspect of the index design has been its updatability where at all possible. Including Census measures would weaken this aspect of the design. Secondly, the CIDR measure is highly correlated with the limiting long-term illness indicator at an area level and was therefore adequately capturing this element of health deprivation.

### **Double counting**

The issue of counting IB/SDA recipients in both the Employment and Health Domains, first raised in the consultation on the ID 2000, arose again during the consultation on updating the index. As was made clear at that time, the charge of double counting fails to recognise the dual nature of the deprivation facing most of those recipients. They are deprived both in terms of their health and in terms of their ability to gain employment. An individual, for example may be suffering severe physical pain, be unable to do things that most would see as a necessary part of life because of illness and also be unable to access the various advantages of employment. Their situation would be worse than that of an individual who was in good health but also was unable to access employment for other reasons.

### **Is there a disability bias in the Health Domain?**

The Health Domain contains indicators relating to mortality, morbidity and disability. Comments have been made about a possible bias in favour of the disability measures. The only disability measures as such included in the Domain are Disability Living Allowance and Attendance Allowance, (which in the main cover different age groups). Despite its name, the Severe Disablement Allowance benefit, together with Incapacity Benefit, is an income replacement benefit: eligibility is based on long term debilitating illness, rather than disability *per se*. The Domain therefore reflects long-term chronic conditions as well as more acute life threatening conditions.

## Section 5: Education, skills and training deprivation Domain

### PURPOSE OF DOMAIN

The purpose of the Domain is to capture the extent of deprivation in education, skills and training in a local area. The indicators fall into two sub-domains: one relating to lack of attainment among children and young people and one relating to lack of qualifications in terms of skills. These two sub-domains are designed to reflect the 'flow' and 'stock' of educational disadvantage within an area respectively. That is, the children/young people sub-domain measures the deprivation in the attaining of qualifications, while the skills sub-domain measures the deprivation in the resident working age adult population.

### BACKGROUND

As a measure of pupil attainment, the ID 2000 used Key Stage 2 data from primary schools because it was not possible to obtain individual pupil level data in postcoded format, except in a very few areas. A GIS allocation programme had to be employed to distribute a school's results to the local area, taking account of school type, adjacent schools and population levels.<sup>6</sup> In 2002 the Department for Education and Skills (DfES) moved its annual school census from aggregate data collection at school level to an individual pupil postcoded data format – the Pupil Level Annual School Census (PLASC) – which can be linked to pupil performance records. This means that it is now possible to draw on postcoded, individual level pupil attainment data for all pupils in maintained schools. PLASC is very well postcoded with approximately 99% of pupils being allocated a usable postcode. The existence of PLASC means that other data held at school level, such as absenteeism can therefore also be 'unbundled' to the local area now that the geographical distribution of a school's pupils is known. Note that independent schools do not complete PLASC level data.

### THE INDICATORS

#### Sub Domain: Children/young people

- Average points score of pupils at Key Stage 2 (end of primary) (2002, Source: Pupil Level Annual School Census (PLASC) and the National Pupil Database (NPD) from the DfES).
- Average points score of pupils at Key Stage 3 (2002, Source: Pupil Level Annual School Census (PLASC) and the National Pupil Database (NPD) from the DfES).

<sup>6</sup> See Noble, M., Smith, G.A.N., Penhale, B., Wright, G., Dibben, C., Owen, T. and Lloyd, M. (2000) *Measuring Multiple Deprivation at the Small Area Level: The Indices of Deprivation 2000* (DETR) for full details of this procedure.

- Average points score of pupils at Key Stage 4 (GCSE/GNVQ – best of eight results) (2002, Source: Pupil Level Annual School Census (PLASC) and the National Pupil Database (NPD) from the DfES).
- Proportion of young people not staying on in school or non-advanced further education above 16 (Child Benefit 2001, Source: DWP).
- Secondary school absence rate (Average of 2001 and 2002, Source: DfES school level survey of authorised and unauthorised absences, allocated to the local area via the PLASC data, DfES).
- Proportion of those aged under 21 not entering Higher Education (1999-2002, Source: UCAS).

### **Sub Domain: Skills**

- Proportions of working age adults (aged 25-54) in the area with no or low qualifications (2001, Source: 2001 Census).

The three pupil performance measures at Key Stage 2, Key Stage 3 and Key Stage 4 were all based on the results for 2002 using the first full PLASC exercise in January 2002. No earlier data could be used as individual pupil postcodes were not available nationally until 2002. PLASC 2003 and the related NPD performance data for 2003 were not available until 2004. In view of the relatively small numbers of pupils in any one year group, particularly at sub-ward level, taking these assessments, there would be good arguments for using several years data, for example at Key Stage 4. However this was not possible and instead the three different Key Stage results were used with data from different cohorts of pupils in the same area in the same year (2002).

To create an area estimate, slightly different procedures were used than would be employed in creating a school 'league table'. The basic procedure was to draw on results for all those in maintained schools who took the assessments in 2002. The standard points equivalent scores provided by the DfES were used to aggregate results across the English, Mathematics and Science results for KS2 and KS3 and the standard points score for the best of eight results in the GCSE/GNVQ at KS4 (A\*=8, A=7 etc). The denominator used was the number of pupils in maintained schools in the relevant age group resident in the area at the PLASC census date (January 2002). This typically might include slightly more pupils than would be included in the school level estimates, where pupils no longer on the school register at the time of the examinations would not be included and pupils not in the relevant national curriculum year group would also not be counted.

As in the ID 2000 an indirect measure of staying on at school beyond the minimum age was employed. The location of those above the compulsory age point in both schools and FE colleges makes a more direct measure at a small area level difficult to achieve. However Child Benefit continues to be paid to those continuing full time in non advanced further education, and this was used again. The only possible denominator at local level was to use a combined set of age groups covering the end of the compulsory stage in the same area. As age 16 was potentially ambiguous, the numbers aged 17+ was used over the aggregate of those aged 13-15.

Secondary school absence data from all maintained schools, covering a two year period was used to produce an estimate of the average proportion of sessions missed though absence. Both authorised and unauthorised absence data were combined. The result was a school level average that was shared across all pupils in the school. The local area figure was thus the weighted aggregate of pupils from different schools within the area. Clearly this method smoothes the overall distribution, but individual absence rates were not available.

To measure entry rates to higher education, UCAS data for four years was combined. This was restricted to those aged under 21 successfully applying from a domestic postcode in England to an HE institution anywhere in the UK. UCAS data is very well postcoded and only very small numbers of applicants apply from other than a domestic address, some of whom may be those not based in the UK (for example, at residential schools or other institutions). While not getting into HE can hardly yet be defined as a serious deprivation, the rate for an area is a strong indicator of its educational strengths. Thus the indicator typically runs from close to 100% in the most advantaged areas, to less than 5% in some areas.

In the ID 2000 the procedure used to estimate adult qualifications was to make use of the Labour Force Survey (LFS), aggregating results over three years to generate reliable district level estimates for those with no qualifications, which could then be used to produce ward level estimates. The existence of the adult qualifications data from the 2001 Census meant that there was a direct measure available at small area level. The qualifications variable in 2001 was much more extensive and applied to the full population (in the 1991 Census it had been restricted to recording those with a degree, diploma or above).

However, comparison of the Census results nationally and regionally with the results from the equivalent LFS indicated that the Census appeared to overstate the numbers with no qualifications. This was age related, with older age groups more likely to record fewer qualifications in the Census than in the LFS. The possible reasons may include the probing nature of the LFS interview that reminds respondents of qualifications they might have forgotten in a self completion exercise such as the Census. For this reason it was decided to include both *no and low qualifications* from the Census (defined as qualifications at NVQ level 1 or lower). It is still the case that this result from the Census, though closer to the LFS, appears to understate the equivalent level of qualifications recorded in the LFS. It would appear possible that part of the reason is some under-recording of qualifications obtained 'on the job' in manual work settings. Nevertheless, the problems of modelling down such LFS results to a sub ward level were outweighed by the existence of an up to date direct measure from the Census. The age band (25-54) was intended to avoid the student population in areas with HE institutions and exclude older retired workers at the other end.

## COMBINING THE INDICATORS

For the children/young people sub-domain, the shrinkage estimation technique was applied to each of the indicators, except that of 'absence' as this was already a school aggregate figure. The scores were then standardised and converted so that they all shared the same polarity (the higher – the more deprived). The resulting normalised scores were then entered into a factor analysis. The factor analysis

revealed the existence of one strong underlying factor and no significant second or other factors. Weights derived from this factor analysis were then used to generate an overall sub-domain score for children and young people.

The adult qualification variable from the 2001 Census was also subjected to a shrinkage estimation procedure. The sub-domain score was then standardised. The standardised results for both sub-domains were then exponentially transformed and combined with equal weights to create the overall education, skills and training Domain score.

## **OTHER ISSUES CONSIDERED**

### **English as an Additional Language**

A large majority of respondents to the consultation (a ratio of 4 to 1) accepted that English as an additional language (EAL) was not a good measure of educational deprivation and it was accordingly not included. Reasons for dropping this indicator were rehearsed in the Stage 1 report. Further analysis of the 'mother tongue' variable in PLASC 2002 suggested that it was not strongly correlated with the indicators in the Domain. Having a mother tongue other than English does not necessarily mean that the pupil is not fluent in English. In contrast, a lack of fluency in English, when this is the medium of instruction and examination in England, would be a good measure of educational deprivation. However PLASC data does not contain a measure of fluency.

## Section 6: Barriers to Housing and Services Domain

### PURPOSE OF DOMAIN

The purpose of this Domain is to measure barriers to housing and key local services. The indicators fall into two sub-domains: 'geographical barriers' and 'wider barriers' which includes issues relating to access to housing such as affordability.

### BACKGROUND

The ID 2000 contained a Domain called 'Geographical Access to Services'. This Domain measured 'as the crow flies' distances from recipients of means tested out-of-work benefits to the nearest service for post offices, GP surgeries, food shops and (for children) primary schools. Response to this Domain during the Stage 1 Consultation of the Update was mixed. In general, urban authorities were split while rural authorities and interest groups were strongly in favour. Supporters outweighed those against its inclusion. Some of the opponents were concerned that issues relating to access other than simply geographical distance were not being taken into account.

This Domain has therefore been extended in its scope to become a 'barriers to housing and services' Domain. The 'Wider Barriers' sub-domain encompasses other types of non-geographical access difficulties. Such a broader definition of barriers could in principle, almost shadow the other Domains. Using the health arena as an example – and setting aside for one moment the issue of data availability – it might include 'not being able to register with a local GP', 'language and cultural barriers to contact with a GP' and 'varying standards of hospital services', as well as the distance one needs to travel.

While measures of the quality of houses are located in the new Living Environment Domain, issues relating to access to housing such as affordability are addressed within this Domain. In practice, the 'Wider Barriers' sub-domain only contains housing related indicators at present. This is because suitable indicators for other services were not available. The 'Geographical Barriers' sub-domain has been refined so that it measures road distances rather than 'as the crow flies' distances.

### THE INDICATORS

#### Sub-Domain: Wider Barriers

- Household overcrowding (2001, Source: 2001 Census).
- LA level percentage of households for whom a decision on their application for assistance under the homeless provisions of housing legislation has been made, assigned to the constituent SOAs (2002, Source: ODPM).
- Difficulty of Access to owner-occupation (2002).

## Sub-Domain: Geographical Barriers

- Road distance to GP premises (May 2003, Source: National Health Service Information Authority).
- Road distance to a supermarket or convenience store (December 2002, Source: MapInfo Ltd).
- Road distance to a primary school (2001-02, Source: DfES).
- Road distance to a Post Office (End of March 2003, Source: Post Office Ltd).

According to the 2001 Census at district level, approximately 7% of households are overcrowded, but in some authorities the rates are much higher. This indicator has been included in this Domain because it represents lack of access to living space. Respondents to Stage 1 of the consultation responded to the inclusion of this indicator (in the then Housing Domain) in a ratio of 6 to 1 in favour of its inclusion.

A measure of homelessness is a good candidate for the 'Wider Barriers' sub-domain as it measures a barrier to suitable accommodation. The indicator included is the Local Authority level percentage of households for whom a decision on their application for assistance under the homeless provisions of housing legislation has been made.

Data is starting to become available to measure people's ability to become home owners, ie, access to affordable housing (Wilcox, 2003). A scoping study on possible measures of housing affordability has been undertaken as part of the update to the ID 2000 (Bramley, 2003). This indicated that a feasible first step could be to create an indicator of 'Difficulty of Access to Owner-occupation', based on house prices and incomes/earnings at local authority district level and this has been incorporated.

Four indicators have been included in the geographical barriers sub-domain: GP premises, supermarkets or convenience stores, primary schools and post offices. These are all key services that are important for people's day to day life. In this sense wherever you live, having to travel a long distance to such places can be described as an access deprivation.

The supermarkets or convenience stores include all food retail sites in England which have five or more sites under the same name in the UK. It is not possible to take into account smaller shops or food outlets at garages at the present time because a national data source is not available. The post offices include those that were open at the end of March 2003. The GP location data is a measure of access to GP premises. Access to primary schools was selected as an indicator as there are many more complex factors, other than distance, that influence choice of secondary schools.

In terms of measuring distance, the move from 'as the crow flies' to measuring road distances was strongly supported during the Stage 1 Consultation and so this has been undertaken. Road distances were measured from each population weighted Census output area centroids to the nearest service of each type. The distances were measured to the nearest 10 metres. In the case of the primary schools, the OAs were population weighted by the relevant child population. An SOA score was created by taking the population weighted mean of the OA scores, which results in an SOA level average distance that people need to travel by road to the nearest service of each type.



## COMBINING THE INDICATORS

For each of the sub-domains, the indicators were standardised and combined using equal weights. The shrinkage technique was applied to the overcrowding indicator. The two sub-domains were then standardised, exponentially transformed and combined with equal weights to create the overall Domain score.

## OTHER ISSUES CONSIDERED

### Childcare

The use of childcare is a complex issue: it depends on cost, flexibility, type and location. For example, some people prefer to use childcare nearer the workplace than close to the home. However, the number of childcare places in a district has been demonstrated to relate to the rate at which lone parents enter work in that area (Evans, Noble *et al*, 2002). The intention had been to include a local authority level modelled ratio of pre-school children to pre-school child care places, using a combination of Child Benefit data and OFSTED childcare places. However, it was not possible to obtain the necessary data within the timeframe.

### GPs per head of population

Consultation respondents supported the inclusion of an SOA level indicator of GPs per head of population, measured using GP numbers and practice populations. However it was not possible to take into account at a small area level whether GPs were full-time or part-time and therefore a reliable model could not be constructed.

### Geographical access to services for all people

Respondents to the consultations were mixed about whether to measure geographical access to services for all people or for low income people only. On balance it was decided that distance should be measured to take into account all people. The principle of measuring access to services for all people is more in line with the theoretical approach to Domains (ie, deprivations are treated separately, so someone can be health deprived regardless of how deprived they are in terms of employment, education deprived regardless of the quality of housing that they live in and access deprived regardless of their income status, etc.). Secondly, in practice, the move to use road distances means that it is not technically possible at this time to measure road distances at an individual level for the whole of England.

### Transport

There was strong support during the Stage 1 Consultation for inclusion of an indicator that measures access to transport hubs/or the availability or quality of public transport (see also Social Exclusion Unit, 2003; Department for Transport, 2001; Department for Transport, 2002). One possible indicator would be simply a measure of the distance to the nearest bus stop, though there would be potential to refine this to take into account frequency, quality, destinations etc. (for a non-national example see Lovett *et al*, 2003). A National Public Transport Access Nodes (NaPTAN) database now exists which amongst many other items will contain the location of all bus stops. This database was originally scheduled to be completed during the Spring 2003. However the database lacked information for some areas in England and has yet to be quality assured so could not be used for the Index update.

**Fuel Poverty**

It was not possible to include an up-to-date measure of people's 'access to affordable fuel'. However, such a measure of this type of deprivation would be an important candidate for a future version of this Domain (see Baker *et al*, 2003).

## Section 7: The Living Environment

### Deprivation Domain

#### **PURPOSE OF DOMAIN**

This Domain focuses on deprivation in the living environment. It comprises two sub-domains: the 'indoors' living environment which measures the quality of housing and the 'outdoors' living environment which contains two measures about air quality and road traffic accidents.

#### **BACKGROUND**

This new Domain aims to identify deprivation in the living environment. The Stage 1 Consultation revealed support for measures of deprivation that occur in the 'physical environment' but a sizeable number of respondents argued that such indicators should be incorporated into already existing Domains. Separately, there has been a shift in thought about the Housing Domain towards distinguishing indicators of housing quality that relate to the 'bricks and mortar' from indicators relating to access to suitable housing such as affordability (access to affordable housing) and overcrowding (access to adequate living space).

Accordingly, measures of the quality of the living environment have been drawn together into this new Domain. It includes a sub-domain for the quality of the 'indoors' living environment and a sub-domain for the quality of the 'outdoors' living environment. 'Outdoors' indicators are newcomers to the index and relate to the physical environment, whereas the 'indoors' indicators are a development of the housing quality measures in the ID 2000's Housing Domain. Issues relating to access to housing have been moved to the Barriers to Housing and Services Domain.

#### **THE INDICATORS**

##### **Sub-Domain: The 'indoors' living environment**

- Social and private housing in poor condition (2001, Source: BRE and ODPM, modelled EHCS).
- Houses without central heating (2001, Source: 2001 Census).

##### **Sub-Domain: The 'outdoors' living environment**

- Air quality (2001, Source: UK National Air Quality Archive data modelled at SOA level by the Geography Department at Staffordshire University).
- Road traffic accidents involving injury to pedestrians and cyclists (2000-2002, Source: DfT, STATS19 (Road Accident Data) smoothed to SOA level).

### **Deprivation in the ‘indoors’ living environment**

Respondents to the Stage 1 Consultation broadly supported investigating the 2001 English House Condition Survey (EHCS) to model poor quality housing. Housing in poor condition has been modelled for all tenures to postcode level by the Building Research Establishment (BRE) for inclusion in the Index. The BRE used the 2001 EHCS and RESIDATA to produce small area estimates of the percentage of social and private housing in disrepair or poor condition.

A measure of the percentage of houses without central heating has been included using data from the 2001 Census. A lack of central heating indicates a strong likelihood of difficulty in heating one’s home. An average of 8.5 per cent of households in England are without central heating, with the proportion being higher than 20 per cent in several local authority areas.

### **Deprivation in the ‘outdoors’ living environment**

The air quality indicator provides a valuable measure of environmental pollution. A subset of the UK National Air Quality Archive – the National Atmospheric Emissions Inventory (NAEI) – maintains estimates of emissions for small areas (modelled to 1 kilometre grid squares) in the UK. The Department of the Environment, Food and Rural Affairs and the World Health Organisation have defined guideline or standard values of pollutants that represent maximum ‘safe’ concentrations. Members of the Geography Department at Staffordshire University have allocated the emissions data to SOA level for four pollutants for which there are reliable small area level measures and clearly defined annual standard values. The four pollutants included are benzene, nitrogen dioxide, sulphur dioxide and particulates (PM10). The level of each pollutant in an SOA is then divided by the standard value for that pollutant and then all four values are summed to create an overall air quality score for the SOA.

A measure of the concentration of road traffic accidents involving injury to pedestrians and cyclists is available through the Department for Transport’s STATS19 database, which records details of all traffic accidents reported to police. These data provide an indicator of the risk of injury for non-motorised road users in the living environment and have been presented as a rate of the resident plus working population. Each incident is plotted by a 10-digit grid reference, making its location accurate to within 10 metres. In the event that an incident occurs within 10 metres of a SOA boundary, then the incident has been assigned equally to both SOAs. There are three classes of incidents: fatal, serious and slight. These have been weighted accordingly: triple weight for fatal; double weight for serious; and single weight for slight.

## **COMBINING THE INDICATORS**

The shrinkage technique was applied to the ‘houses without central heating’ and ‘road accidents involving injury to pedestrians and cyclists’ indicators. For each of the sub-domains, the indicators were standardised, transformed to a normal distribution and combined with equal weights. The two sub-domains were then standardised, exponentially transformed and combined with the following weights: 66.6% for the ‘indoors’ living environment and 33.3% for the ‘outdoors’ living environment, which is broadly in line with the ONS 2000 Time Use Survey.

## **OTHER ISSUES CONSIDERED**

### **Overcrowding**

The 2001 Census provides data on households that are overcrowded. As this indicator depicts a lack of suitable housing, rather than poor quality housing *per se*, this indicator has been included in the Barriers to Housing and Services Domain.

### **Affordability of housing**

Similarly, the inability to afford suitable accommodation is a key aspect of deprivation in England that is addressed in the Barriers to Housing and Services Domain.

### **Homelessness**

There are various measures of statutory homeless households derived from information provided by local authorities under the 1985 Housing Act and the 1996 Housing Act to the ODPM in annual HIP returns. Because this measure also relates to access to a home it is included in the Barriers to Housing and Services Domain.

### **Households lacking basic amenities**

It is possible to measure the number of households without exclusive use of a bathroom and inside toilet from the 2001 Census. However, an average of less than 1 per cent of households in England currently lack these amenities. This indicator would therefore not measure a significant aspect of deprivation at small area level and has not been included.

### **Children in unsuitable accommodation**

Data for this indicator can be drawn from the 2001 Census. However, the response to the Stage 1 Consultation was more negative than positive about its inclusion, as it could be argued that the measure reflects more about the building policy of local authorities. This measure has therefore not been included in the updated Index. In any event, this indicator would be a candidate for the 'Wider Barriers' sub-domain of the 'Barriers to Housing and Services Domain'.

### **Vacant dwellings and low demand**

Local authorities are required to report the number of vacant dwellings and neighbourhoods displaying at least one symptom of low demand in annual HIP returns. It may eventually be possible to model low demand at sub-district level to provide an indication of the neighbourhood health and this would therefore be a candidate for the 'Outdoors' sub-domain. However, current variations in local authority practice for measuring vacancies and low demand and the scale of variation in these counts across a district mean that this indicator cannot be included at present.

### **Land use and derelict land**

The current method for measuring derelict land is the National Land Use Database (NLUD), which is currently being assembled using data collected by local authorities. While the NLUD will eventually form a complete index of all land and property in Great Britain, the database is not yet comprehensive enough to give a measure of derelict land at small area level for the whole of England. Even if such an indicator was desirable, the lack of data means that no indicator could be produced for this update of the Index.

**Graffiti**

An indicator on graffiti is not proposed because recorded crime data for graffiti are not available separately from criminal damage as a whole. Moreover, some commentators have argued that graffiti may be variably reported.

## Section 8: Crime Domain

### PURPOSE OF DOMAIN

This Domain measures the rate of recorded crime for four major crime themes – burglary, theft, criminal damage and violence – representing the occurrence of personal and material victimisation at a small area level.

### BACKGROUND

At the time of the construction of the ID 2000, it was not possible to obtain small area recorded crime data for all areas in England (though see Noble, Smith et al, 2001 for an example of subsequent work in Northern Ireland which included recorded crime; see also Bradshaw and Williams, 2001; and McLennan and Whitemoss, 2001 Crime and Disorder Audit for Wigan and Leigh Community Safety Partnership). However, for the ID 2004, small area recorded crime data was successfully obtained for the first time from all 39 police forces, which has made it possible to construct an SOA level Crime Domain.

When conceptualising the neighbourhood deprivation caused by crime, it is important to be clear about three issues: definition, location and measurement. These are inextricably linked and together set the parameters within which the Domain is situated. In terms of definition, one could choose to define the Domain in terms of the number of events or expand the definition to include the physical, economic or psychological impacts of victimisation. Regarding location, one could choose to attribute the crime to the area in which it occurred or to the victim's home neighbourhood. In terms of measurement, one could focus solely on police recorded crime data or supplement this source with other indicators of criminal activity and social disorder.

In practice, the incidence of recorded crime has been measured, representing the occurrence of personal and material victimisation at a small area level, regardless of the presence or absence of other types of deprivation (such as income deprivation) in the area. While it would be good to consider impact measurements and to include other types of indicators from other data sources, this was not possible at the present time.

### THE INDICATORS

- Burglary (4 recorded crime offence types, Police Force data for April 2002-March 2003, constrained to Crime and Disorder Reduction Partnership (CDRP) level).
- Theft (5 recorded crime offence types, Police Force data for April 2002-March 2003, constrained to CDRP level).
- Criminal damage (10 recorded crime offence types, Police Force data for April 2002-March 2003, constrained to CDRP level).
- Violence (14 recorded crime offence types, Police Force data for April 2002-March 2003, constrained to CDRP level).

The decision to base the Domain solely on police recorded crime data was taken after extensive exploration of the conceptual and practical issues involved. Police recorded crime data locate criminal events at their point of occurrence – they therefore act as an indicator of incidence of victimisation at the neighbourhood level. These data are collected in an increasingly consistent way by each of the 39 police forces in England. The Home Office routinely publish this data at Police Force level and, for certain categories of crime, at sub-Police Force level. Police recorded crime data therefore satisfy the requirements of the Indices of Deprivation of being nationally applicable and regularly updateable.

Response to the initial consultation indicated widespread enthusiasm for including police recorded crime data on burglary, theft, criminal damage and violence, with consultees registering particular support for domestic burglary.

Accordingly, thirty-three different categories of recorded crime – termed ‘notifiable offences’ – were requested from each of the 39 regional police forces in England in order to fully capture the impact of personal and material victimisation on neighbourhoods for April 2002-March 2003 (see **Annex H** for a list of the categories of recorded crime that have been included).

It has been observed, both in academic research and within the police service itself, that police recorded crime data can suffer from variability in the accuracy and completion of geographical references. Although all police forces have the capability to attach a grid reference to each individual crime, the consistency with which this is undertaken in reality can be variable between forces and even within forces (with certain crimes being better referenced than others). A particular problem is the ‘dumping’ of crimes at a favoured grid reference – often a road centre point or a well-known location. This ‘dumping’ of crimes at a proximate but slightly inaccurate location may cause problems when aggregating to SOA level, as administrative boundaries are often defined by road layouts. For example, if a large number of crimes occur evenly along a road which bounds two SOAs, but all crimes are assigned to one side of the road, the SOA-level aggregate results will be skewed towards the SOA containing the favoured location. Therefore, when crimes occur close to an SOA boundary, they have been shared equally between the relevant SOAs. This procedure only affected those crimes falling close to, or on, administrative boundaries and will not therefore affect the vast majority of crimes (which can be confidently located within a particular SOA).

## COMBINING THE INDICATORS

Composite indicators were created by summing the constituent notifiable offence types to SOA level. To ensure all data were controlled to a common base, SOA level counts were then constrained to Home Office totals for Crime and Disorder Reduction Partnership (CDRP) areas. Each composite indicator was then constructed as a rate, using the appropriate denominator. The denominator for the burglary composite indicator was total dwellings from the 2001 Census plus business addresses from Ordinance Survey’s Address Point. For the violence, theft and criminal damage composite indicators, the denominator was resident population (including communal establishment population but excluding prison population) from the 2001 Census plus non-resident workplace population, also from the 2001 Census. The purpose of



the 'inflated' population denominator for the violence, theft and criminal damage composite indicators was to take into account the large 'at risk' non-resident population in town and city centres. It was not possible to take into account 'passers by'.

The four composite indicators were standardised and combined using weights generated by factor analysis.

## **OTHER ISSUES CONSIDERED**

### **Excluded categories of recorded crime**

Numerous categories of crime were considered but many were found to be inappropriate for inclusion. For instance, shoplifting has not been pursued because it tends to be concentrated in retail centres and because its reporting is often dependent upon the offender being caught in the act. Although drug-related crime is potentially very serious, the vast majority of specific drug offences are relatively minor, for possession of cannabis. In addition, differences in the number of reported drug crimes are not necessarily a reflection of different drug levels, but could simply reflect variations in police policy. Sexual offence data has not been pursued due to sensitivity issues; the low reporting of these crimes; and the way in which reporting is influenced by the relationship of the victim to the offender. Domestic violence has not been included as an indicator in its own right as violent offences against same-household members will be included in the violence composite indicator, if recorded by the Police. Cycle thefts have been excluded because they are a relatively minor crime. Fraud is excluded because it is extremely difficult to locate geographically. A measure of total crime has not been included because it would include these and other excluded categories.

### **Fear of crime**

The British Crime Survey (BCS) complements and qualifies the recorded crime statistics by adopting a more victim-centred focus. The BCS is a large national survey, repeated annually since 2000, which explores not only the incidence of victimisation, but also people's fears and concerns about crime and perceptions of community disorder. The BCS has consistently revealed that individuals living in deprived neighbourhoods (as defined by the ACORN classification) are more likely to register higher levels of victimisation and fear of crime than those individuals in less deprived neighbourhoods. Individuals in deprived areas are also more likely to perceive their local neighbourhood as weaker on a range of social order indicators. This victim-centred data source would clearly complement police recorded crime data in a Crime Domain.

Unfortunately, however, the lowest spatial level at which the BCS results are presently published is police force area. Clearly, this is not suitable for a neighbourhood level Crime Domain. An ONS feasibility study to determine the possibility of modelling the BCS to small area level began in July 2003 and a report will be submitted to the Home Office in 2004. Due to the limited time scale of the ID 2004 update it has therefore not been possible to include small area data relating to fear of crime derived from the BCS in the current update.

## Offenders

Information concerning offenders – both adult and juvenile – can be of critical importance when attempting to explain observed patterns and trends in local crime rates. For instance, by reducing the numbers of persistent offenders in a locality – either through incarceration or, more positively, through addressing the risk factors that generate and sustain offending behaviour (for example, substance misuse) – a Community Safety Partnership can significantly reduce the local crime rate.

The inclusion of offender data in the Crime Domain is not as straightforward as either offence data (from police recorded crime data) or victim data (from the BCS). For instance, should a neighbourhood containing a high proportion of offenders but where the crime rate is very low (ie, where offenders commit their offences outside of their local area) score highly on a measure of crime-related deprivation? Although it is well documented that, in reality, offenders do tend to commit acts of criminality within the boundaries of their local geographical knowledge (for example, Cohen and Felson (1979); Brantingham (1981); and Wiles and Costello (2000)), the conceptual issue of whether an area is crime deprived simply because it contains high numbers of offenders persists.

During the exploration of conceptual and practical issues of this Domain, a number of offender-related data sets were investigated for suitability. Even if it had been deemed to be acceptable, there is no available data at present. The Offenders Index was explored but was not suitable for inclusion due to a lack of geographical references within the dataset. The Police National Computer was also investigated but because of the design of the system it proved impossible to extract data in a usable form. Across Probation Services and Youth Offending Teams the recording practices also varied. Probation Services are in a state of transition from various offender-assessment frameworks to the national Offender Analysis System (OASys). When OASys is fully implemented it should provide a valuable indicator of offenders' criminal behaviour and the risk factors associated with re-offending.

## Home contents insurance premiums

Previous research into the use of home contents insurance premium data as a potential indicator of crime has revealed a number of weaknesses in this approach. Primarily, a substantial proportion of households do not have household insurance and therefore would not be reflected in the premiums. The decision not to include insurance data was supported by respondents to the Stage 1 Consultation.

## Fire data

Fire Service data relating to malicious or deliberate fires could not be included in the Index at this time. Though data for some areas has been received, further work needs to be undertaken to generate a consistent small area level dataset for the whole country and this was not possible at this time. The ODPM are undertaking an internal feasibility project to explore the possibility of creating such a dataset. Once this has been accomplished the data might be suitable for inclusion in a future version of the Index but would first require some analysis.

## Adjusting for variations in reporting and recording crime

The BCS consistently indicates that the proportion of crime reported to the police varies both by crime type and by area. Furthermore, the proportion of reported crime that is recorded by the police also varies by crime type and area. The possibility of

‘up-weighting’ police recorded crime data to take account of low reporting and recording rates was considered. However, the more limited number of crime types covered by the BCS meant that it would not be possible to confidently attribute scaling factors to the wide variety of recorded crime categories requested from the police. It was decided that this adjustment was likely to introduce greater errors than it removed.

# CHAPTER 3

## Combining the Domains into an Index of Multiple Deprivation

Domains are conceived as independent dimensions of multiple deprivation, each with their own additive impact on multiple deprivation. The strength of this impact, though, should vary between Domains depending on their relative importance. In order to allow for this type of combination, the following method was used:

- Rank the Domain scores and then transform the ranks to an exponential distribution, in the same way as for the ID 2000.
- Construct weights with which to combine these new scores.

## Standardising and Transforming the Domain Indices

Having obtained a set of Domain Indices these needed to be combined into an overall Index of Multiple Deprivation. In order to combine Domain Indices which are each based on very different units of measurement there needed to be some way to standardise the scores before any combination could take place. A form of standardisation and transformation was required that met the following criteria. First, it must ensure that each Domain has a common distribution; second, it must not be scale dependent (ie, conflate size with level of deprivation); third, it must have an appropriate degree of cancellation built into it (discussed below); and fourth, it must facilitate the identification of the most deprived SOAs. The exponential transformation of the ranks best met these criteria.

Other procedures were considered, such as z-scores or untransformed ranks. Using the ranks for each Domain would solve some problems but would introduce others. Ranks would certainly put Domains on to the same metric. The problem is that the distance between each of the scores underlying the ranks is not equal. Once ranked this distance is made equal and some of the information of the data is lost. The symmetrical nature of ranks, and 'z scores' of normally distributed data, means that a 'good' score on one Domain could fully cancel out a 'bad' score on another. This means that a relative lack of deprivation in one Domain, would have had a major impact on a more severe deprivation in another Domain, when combined into an overall deprivation result.

The exponential distribution selected meet the criteria set out above in the following ways. First it transforms each Domain so that they each have a common distribution, the same range and identical maximum/minimum value, so that when the Domains are weighted and combined into a single multiple deprivation measure, the impact of the weights is much clearer. Second, it is not affected by the size of the SOA's population. Third, it effectively spreads out the part of distribution in which there is most interest – that is the 'tail' which contains the most deprived SOAs in each Domain. Fourth, it enables one to determine the desired cancellation properties. The exponential transformation procedure is set out in more detail in **Annex I**.

Each transformed Domain has a range of 0 to 100, with a score of 100 for the most deprived SOA. The chosen exponential distribution is one of an infinite number of possible distributions. The constant (23) determines that approximately ten per cent of SOAs have a score higher than 50. When transformed scores from different Domains are combined by averaging them, the skewness of the distribution reduces the extent to which deprivation on one Domain can be cancelled by lack of deprivation on another. For example, if the transformed scores on two Domains are simply averaged, with equal weights, a (hypothetical) SOA that scored 100 on one Domain and 0 on the other would have a combined score of 50 and would thus be ranked at the 90th percentile. (Averaging the untransformed ranks, or after transformation to a normal distribution, would result in such a SOA being ranked instead at the 50th percentile: the high deprivation in one Domain would have been fully cancelled by the low deprivation in the other). Thus the extent to which deprivation in some Domains can be cancelled by lack of deprivation in others is, by design, reduced.

The exponential transformation stretches out the distribution so that greater levels of deprivation score more highly.

The issue of cancellation is clearly important for understanding the nature of multiple deprivation. If, for example, there were data on an individual who was known to be at the top of the income distribution, but who had no educational qualifications, an argument might be made that the lack of income deprivation should cancel out fully the education deprivation and that this individual should be judged to be not deprived. (However, even here there would be arguments against such a direct and full cancellation). The approach used in the IMD 2004 is to conceptualise the various deprivations as measured by each Domain as separate and distinct, though they may have cumulative effects in an area (or for any individual). Thus to be poor and in ill-health is clearly a worse state than experiencing just one of these deprivations on their own. It would be conceptually inappropriate for someone who is poor but healthy to have their income deprivation discounted because they are fortunate enough to be in good health (though this is in effect what many previous indices of multiple deprivation have done).

The significant advantage of the exponential transformation is that it gives control over the extent to which lack of deprivation in one Domain cancels or compensates for deprivation in another Domain. In particular, it allows precise regulation (though not the elimination) of these cancellation effects. The exponential transformation has been used in a way that reflects a level of cancellation appropriate for this approach to multiple deprivation.

## Weighting the Domains

An issue faced by all who seek to construct an overall Index of Multiple Deprivation is the question of what ‘explicit weight’ should be attached to the various components. The weight is the measure of importance that is attached to each component in the overall composite measure.

In the English Index of Local Conditions (ILC) 1991 (DoE, 1994) and the English Index of Local Deprivation (ILD) 1998 (DETR, 1998), indicators were simply summed, that is to say, given equal weight. Because these previous indices contained more variables relating to some aspects of deprivation than others, they in fact weighted those aspects of deprivation more than others. To take the ILC 1991 as an example, this had seven indicators at ward level which were given equal weight. In fact, three of the indicators related to what might be termed ‘housing deprivation’ – (overcrowding, lacking amenities and children in unsuitable accommodation); two to ‘income deprivation’ – (no car, children in low earner households); one relating to ‘employment deprivation’ (unemployment) and one relating to ‘education deprivation’ – (low education participation). In the 1998 update one of the housing indicators was dropped (children in unsuitable accommodation). This thus means that the weights for the ILC 1991 and ILD 1998 at ward level were:

	<b>ILC 1991</b>	<b>ILD 1998</b>
Income Deprivation	28.5%	33.33%
Employment Deprivation	14.25%	16.66%
Education Deprivation	14.25%	16.66%
Housing Deprivation	42.75%	33.33%

This is, in fact, not the whole story. As has been discussed above, the actual process by which indicators or Domain scores are standardised and transformed before combination is important as some statistical techniques can result in the introduction of unintended ‘implicit’ weights.

How can one attach weights to the various aspects of deprivation? That is, how can one determine which aspects are more important than others? As has been shown simply summing indicators can itself lead to weighting which may be driven more by the availability of indicators rather than from any conceptual model of multiple deprivation.

There are at least five possible approaches to weighting:

- a. driven by theoretical considerations.
- b. empirically driven.
- c. determined by policy relevance.
- d. determined by consensus.
- e. entirely arbitrary.

In the theoretical approach, account is taken of the available research evidence which informs the theoretical model of multiple deprivation and weights are selected which reflect this theory.

There are two sorts of empirical approaches that might be applicable. First a commissioned survey or re-analysis of an existing survey might generate weights. Second one might apply a technique such as Factor Analysis to extract some latent 'factor' called 'multiple deprivation' assuming, that is, that the analysis permitted a single factor solution (see Senior, 2002).

Alternatively, the individual Domain scores could be released and weighted for combination in accordance and (proportion) to the focus of particular policy initiatives or weighted in accordance with public expenditure on particular areas of policy.

Another approach would be for policy makers and other 'customers' or experts to simply be consulted for their views and the results examined for consensus.

Finally, simply choosing weights without reference to the above or even selecting equal weights in the absence of empirical evidence would come into the category of 'entirely arbitrary'. Weighting always takes place when elements are combined together. Thus if the Domains are summed together to create a multiple deprivation measure this means they are given equal weight. It would be incorrect to assume that items can be combined without weighting.

For this update theoretical considerations prevailed. The weights selected for the Domains were supported by the research team's work, the consultation process and, where available, the wider academic literature. The Income and Employment Domains were regarded as the most important contributors to the concept of multiple deprivation and the indicators comprising these Domains were very robust. Hence it was decided that they should carry more weight than the other Domains.

Based on these criteria the following weights were used:

	<b>Domain Weight</b>
Income deprivation	22.5%
Employment deprivation	22.5%
Health deprivation and disability	13.5%
Education, skills and training deprivation	13.5%
Barriers to housing and services	9.3%
Crime	9.3%
Living Environment deprivation	9.3%

A diagram of the components of the IMD can be found in **Annex J**.

# CHAPTER 4

## Presentation of results and interpretation

### Super Output Area (SOA) Level Results

At the Super Output Area (SOA) level there are ten Indices for each SOA in England: seven Domain Indices (which are combined to make the overall Index of Multiple Deprivation); an overall Index of Multiple Deprivation; a supplementary Income Deprivation Affecting Children Index; and a supplementary Income Deprivation Affecting Older People Index. These ten Indices are each assigned a national rank. There are 32,482 SOAs in England. The most deprived SOA for each Index is given a rank of 1 and the least deprived SOA is given a rank of 32,482, for presentation. The ranks show how an SOA compares to all the other SOAs in the country and are easily interpretable. However, the scores indicate the distances between each rank position, as these will vary.

The SOA level Indices and their ranks can be obtained at the following web address [www.odpm.gov.uk/indices](http://www.odpm.gov.uk/indices).

#### **THE SEVEN DOMAIN INDICES AND RANKS**

Each Domain Index consists of a score which is then ranked. These Domain Indices can be used to describe each type of deprivation in an area. This is important as it allows users of the Index to focus on particular types of deprivation and to compare this across SOAs. There may be great variation within a district or larger area and the SOA level Domain Indices allow for a sophisticated analysis of deprivation information.

The scores for the Income Deprivation Domain and the Employment Deprivation Domain are rates. So, for example, if an SOA scores 38.6 in the Income Deprivation Domain, this means that 38.6% of the SOA's population are Income deprived. The same applies to the Employment Deprivation Domain. The scores for the remaining five Domains are not rates. Within a Domain, the higher the score, the more deprived an SOA is. However, the scores should not be compared between Domains as they have different minimum and maximum values and ranges. To compare between Domains the ranks should be used. A rank of 1 is assigned to the most deprived SOA and a rank of 32,482 is assigned to the least deprived SOA, for presentation.



## **THE OVERALL INDEX OF MULTIPLE DEPRIVATION 2004**

The overall Index of Multiple Deprivation 2004 describes the SOA by combining information from all seven Domains: Income Deprivation, Employment Deprivation, Health Deprivation and Disability, Education Skills and Training Deprivation, Barriers to Housing and Services, Living Environment Deprivation and Crime. These were combined in two stages; first each Domain was transformed to a standard distribution – the exponential distribution described above. Then the Domains were combined using the explicit Domain weights chosen. The overall SOA level IMD 2004 is then ranked in the same way as the Domain Indices.

The IMD 2004 score is the combined sum of the weighted, exponentially transformed Domain rank of the Domain score. Again, the bigger the IMD 2004 score, the more deprived the SOA. However, because of the exponential distribution, it is not possible to say, for example, that an SOA with a score of 40 is twice as deprived as an SOA with a score of 20. In order to make comparisons between SOAs it is recommended that ranks should be used. The IMD 2004 is ranked in the same way as the Domain Indices, that is, a rank of 1 is assigned to the most deprived SOA and a rank of 32,482 is assigned to the least deprived SOA, for presentation.

## **THE SUPPLEMENTARY INCOME DEPRIVATION AFFECTING CHILDREN INDEX**

The supplementary Income Deprivation Affecting Children (IDAC) Index is a subset of the Income Deprivation Domain and shows the percentage of children in each SOA that live in families that are income deprived (ie, in receipt of IS, JSA-IB, or WFTC/DPTC below a given threshold). The IDAC Index is not combined with the other Domains into the overall Index of Multiple Deprivation as the children are already captured in the Income Deprivation Domain. An IDAC Index score of, for example 24.6 means that 24.6% of children aged less than 16 in that SOA are living in families that are income deprived. Again, a rank of 1 is assigned to the most deprived SOA and a rank of 32,482 is assigned to the least deprived SOA, for presentation.

## **THE SUPPLEMENTARY INCOME DEPRIVATION AFFECTING OLDER PEOPLE INDEX**

The supplementary Income Deprivation Affecting Older People (IDAOP) Index is a subset of the Income Deprivation Domain. This comprises the percentage of an SOA's population aged 60 and over who are IS/JSA-IB claimants aged 60 and over and their partners (if also aged 60 or over). The IDAOP Index is not combined with the other Domains into the overall Index of Multiple Deprivation as these income deprived older people are already captured in the Income Deprivation Domain. Again, a rank of 1 is assigned to the most deprived SOA and a rank of 32,482 is assigned to the least deprived SOA, for presentation.

## District Level Presentations

Six summary measures of the overall IMD 2004 have been produced at district level which describe differences between districts. The following section describes the creation of the district level summaries of the IMD 2004. The district level summaries of the IMD 2004 can be obtained at the following web address [www.odpm.gov.uk/indices](http://www.odpm.gov.uk/indices).

The summary measures at district level focus on different aspects of multiple deprivation in the area. No single summary measure is favoured over another, as there is no single best way of describing or comparing districts.

Districts are complex to describe as a whole or to compare for several reasons. First, districts can vary enormously in population size. Further, some districts may have a more 'mixed' population, containing more variation in deprivation and in some places deprivation may be concentrated in severe pockets rather than being more evenly spread. This makes an 'overall picture' more difficult to establish.

Six measures have been devised which take account of these issues, and which describe the district in different ways: looking at the most deprived populations, the most deprived SOAs, as well as the average of the SOAs, to get six meaningful descriptions of deprivation at district level. More subtle descriptions of deprivation across a district can be established by a close analysis of the SOAs within that district, as the SOA level Index contains the most detailed account of local deprivation. At the SOA level much more information is retained than with the district level summaries.

These measures are discussed individually below.

There are 354 local authority districts in England. For each measure each district is given a rank and score (with the exception of Extent, as explained below). For presentation, a rank of 1 indicates that the district is the most deprived according to the measure and 354 is the least deprived. The meaning of the scores for each of the measures is detailed as follows.

### LOCAL CONCENTRATION

Local Concentration is the population weighted average of the ranks of a district's most deprived SOAs that contain exactly 10% of the district's population.

Local Concentration is an important way of identifying districts' 'hot spots' of deprivation. The Local Concentration measure defines the 'hot spots' by reference to a percentage of the district's population. This involves taking the mean of the population weighted rank of a district's most deprived SOAs that capture exactly 10% of the district's population. In many cases this was not always a whole number of SOAs. For the purpose of calculating this score the SOAs are ranked such that the most deprived SOA is given the rank of 32,482.

## EXTENT

Proportion of a district's population living in the most deprived SOAs in the country.

This measure is a refined version of the ID 2000's Extent measure which looked at the proportion of a district's population living in the 10% most deprived SOAs in the country. In this measure, 100% of the people living in the 10% most deprived SOAs in England are captured in the numerator, plus a proportion of the population of those SOAs in the next two deciles on a sliding scale – that is 95% of the population of the SOA at the 11th percentile and 5% of the population of the SOA at the 29th percentile. This makes the cut-off point less abrupt for this measure.

The aim of this measure is to portray how widespread high levels of deprivation are in a district. It only includes districts which contain SOAs which fall within the most deprived 30% of SOAs in England. Therefore some districts do not have an overall score for this measure and they are given a joint rank of 298.

## SCALE (TWO MEASURES)

Income Scale is the number of people who are Income deprived; Employment Scale is the number of people who are Employment deprived.

These two measures are designed to give an indication of the sheer numbers of people experiencing Income deprivation and Employment deprivation at district level. The Income Scale score is a count of individuals experiencing this deprivation. The Employment Scale score is a count of individuals experiencing this deprivation. It is useful to present both measures as they are real counts of the individuals experiencing these deprivations.

There are two further ways of describing districts using all of the SOAs:

## AVERAGE OF SOA RANKS

Population weighted average of the combined ranks for the SOAs in a district.

This measure is useful because it summarizes the district taken as a whole, including both deprived and less deprived SOAs. All the SOAs in a district need to be included to obtain such an average, as each SOA contributes to the character of that district. This measure is calculated by averaging all of the SOA ranks in each district. For the purpose of calculating this score the SOAs are ranked such that the most deprived SOA is given the rank of 32,482. The SOA ranks are population weighted within a district to take account of the fact that SOA size can vary.

## AVERAGE OF SOA SCORES

Population weighted average of the combined scores for the SOAs in a district.

This measure also describes the district as a whole, taking into account the full range of SOA scores across a district. The advantage of the Average of SOA Score measure is that it describes the SOA by retaining the fact that the more deprived SOA may have more 'extreme' scores, which is not revealed to the same extent if the ranks are used. This measure is calculated by averaging the SOA scores in each district after they have been population weighted. The larger the resultant district level score, the more deprived the district. And as for all of the district level summaries, a rank of 1 is assigned to the most deprived district.

## County and Primary Care Trust (PCT) Level Presentations

In addition to creating six district level summaries of the IMD 2004, these six summaries have also been produced for Counties and for Primary Care Trusts (PCT). The methodologies used were identical to those described for the districts above. The County and PCT level summaries of the IMD 2004 can be obtained at the following web address [www.odpm.gov.uk/indices](http://www.odpm.gov.uk/indices).

# CHAPTER 5

## The geography of deprivation

### Introduction

The ID 2004 provides many useful tools for examining the geographical distribution of deprivation in England. This chapter presents some key findings.

- **Section 1** presents the maps of the IMD 2004 for each Region, with an overview of multiple deprivation in England.
- **Section 2** consists of a breakdown of the most deprived and least deprived 20% of Super Output Areas (SOAs) on the IMD 2004.
- **Section 3** presents key findings about each of the Domains, focusing in detail on the Income and Employment Domains and the supplementary Income Deprivation Affecting Children Index (IDAC) and Income Deprivation Affecting Older People Index (IDAOP).
- **Section 4** examines the district level summary measures of the IMD 2004 and includes maps of each of the measures.

The geography of deprivation as revealed by the ID 2004 is complex. Each Region or district within England contains SOAs with very different characteristics within it. Thus, the most deprived SOAs are spread throughout all the Regions of England. Moreover, every Region also contains SOAs which fall within the *least* deprived ten per cent of SOAs in England. Furthermore even the least deprived SOAs may contain deprived people within them and the most deprived SOAs may contain affluent people. Identifying SOAs as being among the least deprived does not necessarily mean that these SOAs contain large numbers of, for example, very rich people.

## Section 1: An overview of the patterns of multiple deprivation in England and Regional maps of SOA level IMD 2004

The Index of Multiple Deprivation is made up of seven Domain Indices. The most highly deprived SOAs score as deprived on several of the Domains. In fact, if one takes SOAs that are ranked overall in the most deprived 10% of the IMD, the following can be said:

- 99.3% of these SOAs score in the most deprived 10% on two or more Domains.
- 90.3% are in the most deprived 10% on three or more Domains.
- One SOA features in the most deprived 10% on all seven Domains.
- 0.7% of these SOAs score in the most deprived 10% on only one Domain, but they score highly in most other Domains.

The following maps show the SOA level IMD 2004 for each Region in England. The SOAs have been divided into ten equal groups ('deciles'). SOAs shaded dark blue are the most deprived 10% of SOAs in England and SOAs shaded bright yellow are the least deprived 10% of SOAs in England. Maps showing the district boundaries and district names are also included for each Region.

**Annex K** lists the most deprived 100 SOAs on the IMD 2004.

As was the case for the ID 2000 most urban centres contain areas with high levels of multiple deprivation. The conurbations of Manchester, Liverpool and Newcastle together with neighbouring metropolitan areas contain many highly deprived SOAs and demonstrate a degree of uniformity in the deprivation. The same is the case for the large metropolitan areas in Yorkshire and the Humber and the West Midlands as well as in smaller metropolitan areas such as Nottingham and Stoke-on-Trent. However, as the maps show, the choice of SOA rather than ward as the geographical unit enables very highly deprived pockets to be identified. This is particularly the case in areas with large ward sizes such as Sheffield and Birmingham.

As was the case in the ID 2000 the north east quarter of London remains particularly deprived, with Newham, Hackney, Tower Hamlets, and the eastern half of Haringey continuing to exhibit very high levels of deprivation. There are almost no SOAs in these areas which fall among the 50% least deprived, showing a high overall level of deprivation in these areas.

Areas such as Easington, Middlesbrough and Hartlepool in the North East GOR, have very high levels of multiple deprivation. As with the ID 2000, this pattern of multiple deprivation applies in the former coalfield areas and former tin mining areas such as Penwith in Cornwall. Seaside resort towns, such as Great Yarmouth and Hastings continue to show high levels of deprivation as do the ports of Plymouth, Kingston upon Hull and Bristol.

Many of the very deprived SOAs are in close proximity to less deprived SOAs – leading to heterogeneous districts with a wide range of multiple deprivation within them. The South East, however, remains more uniformly less deprived than any other Region, despite having some pockets of deprivation, principally in the former resort towns such as Margate and Hastings. The pattern of multiple deprivation in the South West remains as with the ID 2000. There is only one SOA in Cornwall in the least deprived decile of SOAs in England. In the North East GOR, very few SOAs fall into the least deprived 20%.

Some areas experience extremes of high and low levels of deprivation. For example:

- Swindon contains 119 SOAs. Of these, eleven SOAs are in the least deprived 10% of SOAs in England, and seven SOAs are in the most deprived 10% of SOAs in England.
- In Peterborough, there are eighteen SOAs which are amongst the 20% least deprived in England and twenty-two SOAs that are among the 20% most deprived in England.
- In Trafford, there are thirty-six SOAs which are amongst the 30% least deprived in England and thirty-four SOAs that are among the 30% most deprived in England.

## **REGIONAL MAPS OF SOA LEVEL MULTIPLE DEPRIVATION**

### **East Region**

The East Region has in total 3,550 SOAs so just over 2% of its SOAs are within the 10% most deprived on the IMD 2004. The East Region has over two thirds of all its SOAs in the 50% least deprived on the IMD 2004.

East Region has 73 of the 10% most deprived SOAs in England. These are scattered throughout the Region, largely in coastal areas. The largest concentrations of deprived SOAs are within the Norfolk towns of Norwich and Great Yarmouth.

## Local Authorities in the East of England GOR



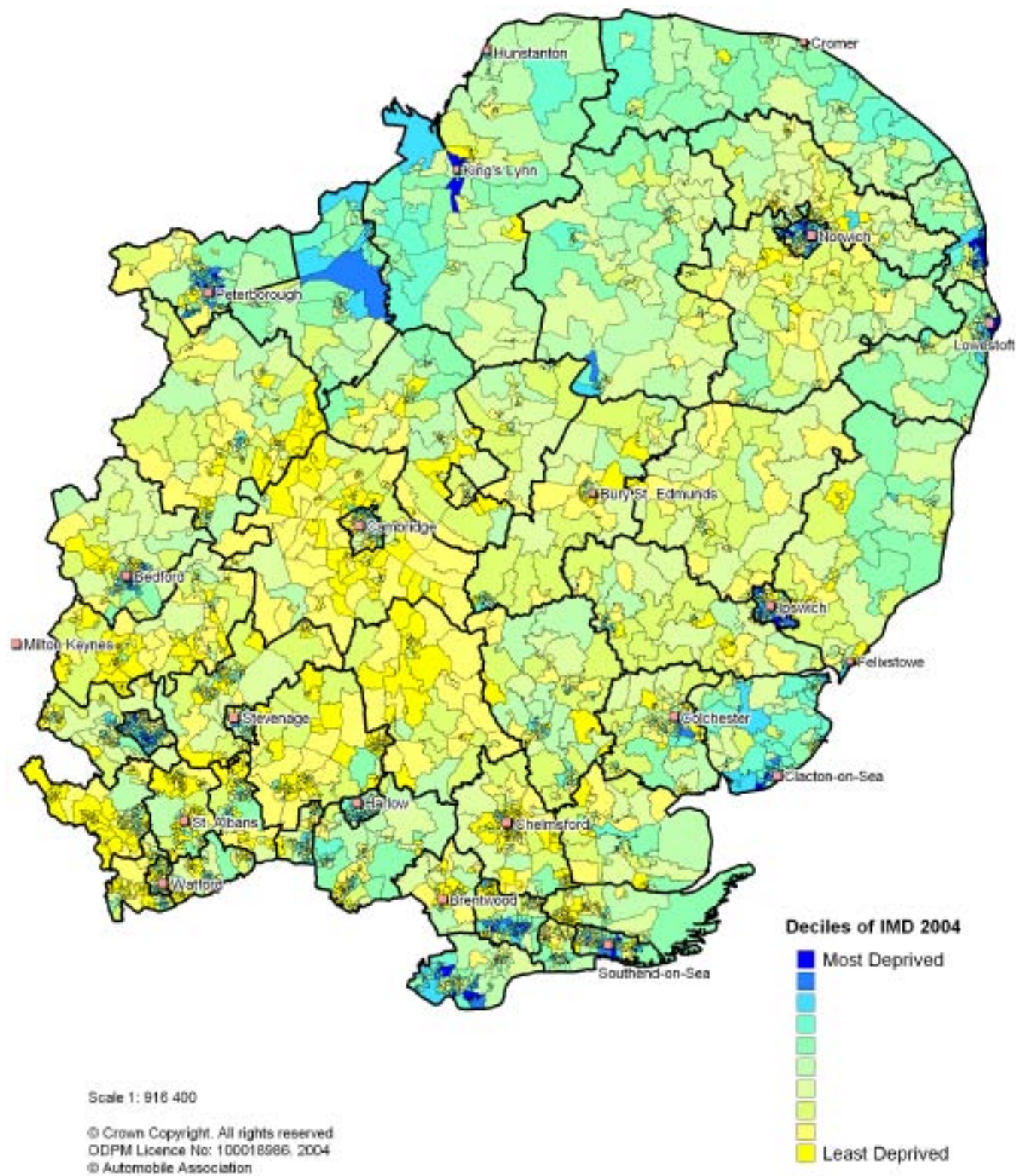
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Id	Name
1	BABERGH DISTRICT
2	BASILDON DISTRICT
3	BEDFORD DISTRICT
4	BRAUNTREE DISTRICT
5	BRECKLAND DISTRICT
6	BRENTWOOD DISTRICT
7	BROADLAND DISTRICT
8	BROXBORNE DISTRICT
9	CAMBRIDGE DISTRICT
10	CASTLE POINT DISTRICT
11	CHELMSFORD DISTRICT
12	CITY OF PETERBOROUGH
13	COLCHESTER DISTRICT
14	DACORUM DISTRICT
15	EAST CAMBRIDGESHIRE DISTRICT
16	EAST HERTFORDSHIRE DISTRICT
17	EPHING FOREST DISTRICT
18	FENLAND DISTRICT
19	FOREST HEATH DISTRICT
20	GREAT YARMOUTH DISTRICT
21	HARLOW DISTRICT
22	HERTSMERE DISTRICT
23	HUNTINGDONSHIRE DISTRICT
24	IPSWICH DISTRICT

Id	Name
25	KING'S LYNN AND WEST NORFOLK DISTR.
26	LUTON
27	MALDON DISTRICT
28	MID BEDFORDSHIRE DISTRICT
29	MID SUFFOLK DISTRICT
30	NORTH HERTFORDSHIRE DISTRICT
31	NORTH NORFOLK DISTRICT
32	NORWICH DISTRICT
33	ROCHFORD DISTRICT
34	SOUTH BEDFORDSHIRE DISTRICT
35	SOUTH CAMBRIDGESHIRE DISTRICT
36	SOUTH NORFOLK DISTRICT
37	SOUTHEND-ON-SEA
38	ST ALBANS DISTRICT
39	ST EDMUNDSBURY DISTRICT
40	STEVENAGE DISTRICT
41	SUFFOLK COASTAL DISTRICT
42	TENDRING DISTRICT
43	THREE RIVERS DISTRICT
44	THURROCK
45	UTTLESFORD DISTRICT
46	WATFORD DISTRICT
47	WAVENEY DISTRICT
48	WELWYN HATFIELD DISTRICT



East of England GOR  
Index of Multiple Deprivation 2004



### **East Midlands**

The East Midlands has 220 of the 10% most deprived SOAs in England. There are 2,732 SOAs in total so just over 8% of all its SOAs are within these 10% most deprived SOAs on the IMD 2004.

The deprived SOAs of the East Midlands are concentrated around the population centres of Leicester, Derby, and Nottingham. The former Nottinghamshire and Derbyshire coal field districts of Mansfield, Ashfield, Bassetlaw, Chesterfield and Bolsover all contain concentrations of SOAs suffering severe deprivation.

## Local Authorities in the East Midlands GOR



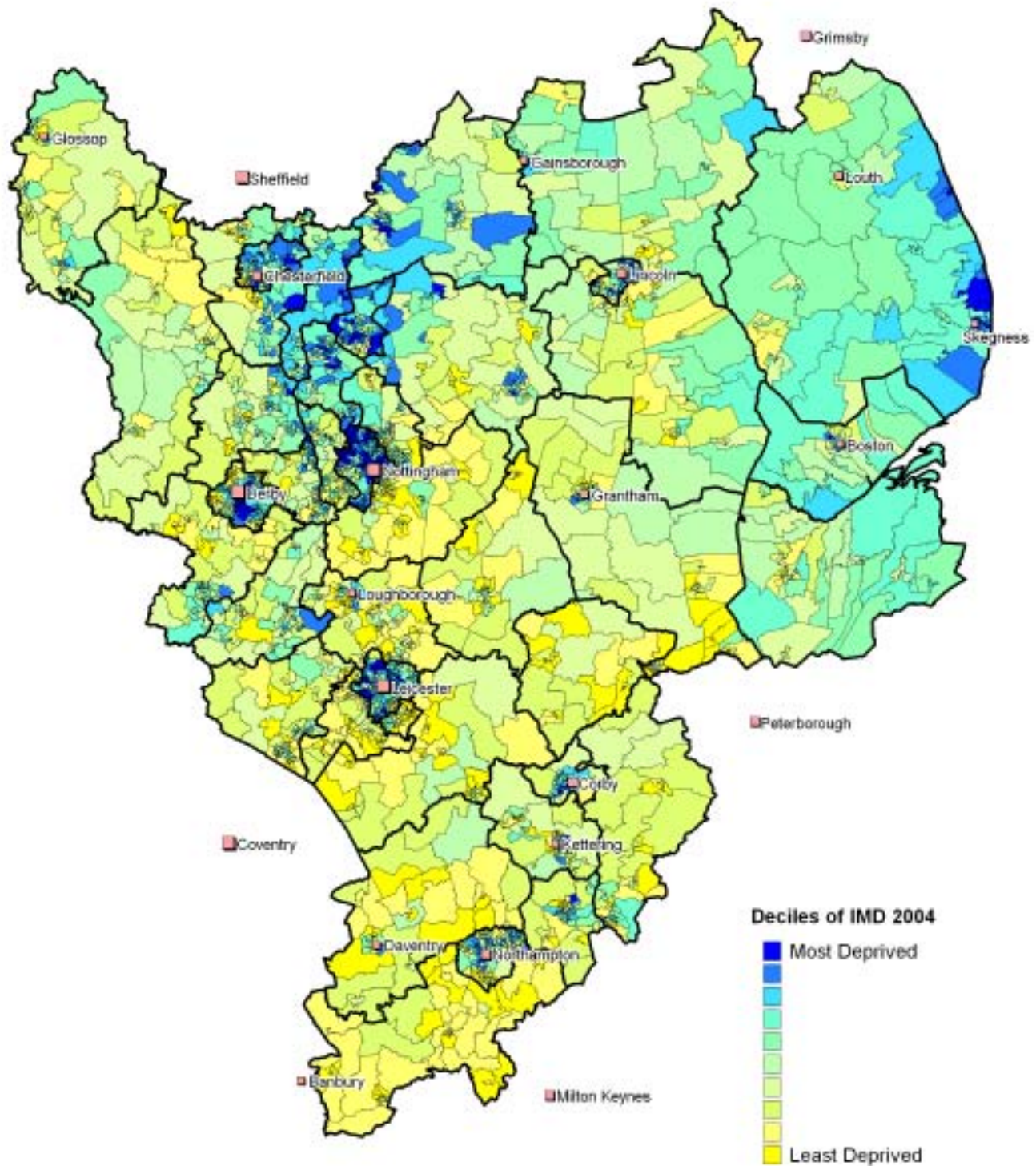
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Id	Name
1	AMBER VALLEY DISTRICT
2	BOLSOVER DISTRICT
3	CHESTERFIELD DISTRICT
4	DERBYSHIRE DALES DISTRICT
5	EREWASH DISTRICT
6	HIGH PEAK DISTRICT
7	NORTH EAST DERBYSHIRE DISTRICT
8	SOUTH DERBYSHIRE DISTRICT
9	BLABY DISTRICT
10	CHARNWOOD DISTRICT
11	HARBOROUGH DISTRICT
12	HINCKLEY AND BOSWORTH DISTRICT
13	MELTON DISTRICT
14	NORTH WEST LEICESTERSHIRE DISTRICT
15	ODDY AND WIGSTON DISTRICT
16	BOSTON DISTRICT
17	EAST LINDSEY DISTRICT
18	LINCOLN DISTRICT
19	NORTH KESTIVEN DISTRICT
20	SOUTH HOLLAND DISTRICT

Id	Name
21	SOUTH KESTIVEN DISTRICT
22	WEST LINDSEY DISTRICT
23	CORBY DISTRICT
24	DAVENTRY DISTRICT
25	EAST NORTHAMPTONSHIRE DISTRICT
26	KETTERING DISTRICT
27	NORTHAMPTON DISTRICT
28	SOUTH NORTHAMPTONSHIRE DISTRICT
29	WELLINGBOROUGH DISTRICT
30	ASHFIELD DISTRICT
31	BASSETLAW DISTRICT
32	BROXTOWE DISTRICT
33	GEDLING DISTRICT
34	MANSFIELD DISTRICT
35	NEWARK AND SHERWOOD DISTRICT
36	RUSHCLIFFE DISTRICT
37	CITY OF DERBY
38	CITY OF LEICESTER
39	RUTLAND
40	CITY OF NOTTINGHAM



## East Midlands GOR Index of Multiple Deprivation 2004



## **London**

London contains 462 of the 10% most deprived SOAs in England. London has 4,765 SOAs in total so just under 10% of all its SOAs are in the 10% most deprived.

As has been indicated, London's share of the 10% most deprived SOAs are concentrated in inner London Boroughs particularly (though not exclusively) to the 'inner' north east, such as Tower Hamlets, Newham and Hackney. This spatial pattern of deprivation within London spreads westward north of the river with severely deprived SOAs in Islington, Haringey, Camden, Westminster and Brent, and south of the river in Southwark, Lewisham, Greenwich and Lambeth.

## Local Authorities in the London GOR

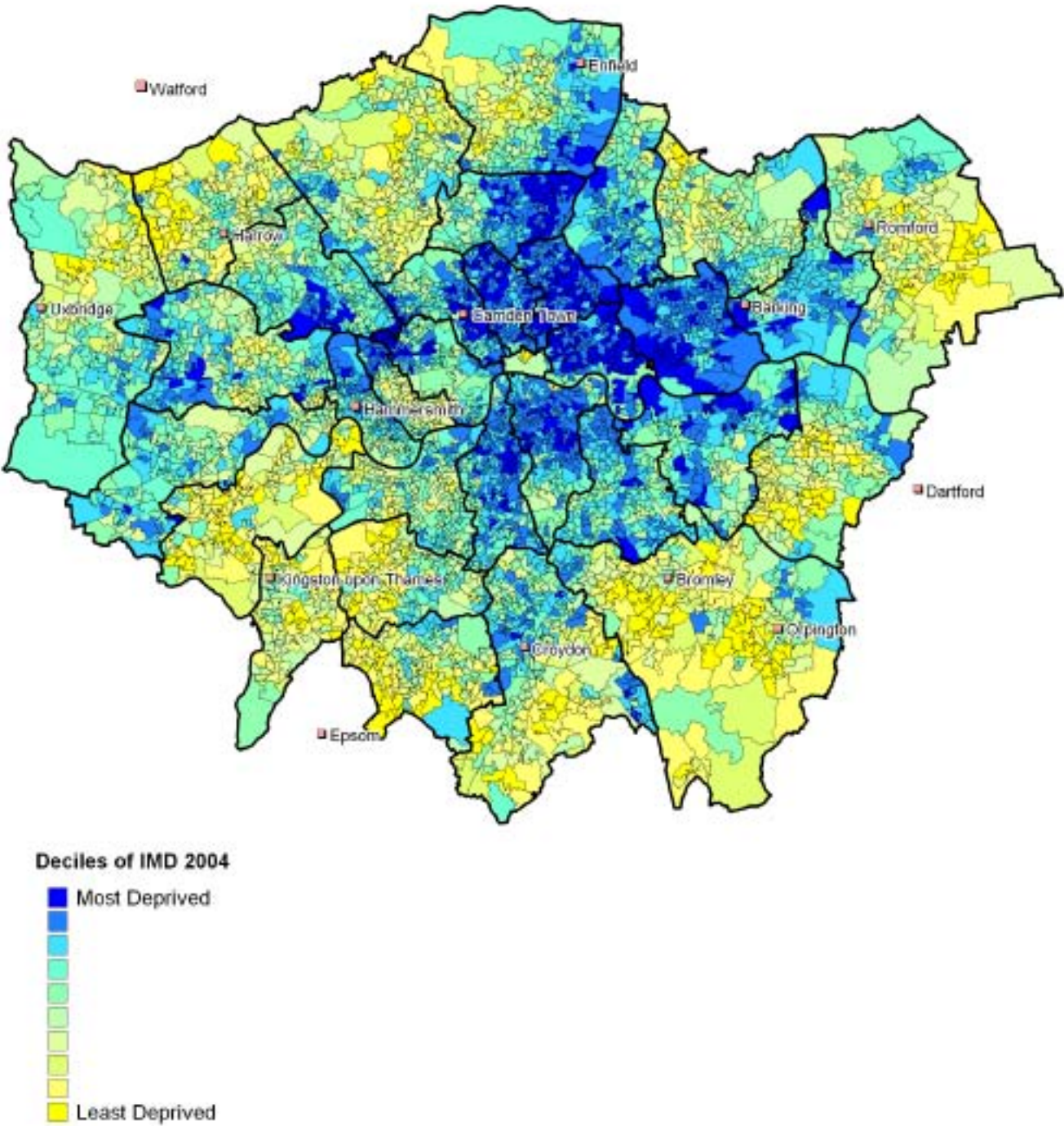


id	Name
1	CITY AND COUNTY OF THE CITY OF LONDON
2	BARKING AND DAGENHAM LONDON BORO
3	BARNET LONDON BORO
4	BEXLEY LONDON BORO
5	BRENT LONDON BORO
6	BROMLEY LONDON BORO
7	CAMDEN LONDON BORO
8	CROYDON LONDON BORO
9	EALING LONDON BORO
10	ENFIELD LONDON BORO
11	GREENWICH LONDON BORO
12	HACKNEY LONDON BORO
13	HAMMERSMITH AND FULHAM LONDON BORO
14	HARINGEY LONDON BORO
15	HARROW LONDON BORO
16	HAVERING LONDON BORO
17	HILLINGDON LONDON BORO

id	Name
18	HOUNSLOW LONDON BORO
19	ISLINGTON LONDON BORO
20	KENSINGTON AND CHELSEA LONDON BORO
21	KINGSTON UPON THAMES LONDON BORO
22	LAMBETH LONDON BORO
23	LEWISHAM LONDON BORO
24	MERTON LONDON BORO
25	NEWHAM LONDON BORO
26	REDBRIDGE LONDON BORO
27	RICHMOND UPON THAMES LONDON BORO
28	SOUTHWARK LONDON BORO
29	SUTTON LONDON BORO
30	TOWER HAMLETS LONDON BORO
31	WALTHAM FOREST LONDON BORO
32	WANDSWORTH LONDON BORO
33	CITY OF WESTMINSTER LONDON BORO

# London GOR

## Index of Multiple Deprivation 2004



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Scale 1:1 245 000



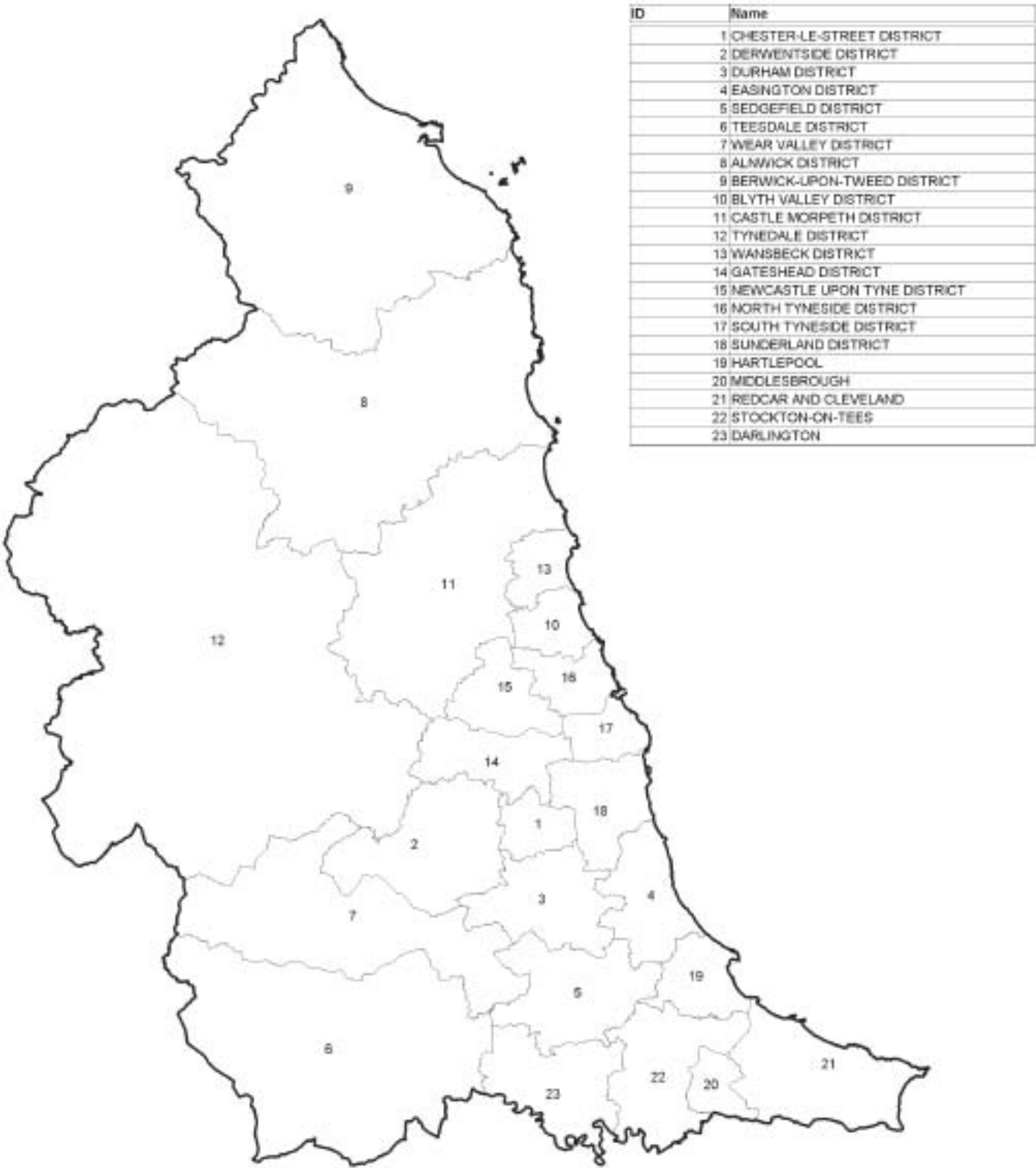
## **North East**

355 of the 10% most deprived SOAs on the IMD in England are located in this Region. The North East has 1,656 SOAs in total so over 21% of all its SOAs are amongst the 10% most deprived in England. Over half of all its SOAs (846) are in the 30% most deprived SOAs in England and there are only 35 SOAs in this Region which are within the least deprived 10%.

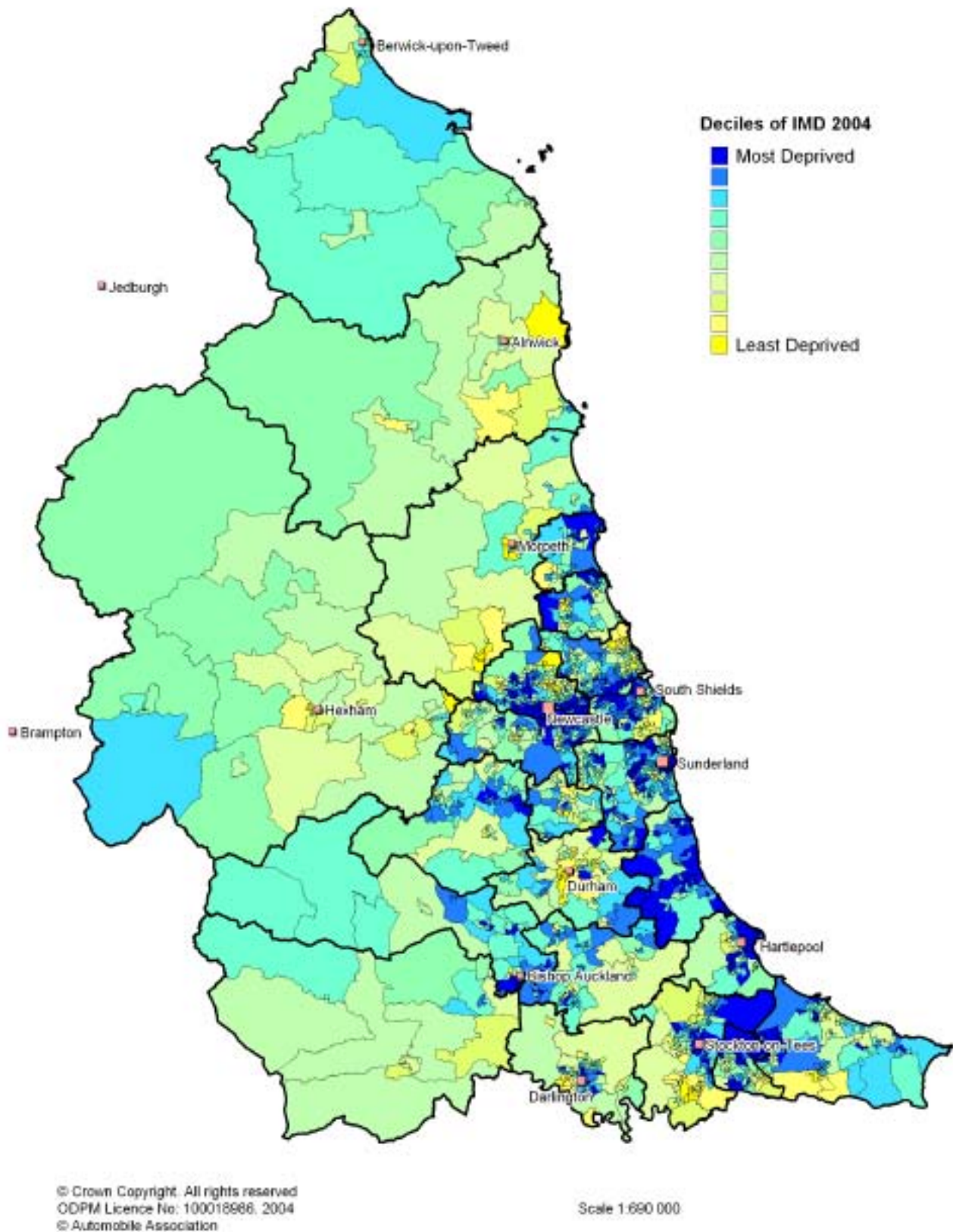
The pattern of severe multiple deprivation remains similar to the ID 2000 with the former steel, shipbuilding and mining areas such as Easington, Middlesbrough, Hartlepool, Redcar and Cleveland, and Stockton-on-Tees containing many of the most deprived SOAs. There are also concentrations of very deprived SOAs in Newcastle-upon-Tyne, South Tyneside, Sunderland and Gateshead.



Local Authorities in the North East GOR



## North East GOR Index of Multiple Deprivation 2004



### **North West**

The North West has 920 of the 10% most deprived SOAs in England (more than any other Region). There are 4,459 SOAs in total in the North West, therefore over 20% of all its SOAs are in the 10% most deprived.

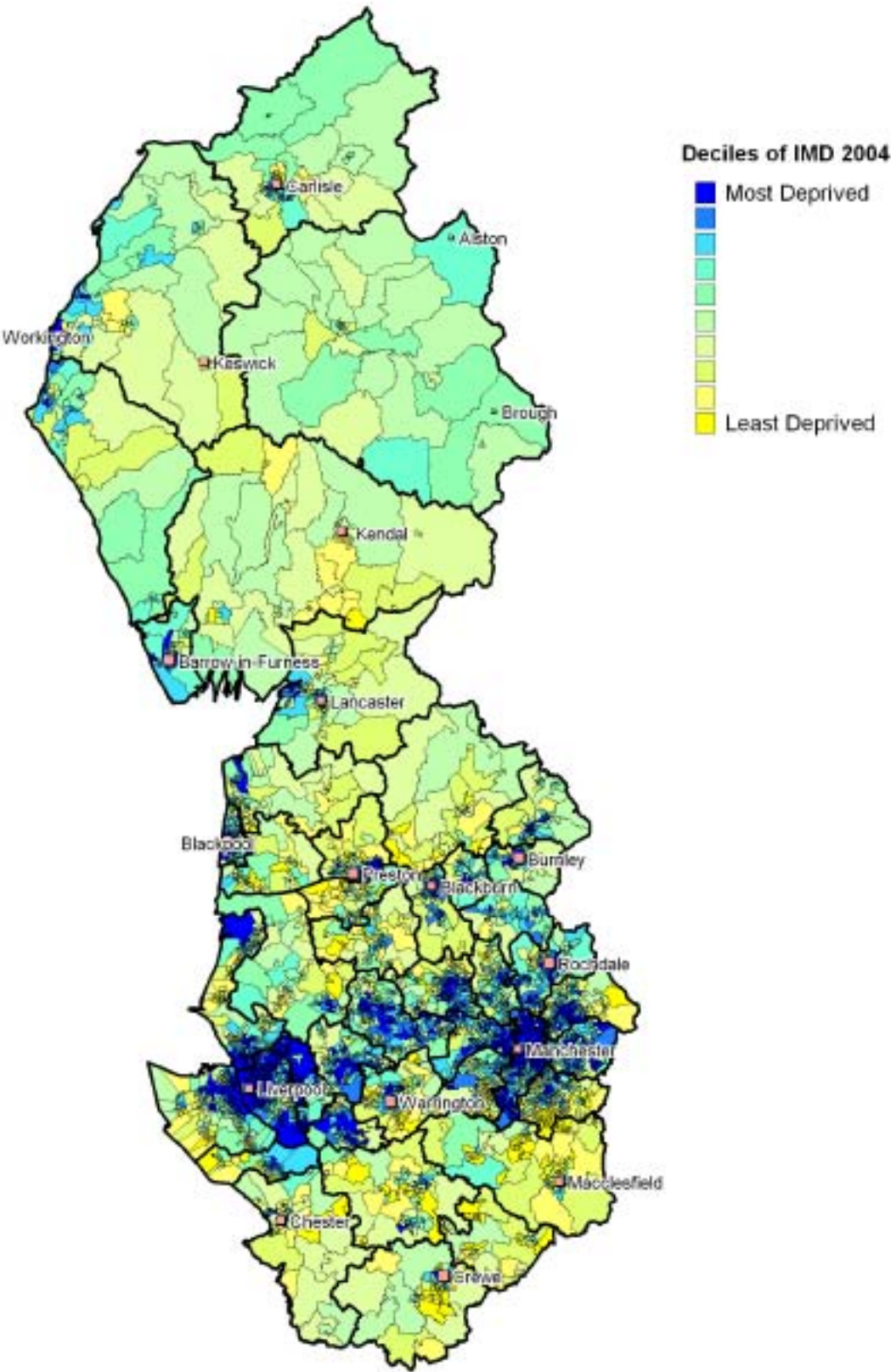
Severe deprivation is evident in most of the districts across the North West. Concentrations of SOAs showing deprivation in the most deprived decile are found in the urban areas in and around Liverpool and Manchester. As with the ID 2000 the Merseyside districts of Liverpool, Sefton, Wirral, Knowsley and St Helens, and Manchester and some of the areas around including Wigan, Rochdale, Bolton, Salford and Oldham stand out as containing large concentrations of SOAs with high levels of deprivation.

## Local Authorities in the North West GOR



id	Name
1	CHESTER DISTRICT
2	CONGLETON DISTRICT
3	CREWE AND NANTWICH DISTRICT
4	ELLESMERE PORT AND NESTON DISTRICT
5	MACCLESFIELD DISTRICT
6	VALE ROYAL DISTRICT
7	ALLERDALE DISTRICT
8	BARROW-IN-FURNESS DISTRICT
9	CARLISLE DISTRICT
10	COPELAND DISTRICT
11	EDEN DISTRICT
12	SOUTH LAKELAND DISTRICT
13	BURNLEY DISTRICT
14	CHORLEY DISTRICT
15	FYLDE DISTRICT
16	HYNDURN DISTRICT
17	LANCASTER DISTRICT
18	PENDLE DISTRICT
19	PRESTON DISTRICT
20	REBBLE VALLEY DISTRICT
21	ROSENDALE DISTRICT
22	SOUTH REBBLE DISTRICT
23	WEST LANCASHIRE DISTRICT
24	WYRE DISTRICT
25	BOLTON DISTRICT
26	BURY DISTRICT
27	MANCHESTER DISTRICT
28	OLDHAM DISTRICT
29	ROCHDALE DISTRICT
30	SALFORD DISTRICT
31	STOCKPORT DISTRICT
32	TAMESIDE DISTRICT
33	TRAFFORD DISTRICT
34	WIGAN DISTRICT
35	KNOWSLEY DISTRICT
36	LIVERPOOL DISTRICT
37	ST HELENS DISTRICT
38	SEFTON DISTRICT
39	WIRRAL DISTRICT
40	HALTON
41	WARRINGTON
42	BLACKBURN
43	BLACKPOOL

# North West GOR Index of Multiple Deprivation 2004



### **South East**

The South East has 77 of the 10% most deprived SOAs in England. The South East has 5,319 SOAs in total so just over 1% of all its SOAs are within the 10% most deprived. Just under a quarter (1,317) of the South East SOAs are in the 10% least deprived group.

The most deprived SOAs are concentrated in some of the coastal resorts of the South East, such as Brighton and Hove, Thanet, Portsmouth and Hastings. Elsewhere there are isolated SOAs within the 10% most deprived SOAs in England.

## Local Authorities in the South East GOR



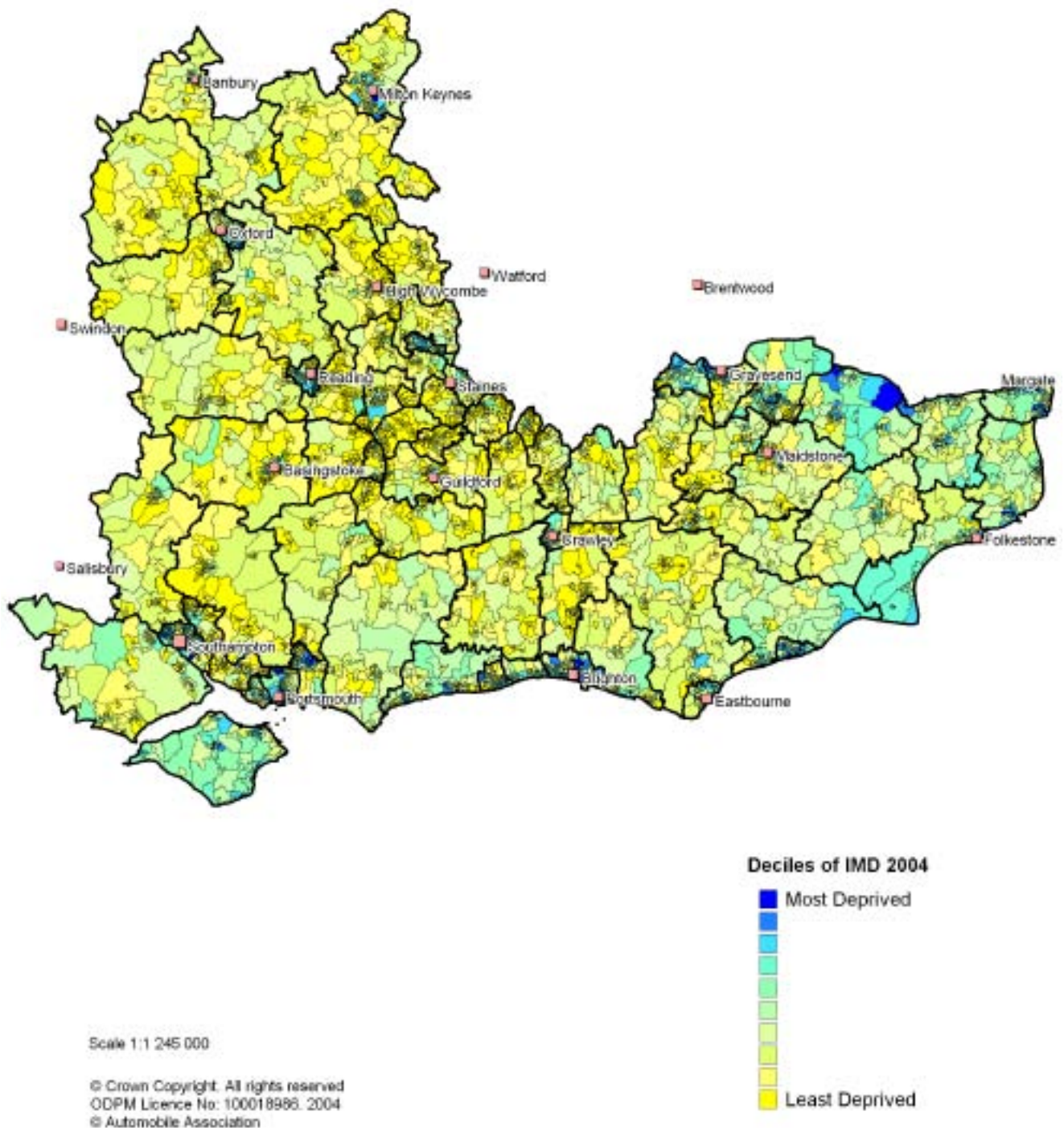
id	Name
1	AYLESBURY VALE DISTRICT
2	CHILTERN DISTRICT
3	SOUTH BUCKS DISTRICT
4	WYCOMBE DISTRICT
5	EASTBOURNE DISTRICT
6	HASTINGS DISTRICT
7	LEWES DISTRICT
8	ROTHER DISTRICT
9	WEALDEN DISTRICT
10	BASINGSTOKE AND DEANE DISTRICT
11	EAST HAMPSHIRE DISTRICT
12	EASTLEIGH DISTRICT
13	FAREHAM DISTRICT
14	GOSPORT DISTRICT
15	HART DISTRICT
16	HAVANT DISTRICT
17	NEW FOREST DISTRICT
18	RUSHMOOR DISTRICT
19	TEST VALLEY DISTRICT
20	WINCHESTER DISTRICT
21	ASHFORD DISTRICT
22	CANTERBURY DISTRICT
23	DARTFORD DISTRICT
24	DOVER DISTRICT
25	GRAVESHAM DISTRICT
26	MIDSTONE DISTRICT
27	SEVENDAKS DISTRICT
28	SHEPWAY DISTRICT
29	SWALE DISTRICT
30	THANET DISTRICT
31	TONBRIDGE AND MALLING DISTRICT
32	TUNBRIDGE WELLS DISTRICT
33	CHERWELL DISTRICT
34	OXFORD DISTRICT
35	SOUTH OXFORDSHIRE DISTRICT

id	Name
36	VALE OF WHITE HORSE DISTRICT
37	WEST OXFORDSHIRE DISTRICT
38	ELMBRIDGE DISTRICT
39	EPSOM AND EWELL DISTRICT
40	GUILDFORD DISTRICT
41	MOLE VALLEY DISTRICT
42	REIGATE AND BANSTEAD DISTRICT
43	RUNNYMEDE DISTRICT
44	SPELTHORNE DISTRICT
45	SURREY HEATH DISTRICT
46	TANDRIDGE DISTRICT
47	WAVERLEY DISTRICT
48	WOKING DISTRICT
49	ADUR DISTRICT
50	ARUN DISTRICT
51	CHICHESTER DISTRICT
52	CRAWLEY DISTRICT
53	HORSHAM DISTRICT
54	MID SUSSEX DISTRICT
55	WORTHING DISTRICT
56	WEST BERKSHIRE
57	MEDWAY TOWNS
58	BRACKNELL FOREST
59	READING
60	SLOUGH
61	WINDSOR AND MADDENHEAD
62	WOKINGHAM
63	MILTON KEYNES
64	BRIGHTON AND HOVE
65	CITY OF PORTSMOUTH
66	CITY OF SOUTHAMPTON
67	ISLE OF WIGHT



## South East GOR

### Index of Multiple Deprivation 2004



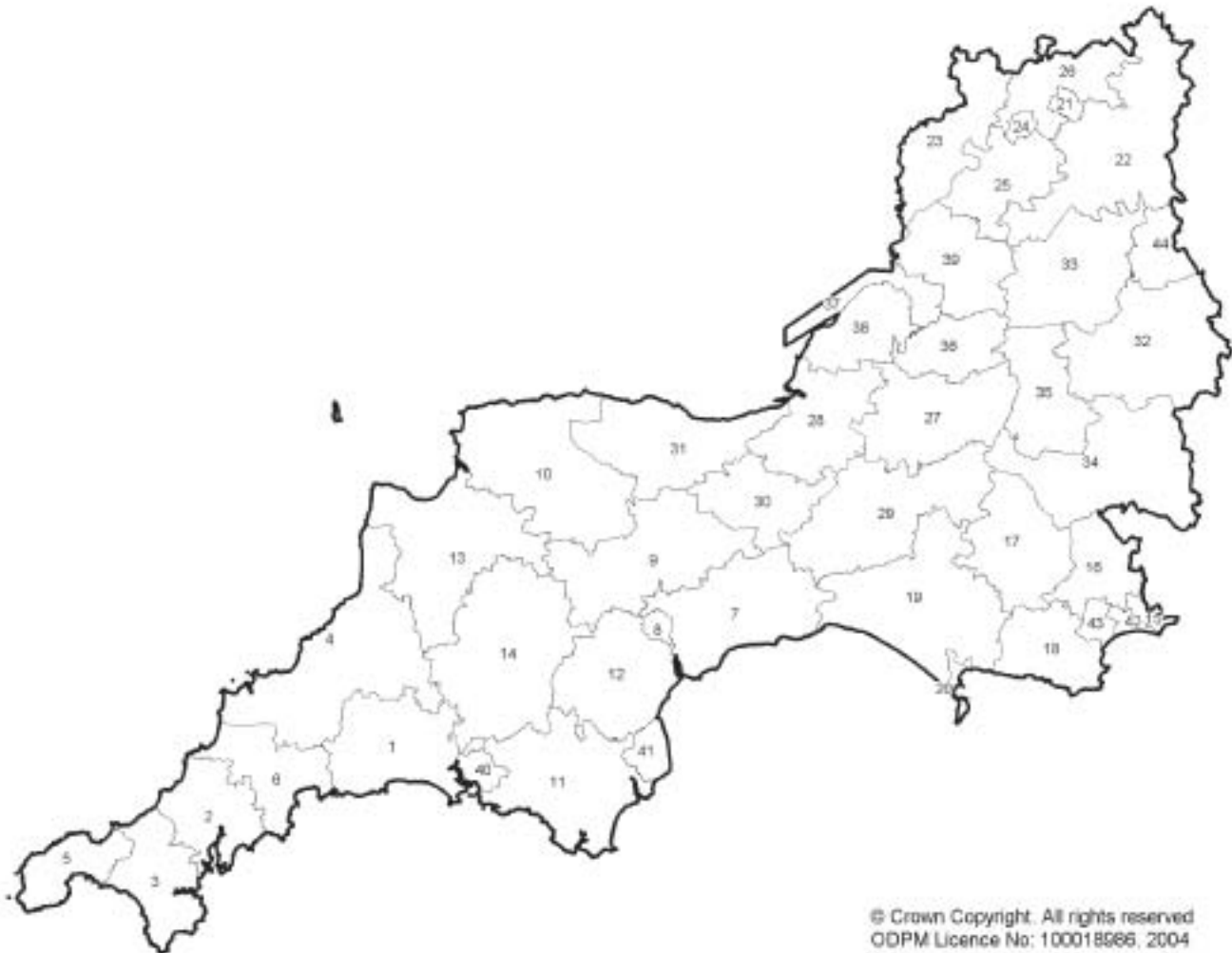


### **South West**

The South West has 95 SOAs which are amongst the 10% most deprived SOAs in England. In total this Region has 3,226 SOAs, so just under 3% of all its SOAs are within the 10% most deprived. The South West has more SOAs in the 20% least deprived decile than it does in the 20% most deprived decile. 670 (20.8%) of its SOAs are in the 20% least deprived whereas 278 (8.6%) are in the 20% most deprived.

Severe deprivation is particularly concentrated in the urban areas of Plymouth and the City of Bristol.

## Local Authorities in the South West GOR

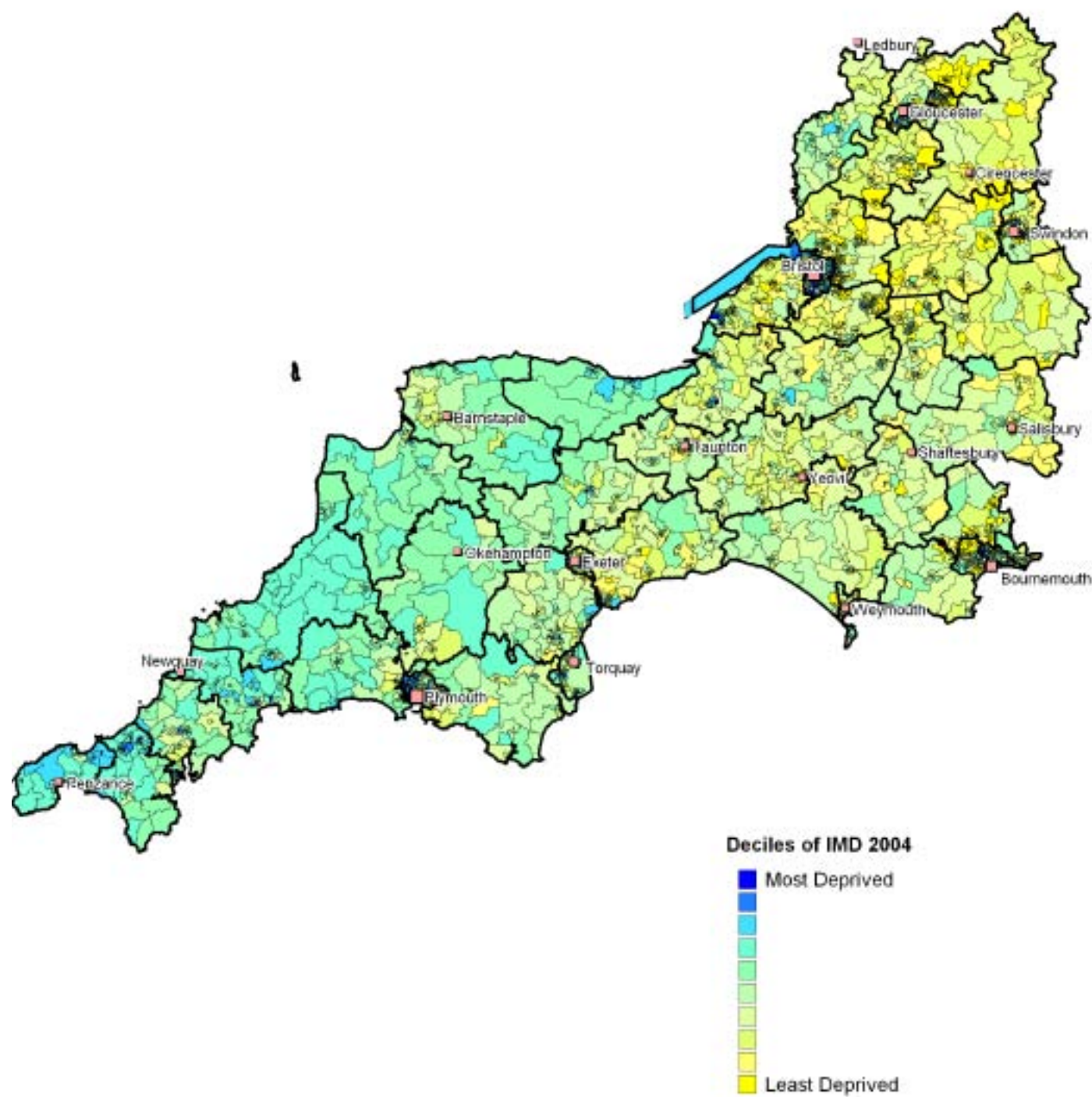


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Id	Name
1	CARADON DISTRICT
2	CARRICK DISTRICT
3	KERRIER DISTRICT
4	NORTH CORNWALL DISTRICT
5	PENWITH DISTRICT
6	RESTORMEL DISTRICT
7	EAST DEVON DISTRICT
8	EXETER DISTRICT
9	MID DEVON DISTRICT
10	NORTH DEVON DISTRICT
11	SOUTH HAMS DISTRICT
12	TEIGNBRIDGE DISTRICT
13	TORRIDGE DISTRICT
14	WEST DEVON DISTRICT
15	CHRISTCHURCH DISTRICT
16	EAST DORSET DISTRICT
17	NORTH DORSET DISTRICT
18	PURBECK DISTRICT
19	WEST DORSET DISTRICT
20	WEYMOUTH AND PORTLAND DISTRICT
21	CHELTENHAM DISTRICT
22	COTSWOLD DISTRICT

Id	Name
23	FOREST OF DEAN DISTRICT
24	GLOUCESTER DISTRICT
25	STROUD DISTRICT
26	TEWKESBURY DISTRICT
27	MENDIP DISTRICT
28	SEDGEMOOR DISTRICT
29	SOUTH SOMERSET DISTRICT
30	TAUNTON DEANE DISTRICT
31	WEST SOMERSET DISTRICT
32	KENNET DISTRICT
33	NORTH WILTSHIRE DISTRICT
34	SALISBURY DISTRICT
35	WEST WILTSHIRE DISTRICT
36	BATH AND NORTH EAST SOMERSET
37	CITY OF BRISTOL
38	NORTH SOMERSET
39	SOUTH GLOUCESTERSHIRE
40	CITY OF PLYMOUTH
41	TORBAY
42	BOURNEMOUTH
43	POOLE
44	SWINDON

South West GOR  
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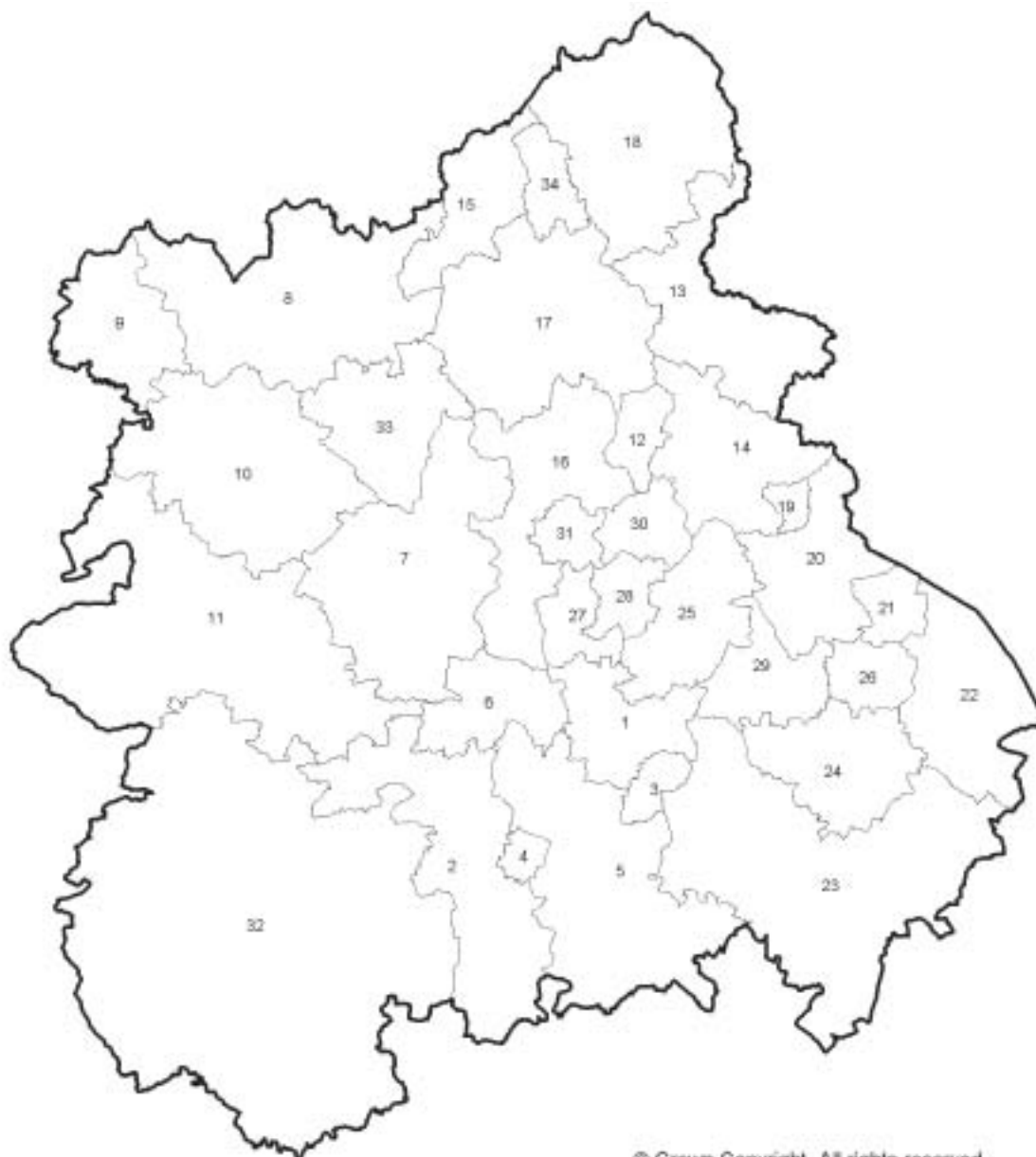
Scale 1:1 570 000

## **West Midlands**

The West Midlands has 474 SOAs in the 10% most deprived SOAs. The Region has 3,482 SOAs in total so this represents nearly 14% of all its SOAs being in the 10% most deprived.

The metropolitan area of Birmingham has very high levels of severe multiple deprivation. As has been stated, the SOA geography enables the concentrations in Birmingham's large wards to be identified. The districts of Wolverhampton, Walsall and Sandwell all have severely deprived SOAs. Further concentrations of these severely deprived SOAs are to be found in Coventry and Stoke-on-Trent.

## Local Authorities in the West Midlands GOR



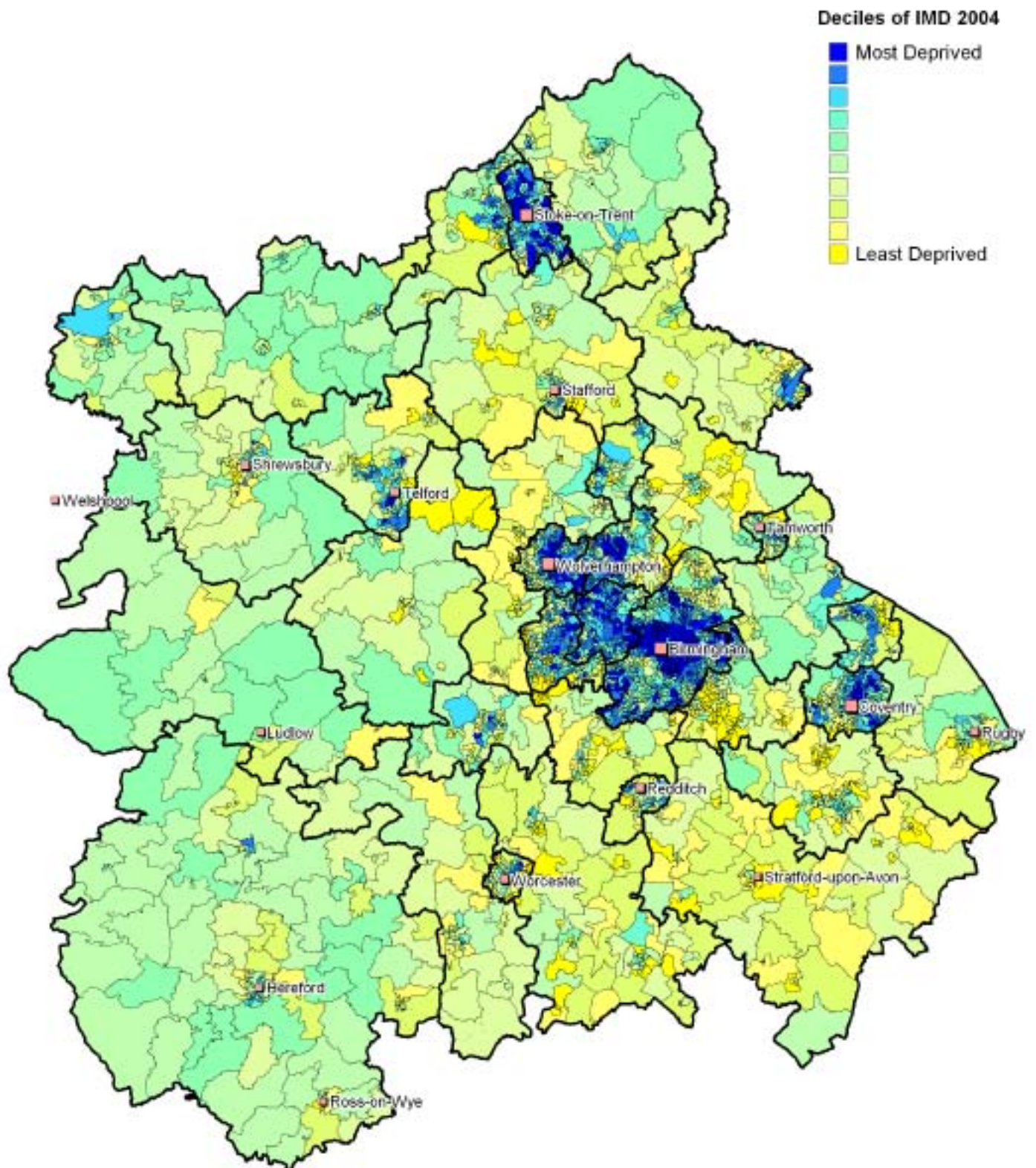
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id	Name
1	BROMSGROVE DISTRICT
2	MALVERN HILLS DISTRICT
3	REDDITCH DISTRICT
4	WORCESTER DISTRICT
5	WYCHAVON DISTRICT
6	WYRE FOREST DISTRICT
7	BRIDGNORTH DISTRICT
8	NORTH SHROPSHIRE DISTRICT
9	OSWESTRY DISTRICT
10	SHREWSBURY AND ATCHAM DISTRICT
11	SOUTH SHROPSHIRE DISTRICT
12	CANNOCK CHASE DISTRICT
13	EAST STAFFORDSHIRE DISTRICT
14	LICHFIELD DISTRICT
15	NEWCASTLE-UNDER-LYME DISTRICT
16	SOUTH STAFFORDSHIRE DISTRICT
17	STAFFORD DISTRICT

id	Name
18	STAFFORDSHIRE MOORLANDS DISTRICT
19	TAMWORTH DISTRICT
20	NORTH WARWICKSHIRE DISTRICT
21	NUNEATON AND BEDWORTH DISTRICT
22	RUGBY DISTRICT
23	STRATFORD-ON-AVON DISTRICT
24	WARWICK DISTRICT
25	BIRMINGHAM DISTRICT
26	COVENTRY DISTRICT
27	DUDLEY DISTRICT
28	SANDWELL DISTRICT
29	SOLIHULL DISTRICT
30	WALSALL DISTRICT
31	WOLVERHAMPTON DISTRICT
32	COUNTY OF HEREFORDSHIRE
33	THE WREKIN
34	CITY OF STOKE-ON-TRENT



## West Midlands GOR Index of Multiple Deprivation 2004



### **Yorkshire and the Humber**

Yorkshire and the Humber contains 572 of the 10% most deprived SOAs in England. Yorkshire and the Humber have 3,293 SOAs in total, so over 17% of all its SOAs are in the 10% most deprived in England.

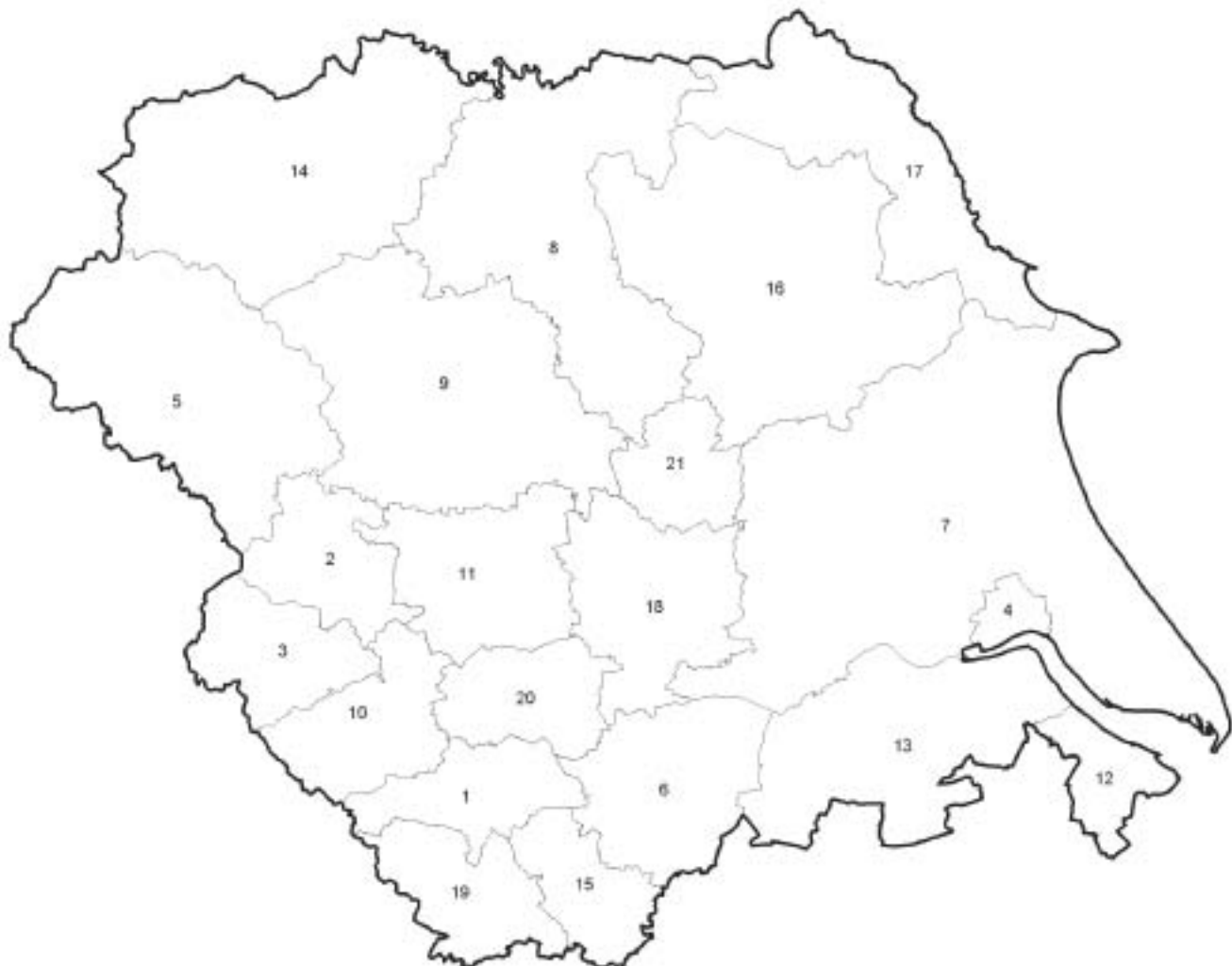
Much of Yorkshire and the Humber's severe deprivation is concentrated within towns and cities such as Kingston upon Hull, Sheffield, Leeds, Bradford, Kirklees (Huddersfield, Dewsbury) and Rotherham. Severe deprivation is also to be found around the former coalfields of the Region, in the districts of Doncaster, Wakefield and Barnsley as well as on the coast in North East Lincolnshire.

## Local Authorities in the Yorkshire and the Humber GOR

id	Name
1	BARNSELY DISTRICT
2	BRADFORD DISTRICT
3	CALDERDALE DISTRICT
4	CITY OF KINGSTON UPON HULL
5	CRAVEN DISTRICT
6	DONCASTER DISTRICT
7	EAST RIDING OF YORKSHIRE
8	HAMBLETON DISTRICT
9	HARROGATE DISTRICT
10	KIRKLEES DISTRICT
11	LEEDS DISTRICT

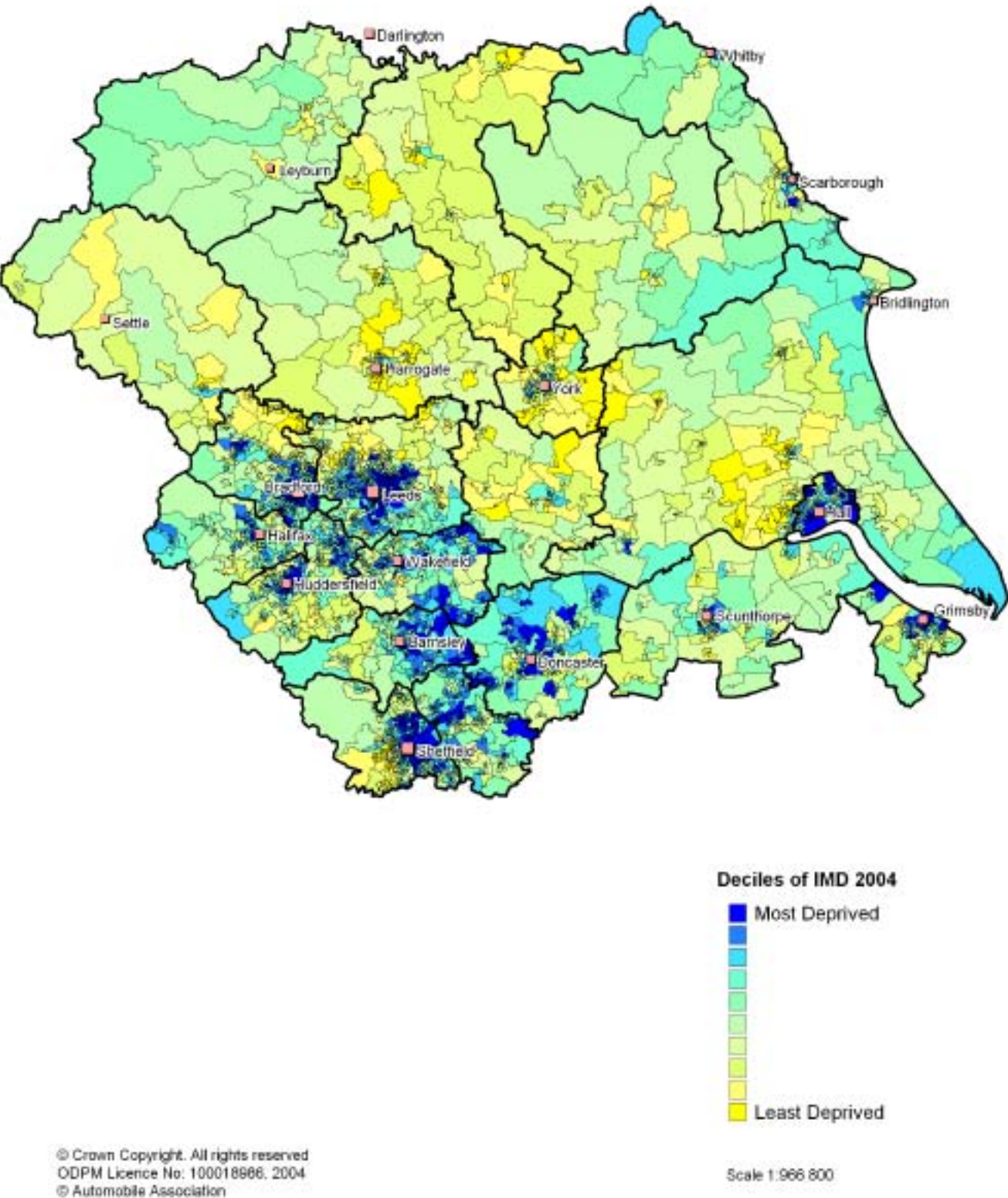
id	Name
12	NORTH EAST LINCOLNSHIRE
13	NORTH LINCOLNSHIRE
14	RICHMONDSHIRE DISTRICT
15	ROTHERHAM DISTRICT
16	RYEDALE DISTRICT
17	SCARBOROUGH DISTRICT
18	SELBY DISTRICT
19	SHEFFIELD DISTRICT
20	WAKEFIELD DISTRICT
21	YORK

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Yorkshire and the Humber GOR  
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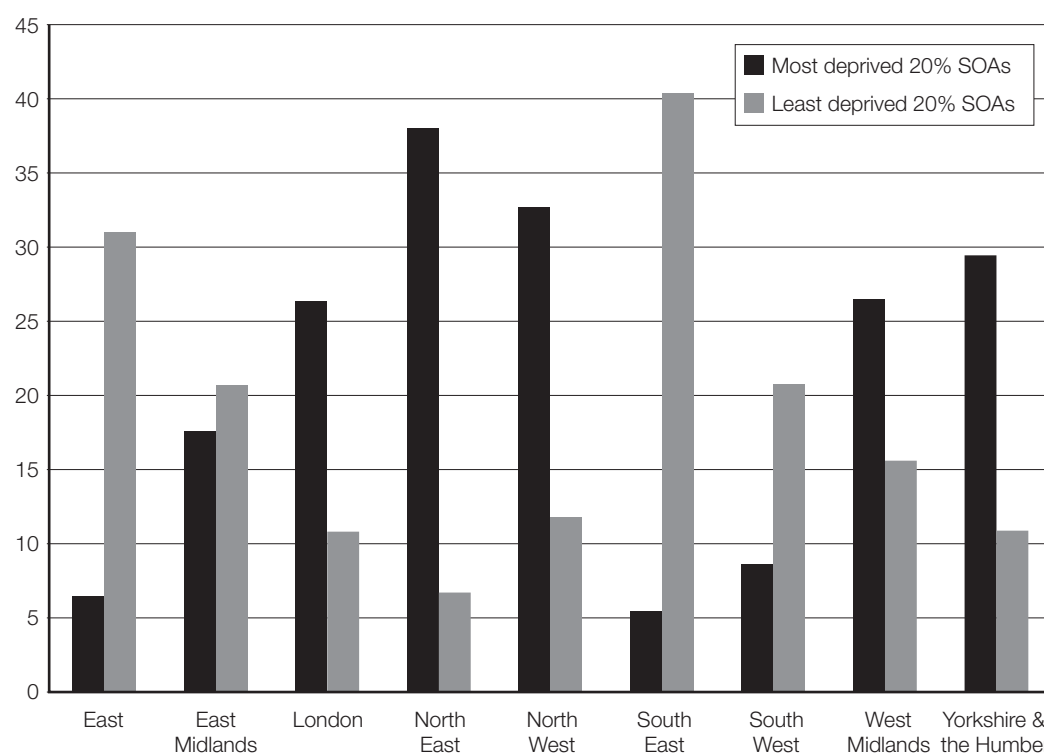
## Section 2: The most deprived and the least deprived 20% of SOAs in England on the IMD 2004

### THE MOST DEPRIVED 20% OF SOAs IN ENGLAND ON THE IMD 2004

- There are 6,496 SOAs that are amongst the 20% most deprived in England.
- These SOAs are concentrated in cities, 'one-industry' towns and coalmining areas.
- Over 9.8 million people live in these SOAs – this represents just under 20% of the population of England. However, it is important to remember that not all people living in these SOAs will be deprived.
- On average, just under a third of people living in these SOAs are income deprived.
- Over one in five (21.8%) of the relevant adult age group (women aged 18-59 and men aged 16-64) in these SOAs are employment deprived.
- Just under half (46.7%) of children in these SOAs live in families that are income deprived.
- Just under a third (30.1%) of older people in these SOAs are income deprived.

### THE REGIONAL PICTURE

**Chart 5.1** shows the percentage of SOAs in a Region that fall within the most deprived 20% of SOAs in England on the IMD 2004, and the percentage of SOAs which fall within the least deprived 20%.

**Chart 5.1: Percentage of SOAs in the Most and Least Deprived 20% of SOAs in England on the IMD 2004 by Region**

- The most deprived 20% of SOAs are clustered in the North East, the North West, Yorkshire and the Humber, London and the West Midlands.

**Table 5.1: Number of SOAs in the Most Deprived 20% of SOAs in England on the IMD 2004 by Region**

	Number of SOAs in most deprived 20% of SOAs in England	Number of SOAs in the region	% of SOAs in each region falling in most deprived 20% of SOAs in England
East	220	3550	6.2
East Midlands	482	2732	17.6
London	1260	4765	26.4
North East	631	1656	38.1
North West	1461	4459	32.8
South East (excluding London)	271	5319	5.1
South West	278	3226	8.6
West Midlands	917	3482	26.3
Yorkshire & the Humber	976	3293	29.6
<b>Total</b>	<b>6496</b>	<b>32482</b>	<b>20</b>

- The North East has the greatest percentage of its SOAs in the most deprived 20% (38.1%). The North West is the Region with the next highest percentage of SOAs in the most deprived 20% (32.8%). The North West has the greatest number of SOAs in the most deprived 20% (1461), followed by London with 1260.
- However, it is also significant to note that less deprived Regions – the South East, South West and East Regions each have between 5% and 9% of their SOAs falling in the 20% most deprived in England.

**Table 5.2: People Living in the Most Deprived 20% of SOAs in England on the IMD 2004 by Region**

	Population in most deprived 20% of SOAs in England (thousands)	Regional population (thousands)	% of regional population living in most deprived 20% of SOAs in England	% of England population living in most deprived 20% of SOAs in England	Proportion of people living in most deprived 20% of SOAs in England, by region
East	333	5,397	6.2	0.7	3.4
East Midlands	727	4,176	17.4	1.5	7.4
London	1,934	7,305	26.5	3.9	19.6
North East	952	2,515	37.8	1.9	9.7
North West	2,222	6,760	32.9	4.5	22.6
South East (excluding London)	409	8,013	5.1	0.8	4.2
South West	420	4,933	8.5	0.9	4.3
West Midlands	1,398	5,279	26.5	2.8	14.2
Yorkshire & the Humber	1,467	4,965	29.6	3.0	14.9
<b>Total</b>	<b>9,853</b>	<b>49,345</b>	<b>-</b>	<b>20</b>	<b>100</b>

- The North East has the largest percentage of its population (37.8%) living in the most deprived 20% of SOAs in England.
- The North West has the largest number of people living in one of the 20% most deprived SOAs (2,222,000), followed by London, which has 1,934,000 people living in one of these SOAs.
- 4.5% of people in England live in SOAs in the North West which fall in the most deprived 20% of SOAs in England. This is followed by London which has 3.9% of the England population which live in the most deprived 20% of SOAs in England.
- Of those who live in the 20% most deprived SOAs in England, 22.6% live in the North West, followed by 19.6% living in London.
- The most deprived 20% of SOAs in England are spread across 242 local authority districts in England, though 29 of these districts only have a single SOA in this grouping.

**THE LEAST DEPRIVED 20% OF SOAs IN ENGLAND ON THE IMD 2004**

The 20% least deprived SOAs in England have the following characteristics:

- 9,903,831 people live in these SOAs – this is 20.1% of the population of England.
- Over one-third of these least deprived SOAs are in the South East.
- 3.5% of people in these SOAs are income deprived.
- 3.7% of the relevant adult age group (women aged 18-59 and men aged 16-64) are employment deprived.
- On average 4.1% of children live in families that are income deprived.
- On average 5.9% of older people are income deprived.

**Table 5.3: SOAs in the Least Deprived 20% of SOAs in England on the IMD 2004 by Region**

	<b>No. of SOAs in Least deprived 20%</b>	<b>No. of SOAs in the region</b>	<b>% of least deprived SOAs by region</b>
East	1099	3550	31.0
East Midlands	569	2732	20.8
London	515	4765	10.8
North East	109	1656	6.6
North West	526	4459	11.8
South East (excluding London)	2143	5319	40.3
South West	623	3226	20.8
West Midlands	507	3482	15.6
Yorkshire & the Humber	358	3293	10.9
<b>Total</b>	<b>6496</b>	<b>32482</b>	<b>-</b>

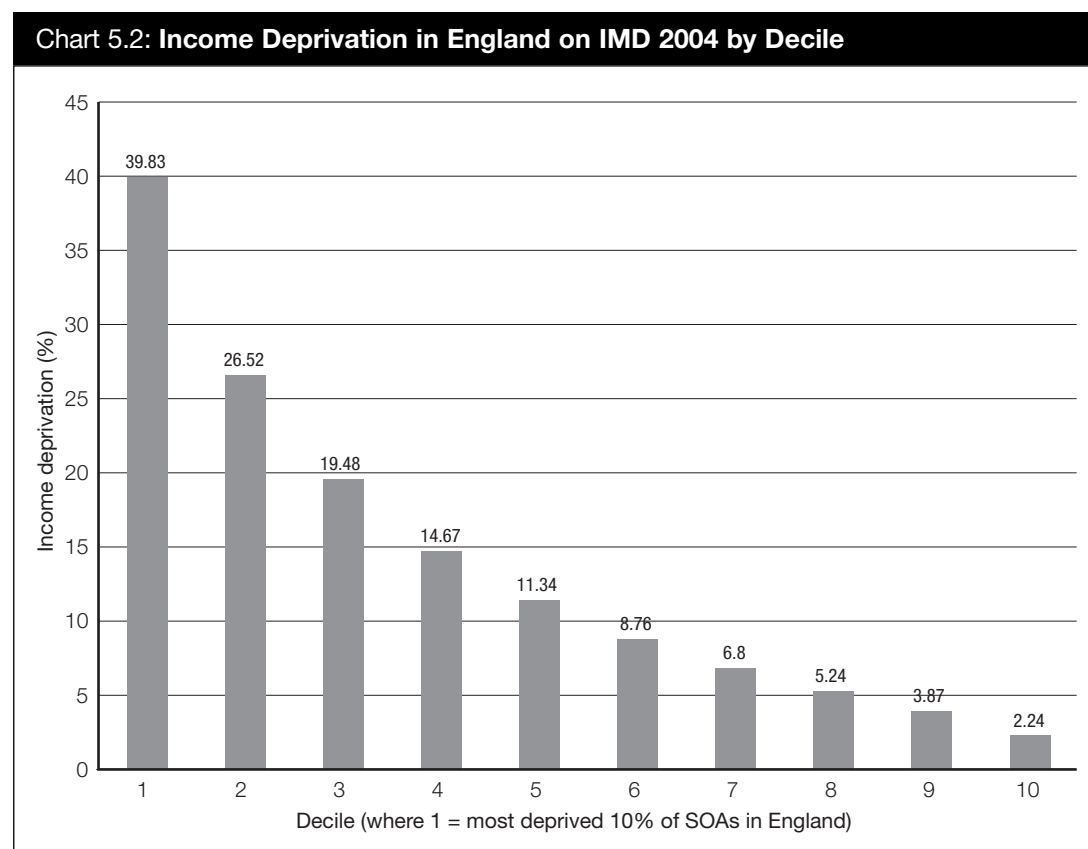
- The South East has the largest number of SOAs (2143) falling in the least deprived 20% of SOAs in England. It also has the highest percentage of its SOAs falling in this category (40.3%). The percentage for this Region is far greater than for the other Regions, and also the number of SOAs is just under double the number of SOAs in the East Region (the Region closest to the South East in this category).
- In contrast, the North East has less than 7% of its SOAs falling in the least deprived 20% of SOAs in England.

## Section 3: The Domain Indices, the Income Deprivation Affecting Children Index, the Income Deprivation Affecting Older People Index and the IMD 2004

If the distribution of deprivation at SOA level is examined for the whole country it is clear that there is no point which clearly separates 'deprived' SOAs from 'non deprived' SOAs, 'very deprived' from 'fairly deprived' SOAs and so on. There is a continuum of deprivation. This is the case for each of the components of the IMD 2004 as well as the IMD itself. The Domain Indices, the Income Deprivation Affecting Children Index (IDAC), the Income Deprivation Affecting Older People Index (IDAOP), and the IMD are all presented below. Throughout the analysis, a rank of 1 is assigned to the most deprived SOA and 32,482 is assigned to the least deprived SOA.

### INCOME DOMAIN

**Chart 5.2** shows the range of Income Deprivation for deciles of SOAs according to this measure. In the most income deprived 10% of SOAs in England, an average of just under 40% of the population are income deprived.

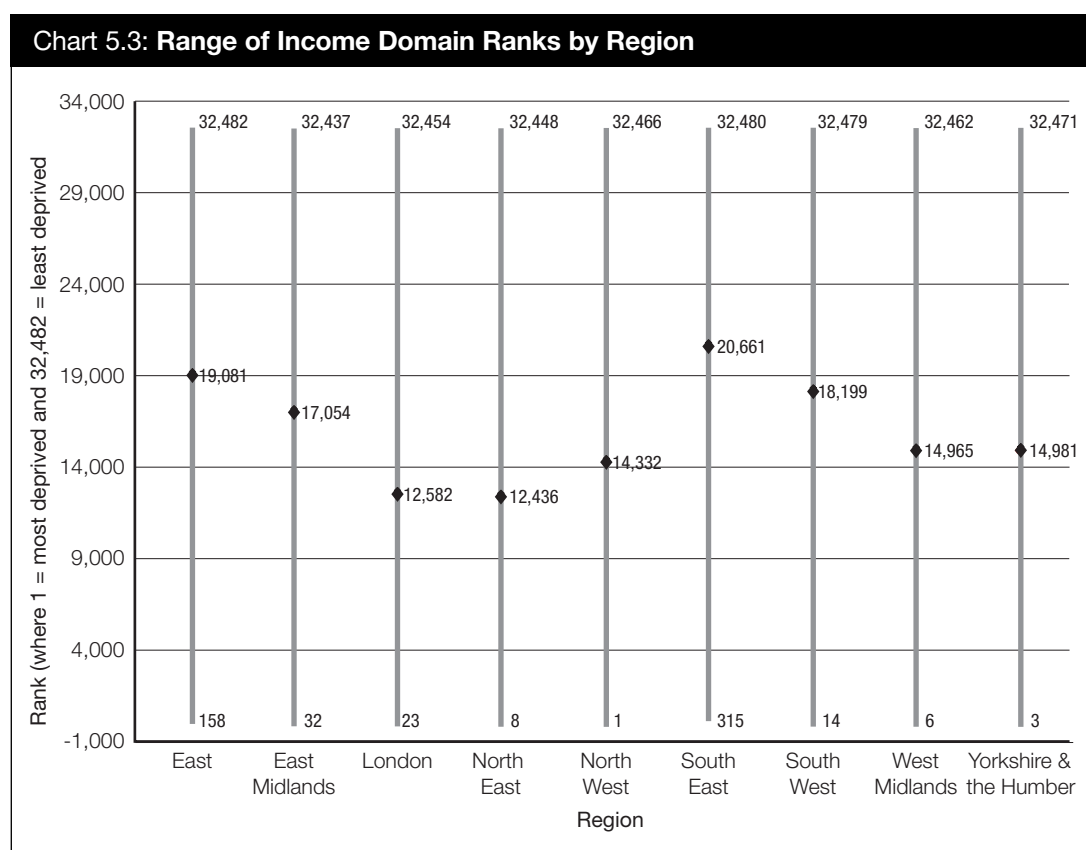


- There are 326 SOAs in England where more than half of all people live in income deprivation.
- 2,671 SOAs where more than one third of people live in income deprivation.

At the other end of the spectrum:

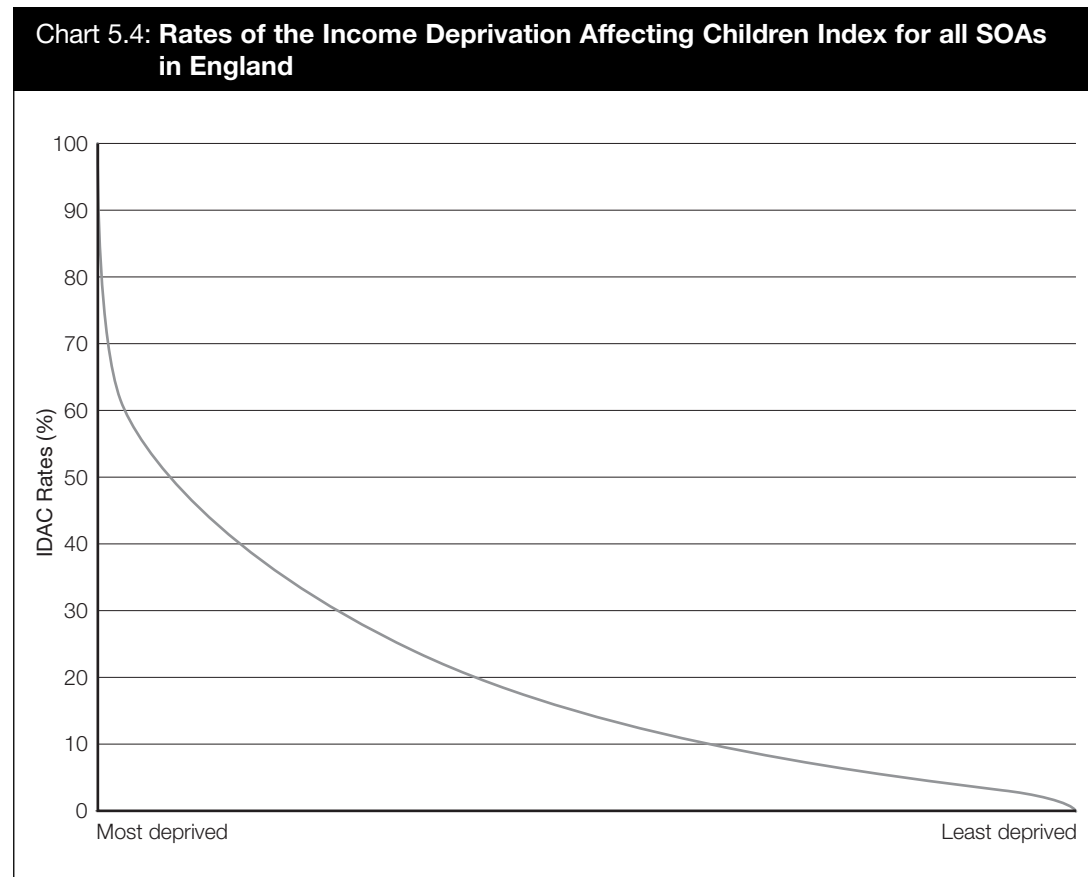
- There are 7,558 SOAs where less than one in 20 people live in income deprivation.
- 16,361 SOAs where fewer than one in 10 live in income deprivation.

**Chart 5.3** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the Income Domain. It shows that all Regions contain SOAs that are highly income deprived and that are not highly income deprived. However, the mean ranks of SOAs in each Region differ and show substantial variation within England. The North East Region has on average the most income deprivation, with a mean SOA rank of 12,436, whilst the South East Region is the least Income deprived with a population weighted mean rank of 20,661.



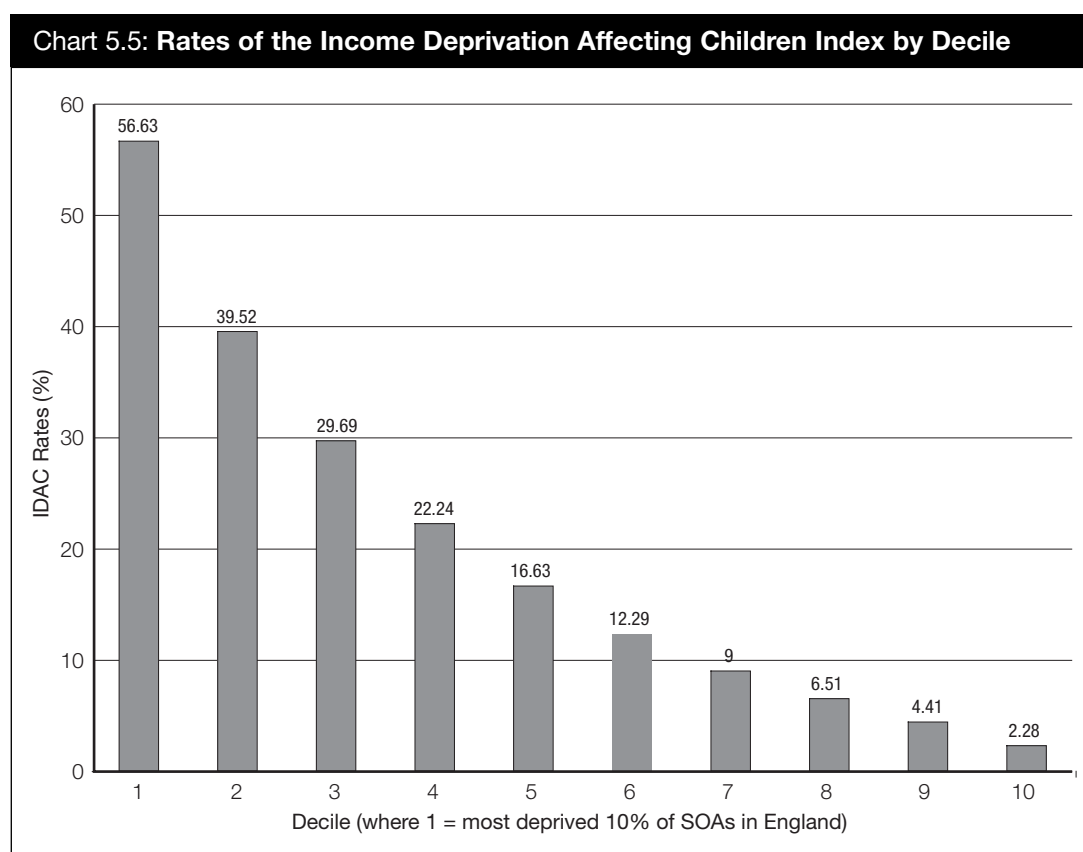
**INCOME DEPRIVATION AFFECTING CHILDREN (SUPPLEMENTARY INDEX)**

**Chart 5.4** shows the range of the IDAC rates for every SOA in England. This goes from a high of 99% of children aged under 16 living in income deprived households, down to 0% of children in the least deprived SOA on this measure.





**Chart 5.5** shows that the most deprived decile of SOAs on the IDAC have on average 56.6% of children aged less than 16 living in income deprived households. Within this decile, the range is from 99.3% to 45.6%, showing the extreme rates of deprivation that exist in the most deprived SOAs. The least deprived decile of SOAs in terms of IDAC, have on average only 2.3% of children aged less than 16 living in income deprived households.



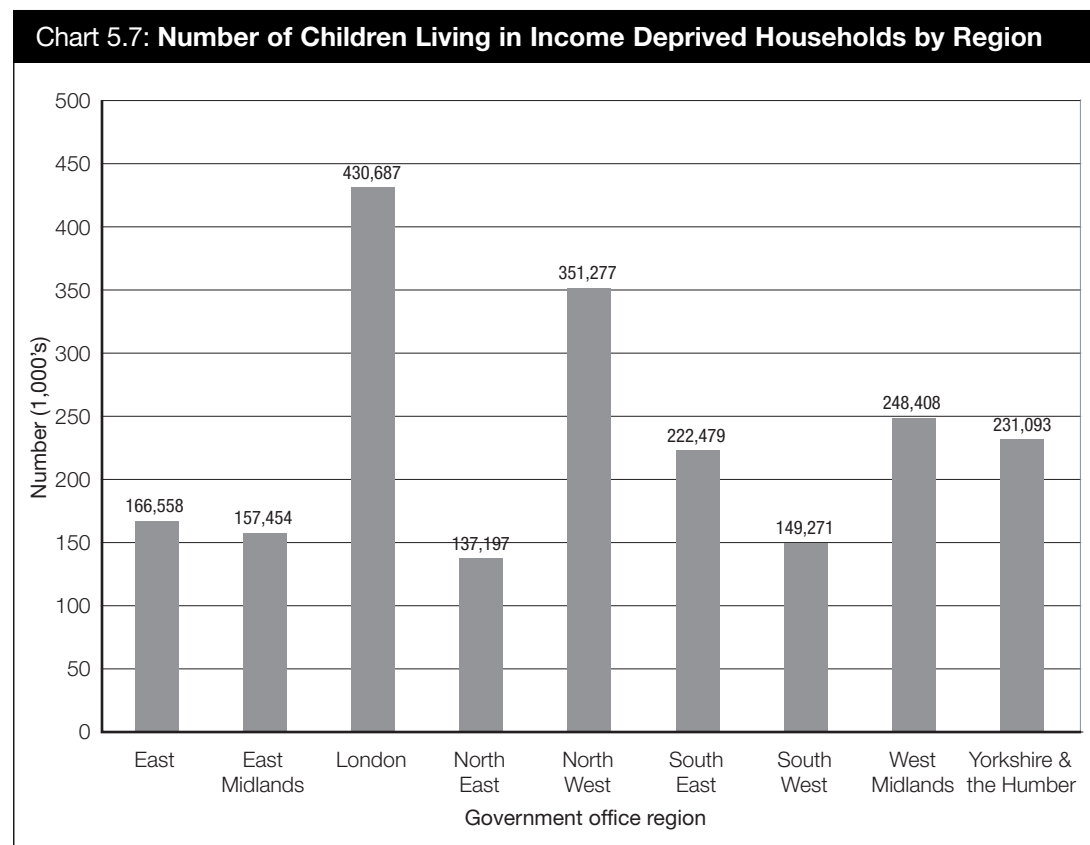
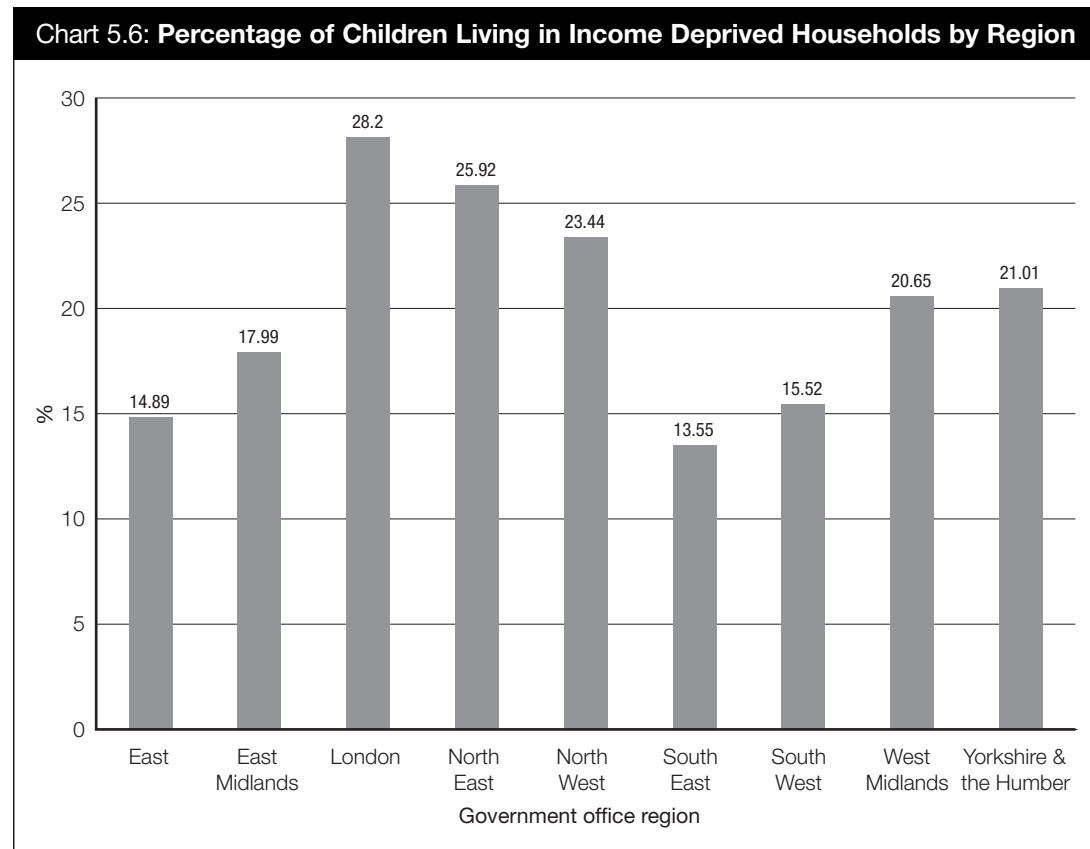
In England there are:

- 441 SOAs where more than two thirds of children live in income deprived households
- 2,346 SOAs where more than half of all children are in this situation; and
- 6,758 SOAs where more than one third of children live in income deprived households.

On the other hand there are:

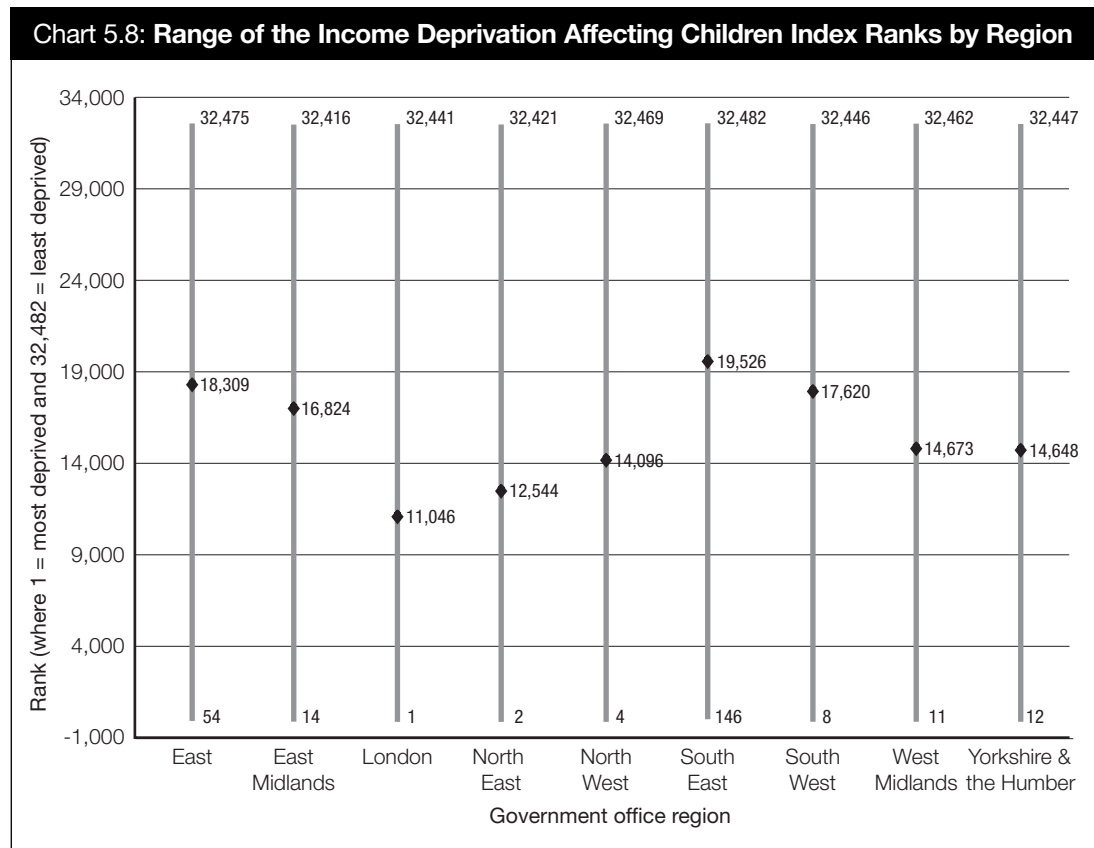
- 5,859 SOAs where fewer than 5% of children live in income deprived households; and
- 12,512 SOAs where fewer than one in 10 children live in income deprived households.

**Chart 5.6** shows the percentage of children in each Region who are living in income deprived households. **Chart 5.7** shows the numbers of children in these households.



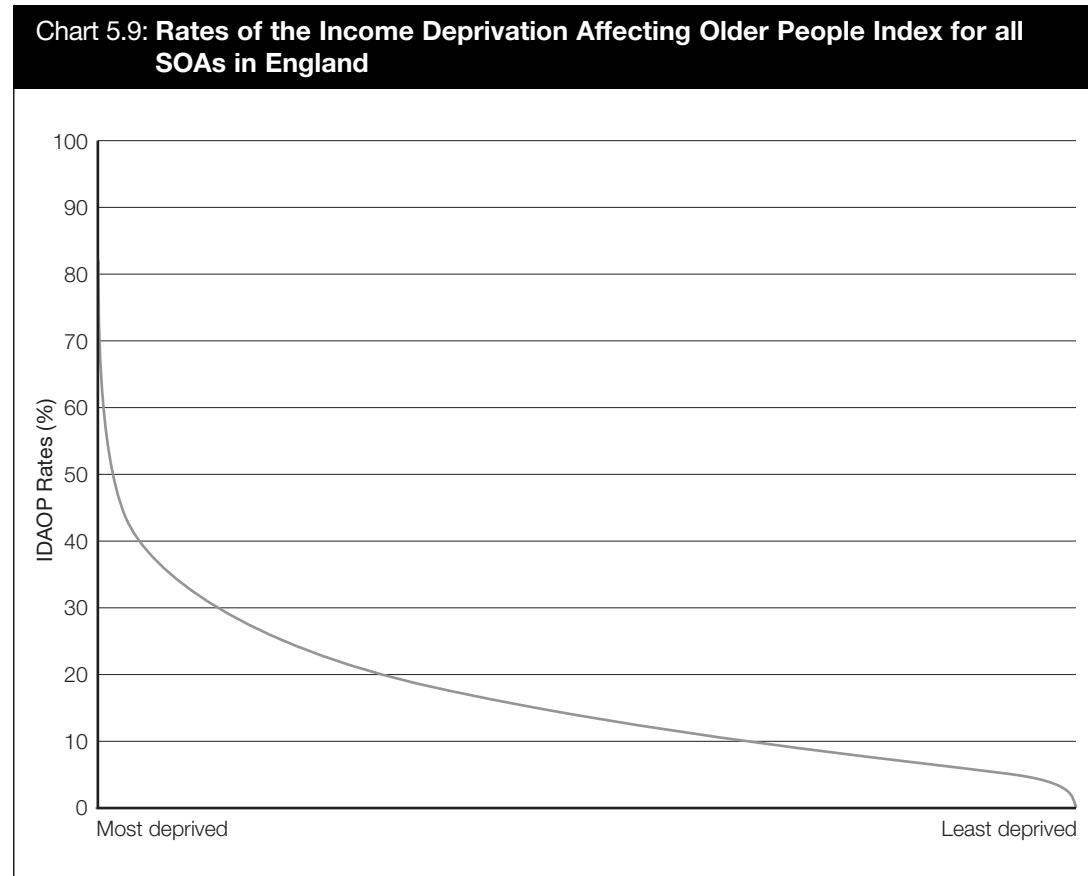
The Region with the highest percentage of children in income deprived households is London. This Region also has the highest number of children living in income deprived households. The North East has the lowest number of children living in income deprived households but it has the second highest percentage. The South East has the lowest percentage of children living in income deprived households.

**Chart 5.8** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the IDAC. As with all the Domain Indices and the IMD, a rank of 1 is assigned to the most deprived SOA and 32,482 to the least deprived SOA. For example, East Region's most deprived SOA has a rank of 54; its least deprived SOA has a rank of 32,475; and the mean of the SOA ranks is 18,309. This chart shows that in all Regions there is a wide range of SOA ranks. London has the highest levels of children living in households affected by income deprivation compared with other Regions, with a mean SOA rank of 11,046 and also has the highest ranked SOA overall. The South East Region has on average the lowest levels of children in households affected by income deprivation, with a mean SOA rank of 19,526 and also has the lowest ranked SOA overall.

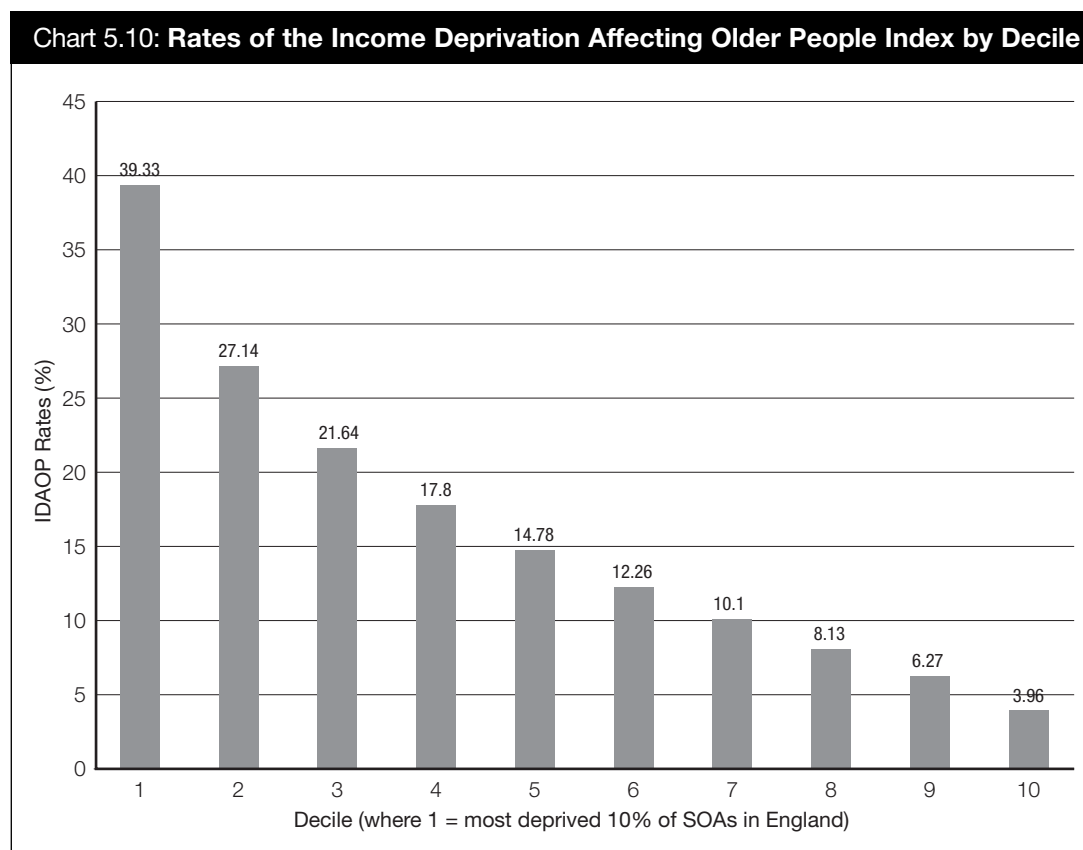


**INCOME DEPRIVATION AFFECTING OLDER PEOPLE (SUPPLEMENTARY INDEX)**

**Chart 5.9** shows the range of the IDAOP rates for every SOA in England. This goes from a high of 92% of older people affected by income deprivation, down to 0.01% of older people, in the least deprived SOA on this measure.



**Chart 5.10** shows that the most deprived decile of SOAs on the IDAOP have on average 39.3% of older people affected by income deprivation. Within this decile, the range is from 92.1% to 30.8%, again showing the extreme rates of deprivation that exist in the most deprived SOAs. The least deprived decile of SOAs in terms of IDAOP, have on average only 3.96% of older people affected by income deprivation.



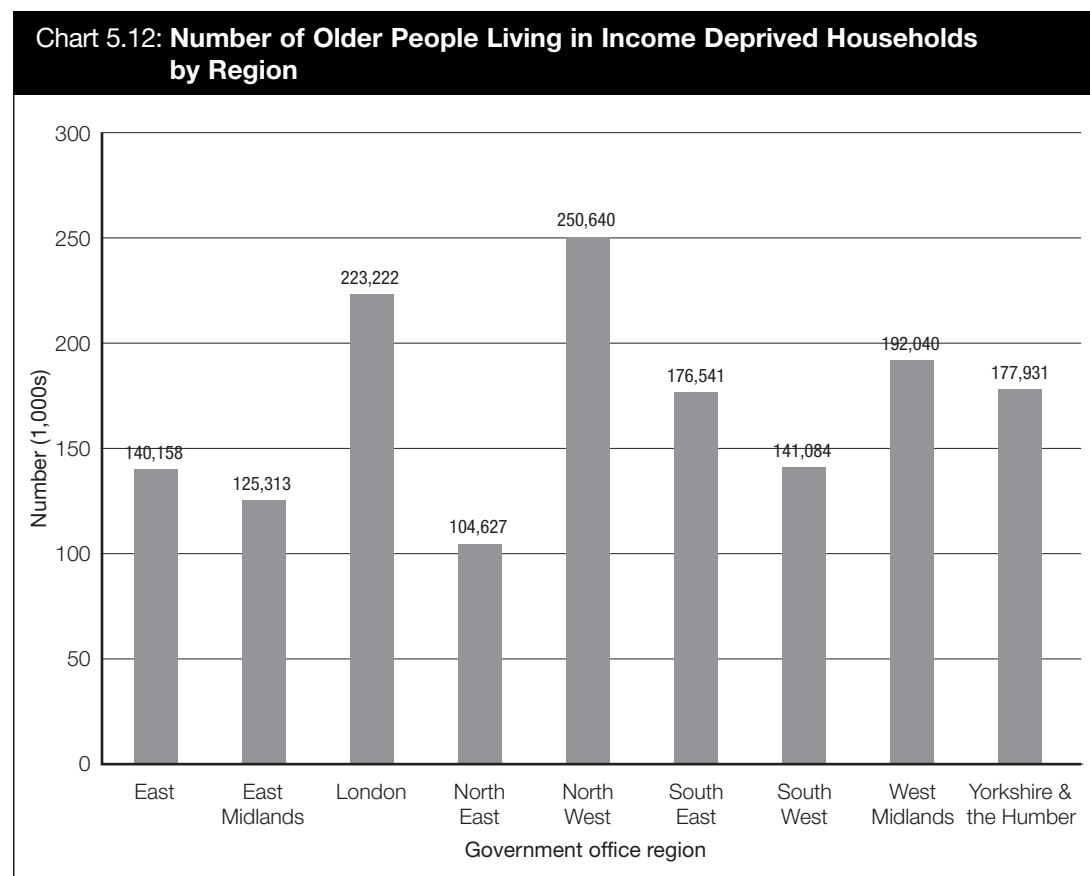
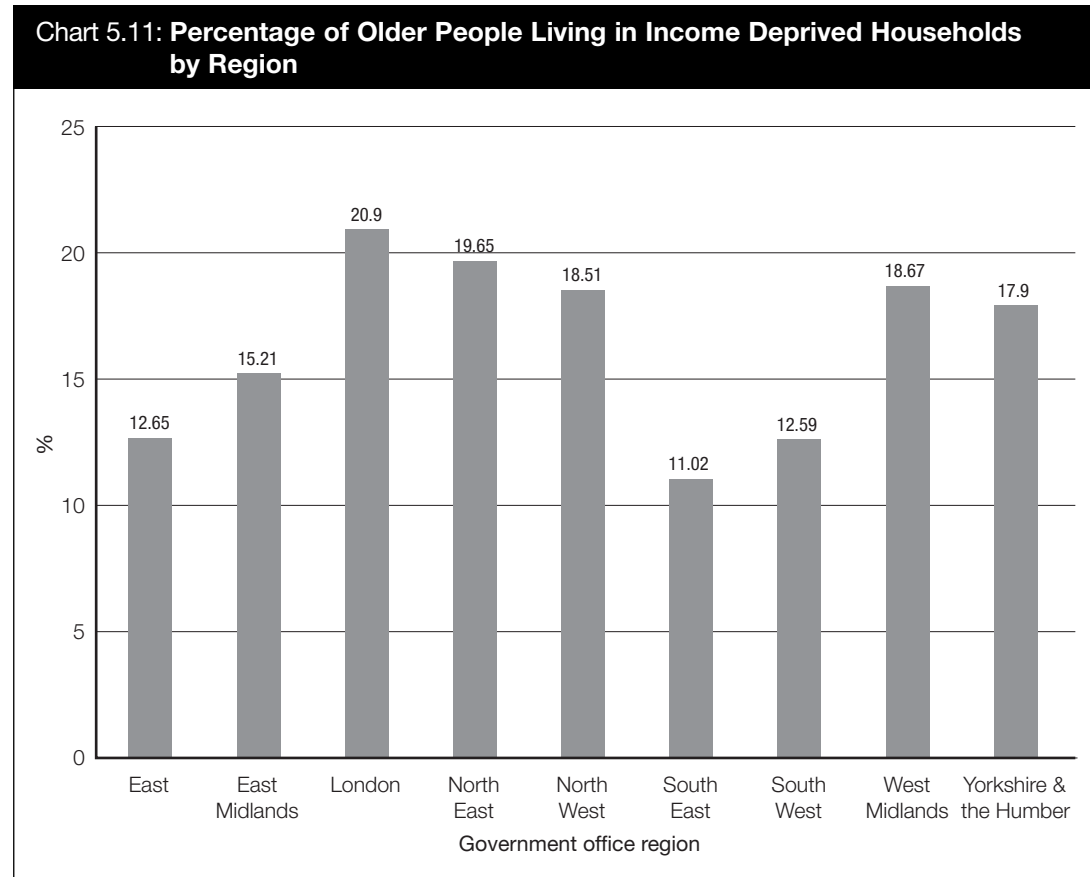
In England there are:

- 39 SOAs where more than two thirds of older people are affected by income deprivation
- 316 SOAs where more than half of all older people are in this situation; and
- 2,436 SOAs where more than one third of older people are affected by income deprivation.

On the other hand there are:

- 2,757 SOAs where fewer than 5% of older people are affected by income deprivation; and
- 11,215 SOAs where fewer than one in 10 older people are affected by income deprivation.

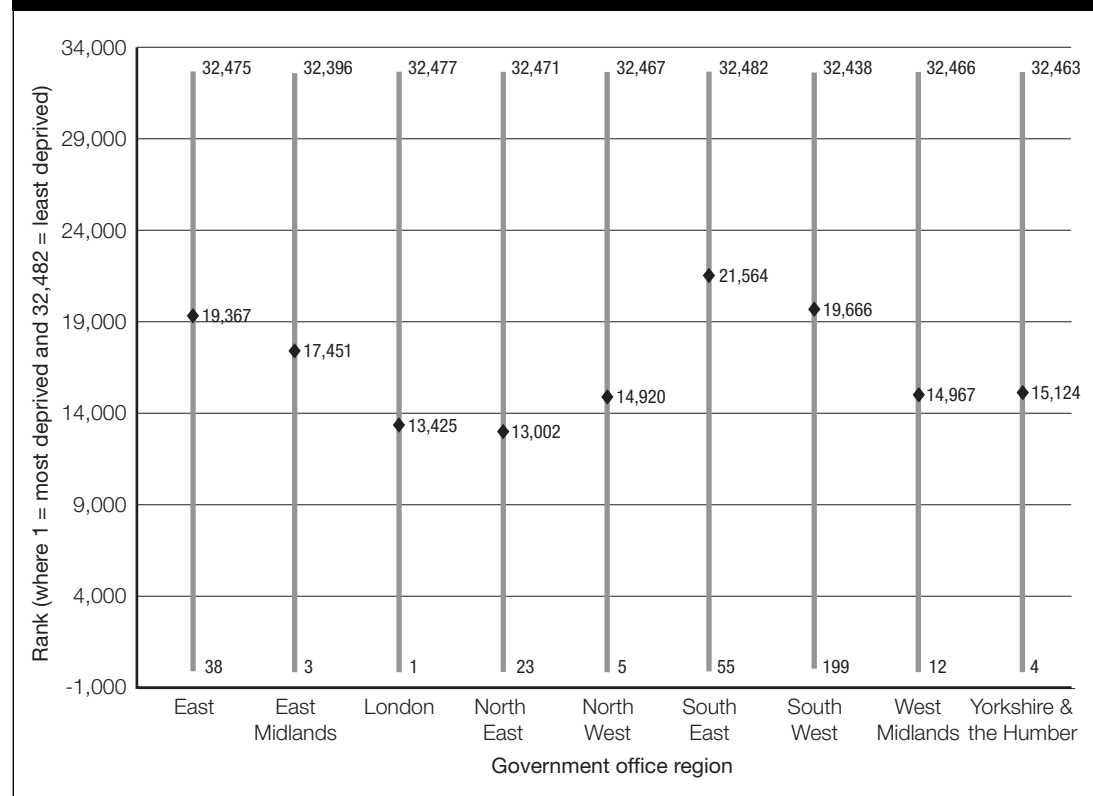
**Chart 5.11** shows the percentage of older people in each Region who are affected by income deprivation. **Chart 5.12** shows the numbers of older people affected by income deprivation.



London has the highest percentage of older people affected by income deprivation and the North West has highest number. The North East has the lowest number of older people affected by income deprivation but it has the second highest percentage. The South East has the lowest percentage of older people affected by income deprivation.

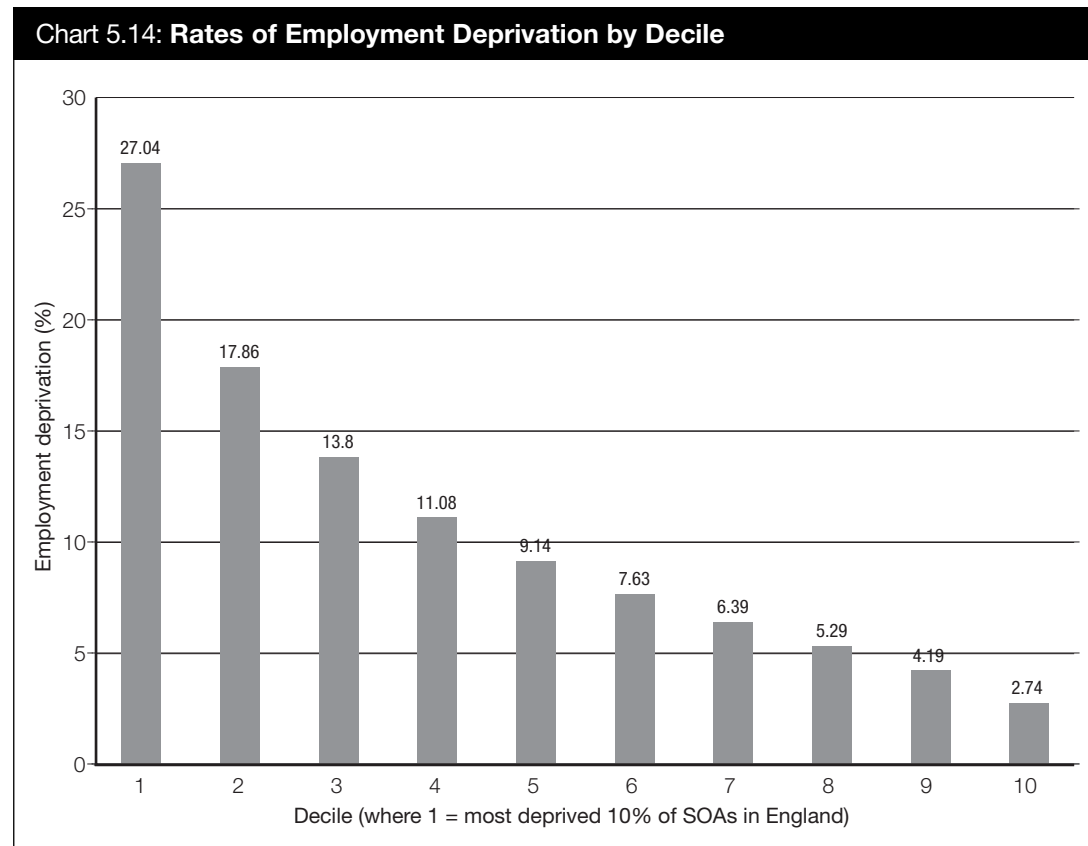
**Chart 5.13** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the IDAOP. As with all the Domain Indices and the IMD, a rank of 1 is assigned to the most deprived SOA and 32,482 to the least deprived SOA. This chart also shows that in all Regions there is a wide range of SOA ranks. The North East has the highest levels of older people affected by income deprivation compared with other Regions, with a mean SOA rank of 13,002 and London has the highest ranked SOA overall. The South East Region has on average the lowest levels of older people affected by income deprivation, with a mean SOA rank of 21,564 and also has the lowest ranked SOA overall.

**Chart 5.13: Range of the Income Deprivation Affecting Older People Index Ranks by Region**



## EMPLOYMENT DOMAIN

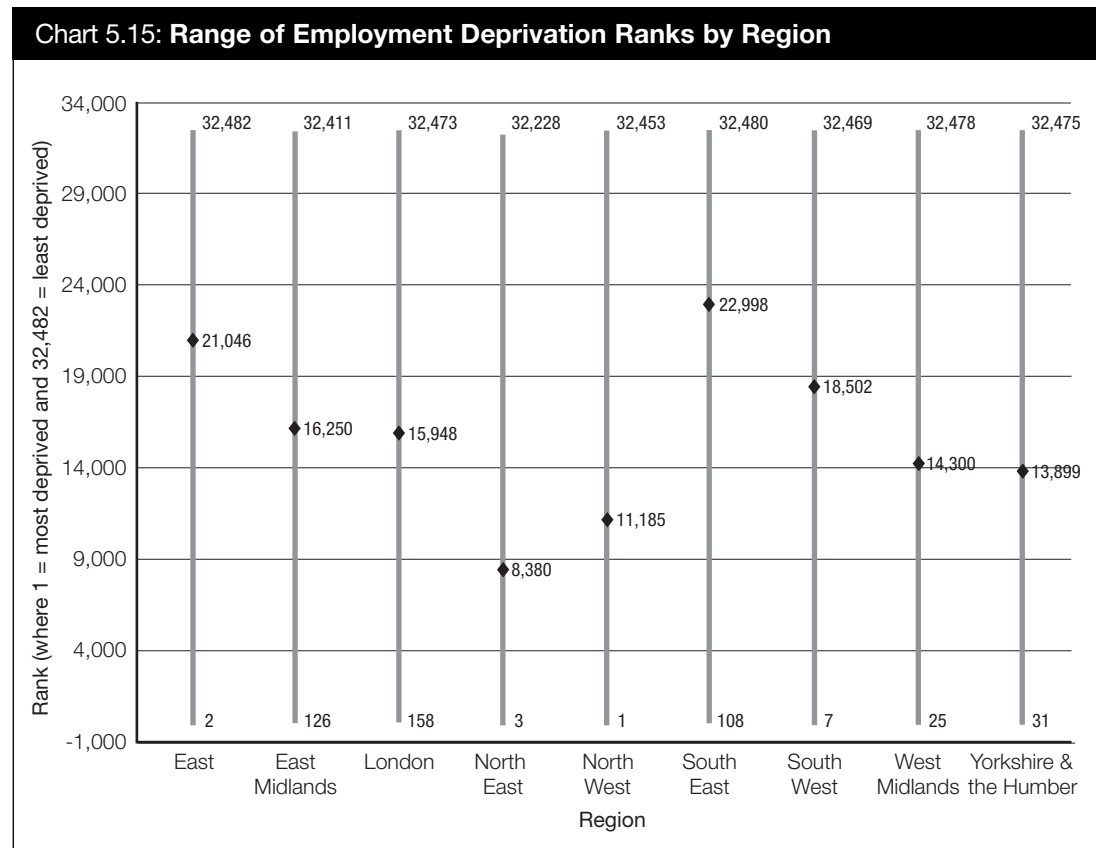
**Chart 5.14** shows the employment deprivation in England by decile. In the most employment deprived decile of SOAs, an average of about 27% of the relevant group of adults (women aged 18-59 and men aged 18-64) are employment deprived. This compares with 2.7% in the least employment deprived decile of SOAs in England.



In England there are 1,734 SOAs where more than a quarter of adults (women aged 18-59 and men aged 18-64) experience employment deprivation. There are also 1,901 SOAs where less than 3% of all adults (defined as above) are employment deprived.

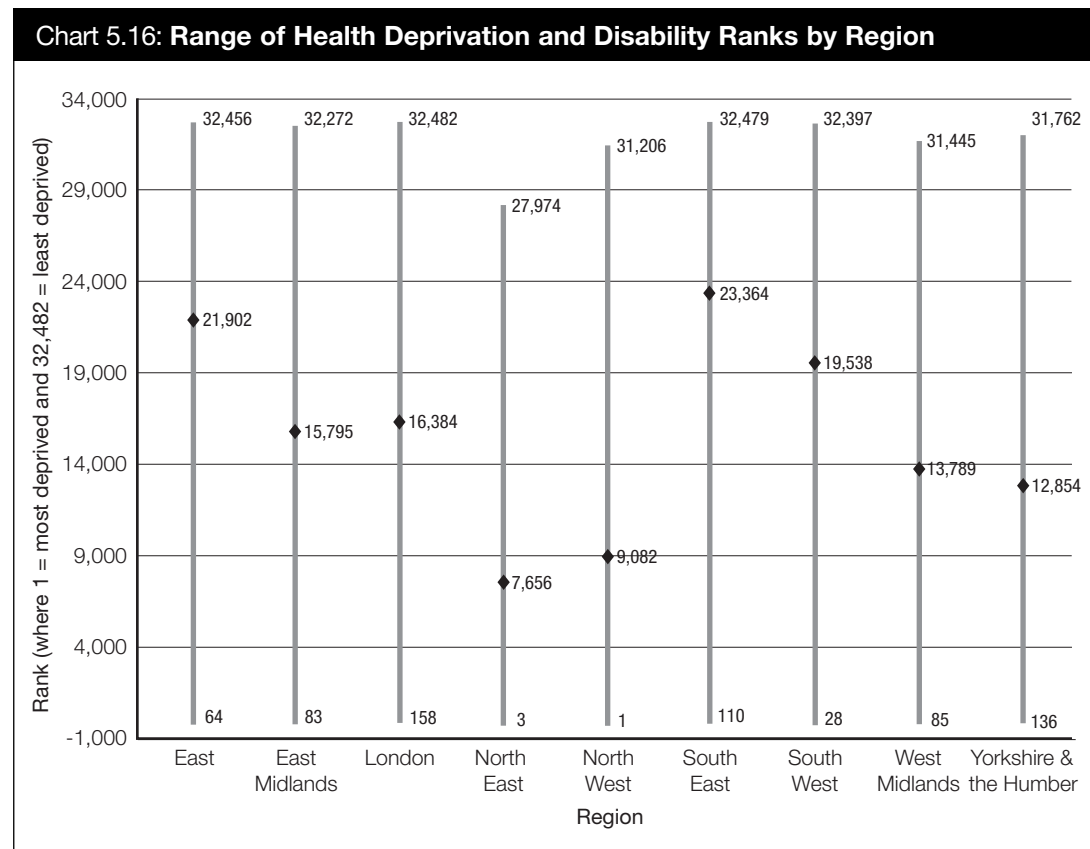


**Chart 5.15** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the Employment Domain. The North East Region is on average the most employment deprived Region, with a mean SOA rank of 8,380. This is significantly more deprived compared with the other Regions. The South East Region is the least deprived Region on average on the Employment Domain, with a mean SOA rank of 22,998, followed by the East Region with a population weighted mean rank for SOAs of 21,046.



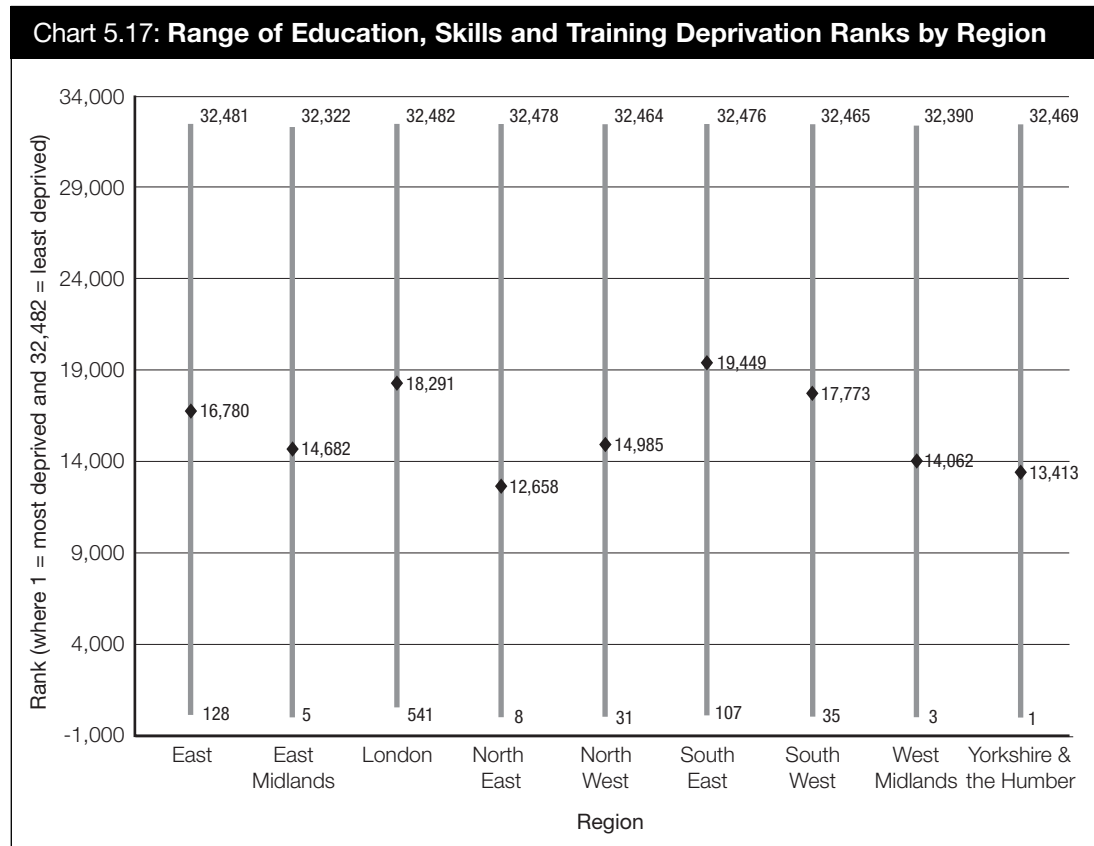
## HEALTH DEPRIVATION AND DISABILITY DOMAIN

**Chart 5.16** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the Health Domain. As with all the Domain Indices and the IMD, a rank of 1 is assigned to the most deprived SOA and 32,482 to the least deprived SOA. The North East and the North West Regions show much higher average levels of health deprivation, compared with other Regions, with respective mean ranks of 7,656 and 9,082. The North East has a smaller range of SOA ranks than other Regions, with no SOA ranked over 27,974, ie, no SOA at the 'least deprived' end of the deprivation scale. On average, the least health deprived Region is the South East with a population weighted mean rank of 23,364, followed by the East Region with a mean SOA rank of 21,902.



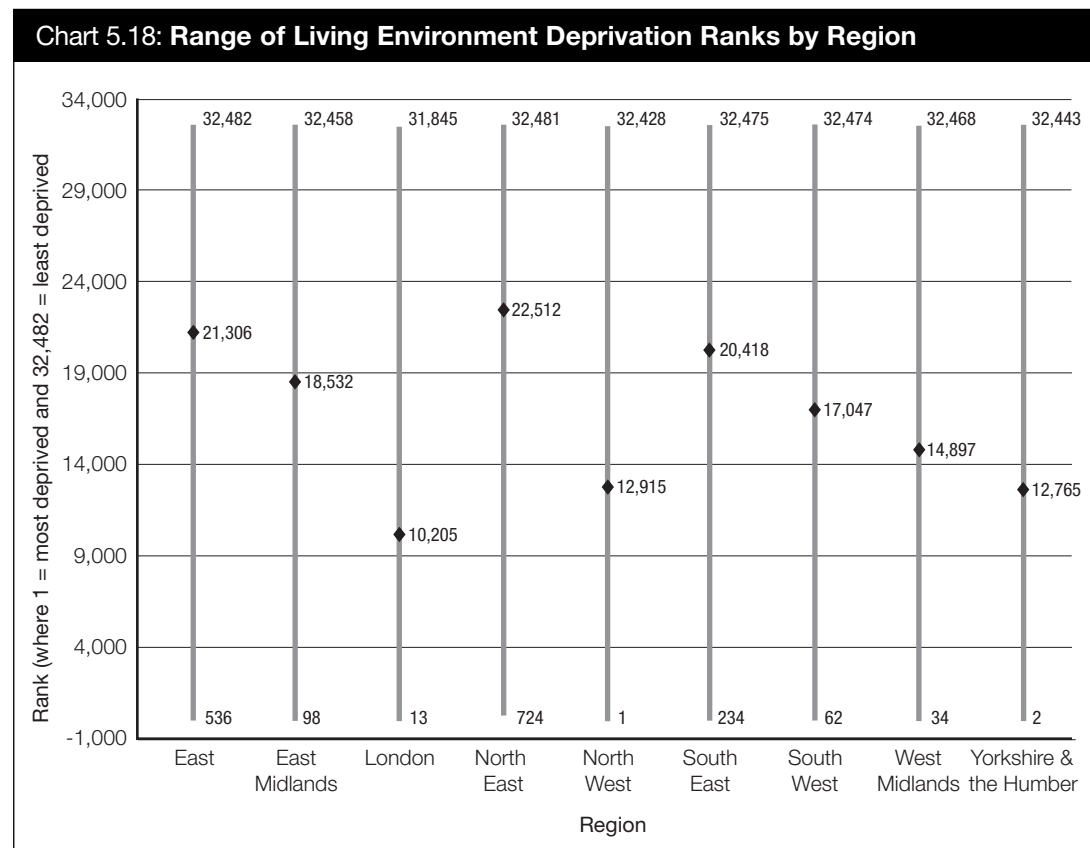
## EDUCATION SKILLS AND TRAINING DOMAIN

**Chart 5.17** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the Education Domain. This chart shows that in all Regions there is a wide range of SOA ranks but there is a more evenly distributed pattern of average education deprivation across the Regions on this Domain. The most education deprived Regions are the North East and Yorkshire and the Humber, with mean ranks of 12,658 and 13,413 respectively. The least education deprived Regions on average are the South East, with a population weighted mean rank of 19,449, and London with a population weighted mean rank of 18,291.



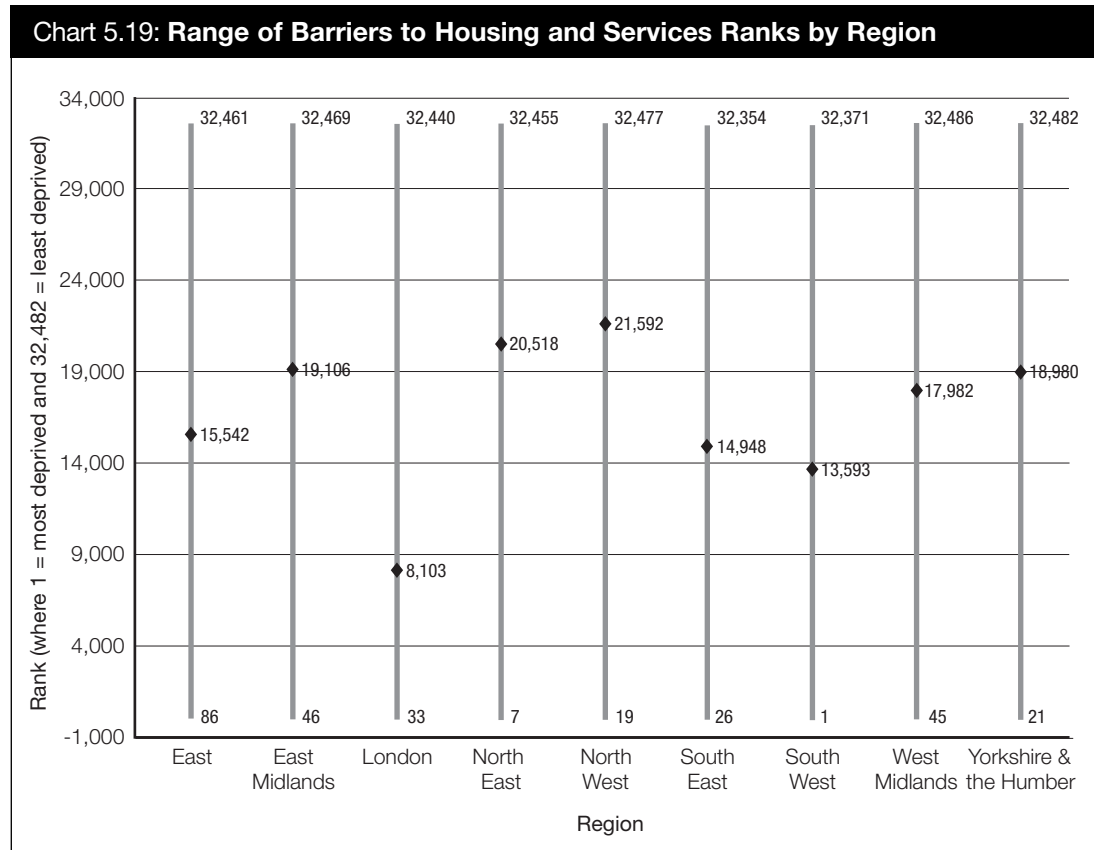
## LIVING ENVIRONMENT DOMAIN

**Chart 5.18** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the Living Environment Domain. This chart shows that in all Regions there is a wide range of SOA ranks but that the North East Region is less deprived on the Living Environment Domain, compared with the other Regions with an average SOA rank of 22512. The most deprived Region on average on the Living Environment Domain is London, with a mean rank of 10205.



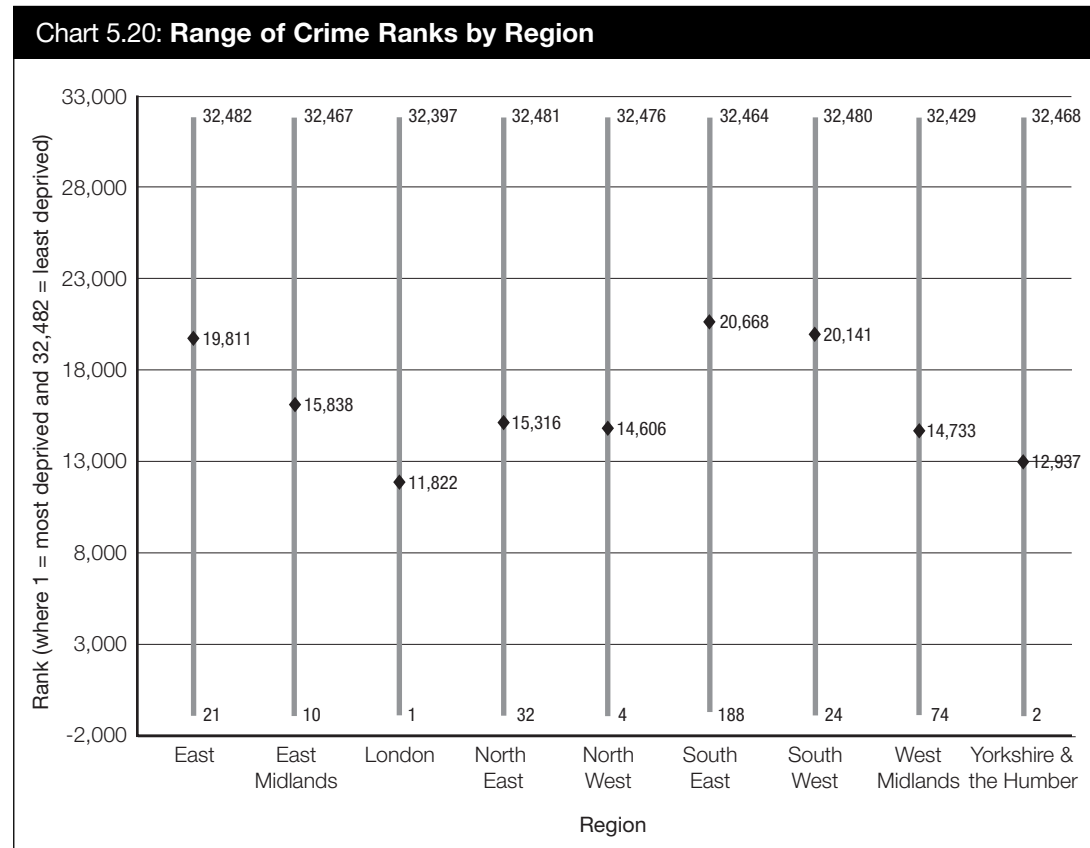
## BARRIERS TO HOUSING AND SERVICES DOMAIN

**Chart 5.19** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the Barriers to Housing and Services Domain. The London Region is the most deprived Region in England with a mean SOA rank of 8,103. The North West Region is the least barriers deprived on average, with a mean SOA rank of 21,592.



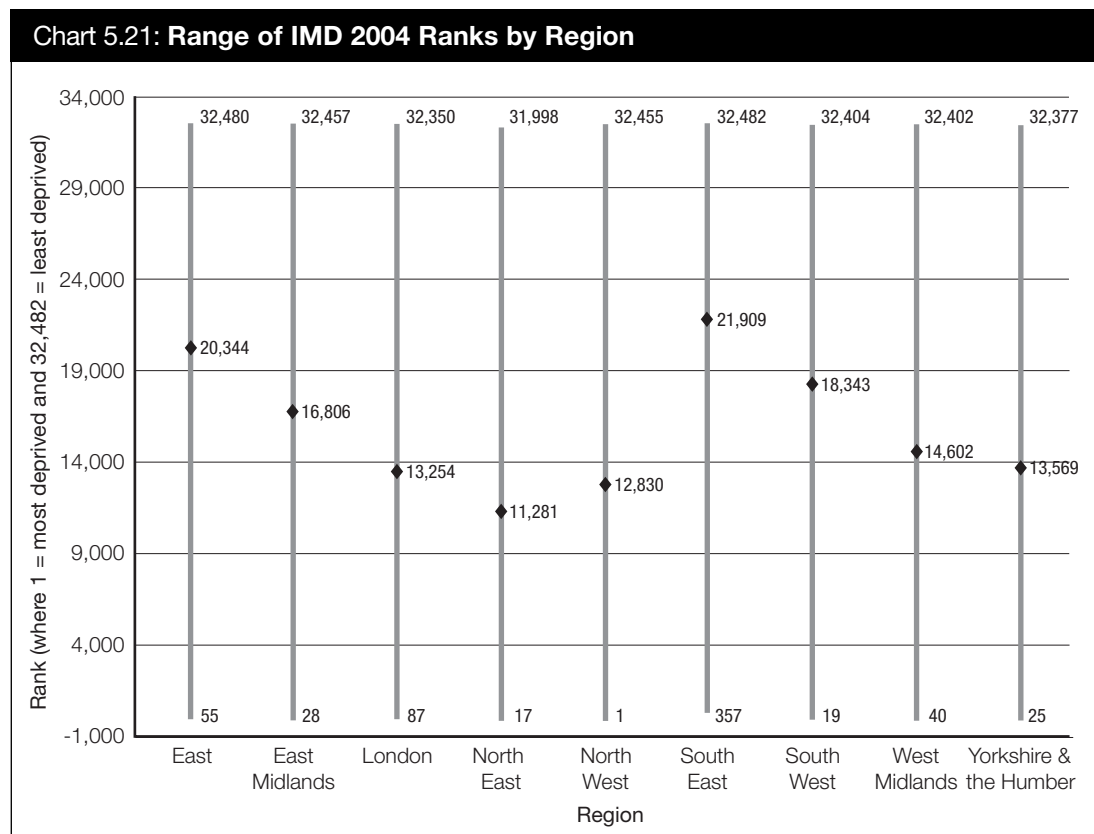
## CRIME DOMAIN

**Chart 5.20** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the Crime Domain. The London Region is the most deprived Region in terms of crime in England with a mean SOA rank of 11822. The South East Region is the least crime deprived on average, with a mean SOA rank of 20668.



## INDEX OF MULTIPLE DEPRIVATION 2004

**Chart 5.21** shows the minimum, maximum and population weighted mean rank of SOAs in each Government Office Region, for the Index of Multiple Deprivation 2004. As with all the Domain Indices, a rank of 1 is assigned to the most deprived SOA and 32482 to the least deprived SOA. This chart shows that in all Regions there is a wide range of SOA ranks. The Region with SOAs with the highest levels of multiple deprivation on average is the North East Region, with a mean SOA rank of 11281, followed by the North West with a mean SOA rank of 12830. The least multiply-deprived Regions are the South East, with a mean SOA rank of 21909, followed by the East Region with a mean SOA rank of 20344.



## Section 4: District level summary measures

The SOA level IMD is summarised at district level using six different measures. For an explanation of these district level summaries please see **Chapter 4**. This allows local authority districts to be ranked according to how deprived they are relative to other districts. The maps in this section present the six district level summaries. In the maps, the districts have been divided into ten equal groups, and dark blue is used for the 10% most deprived districts for each measure.

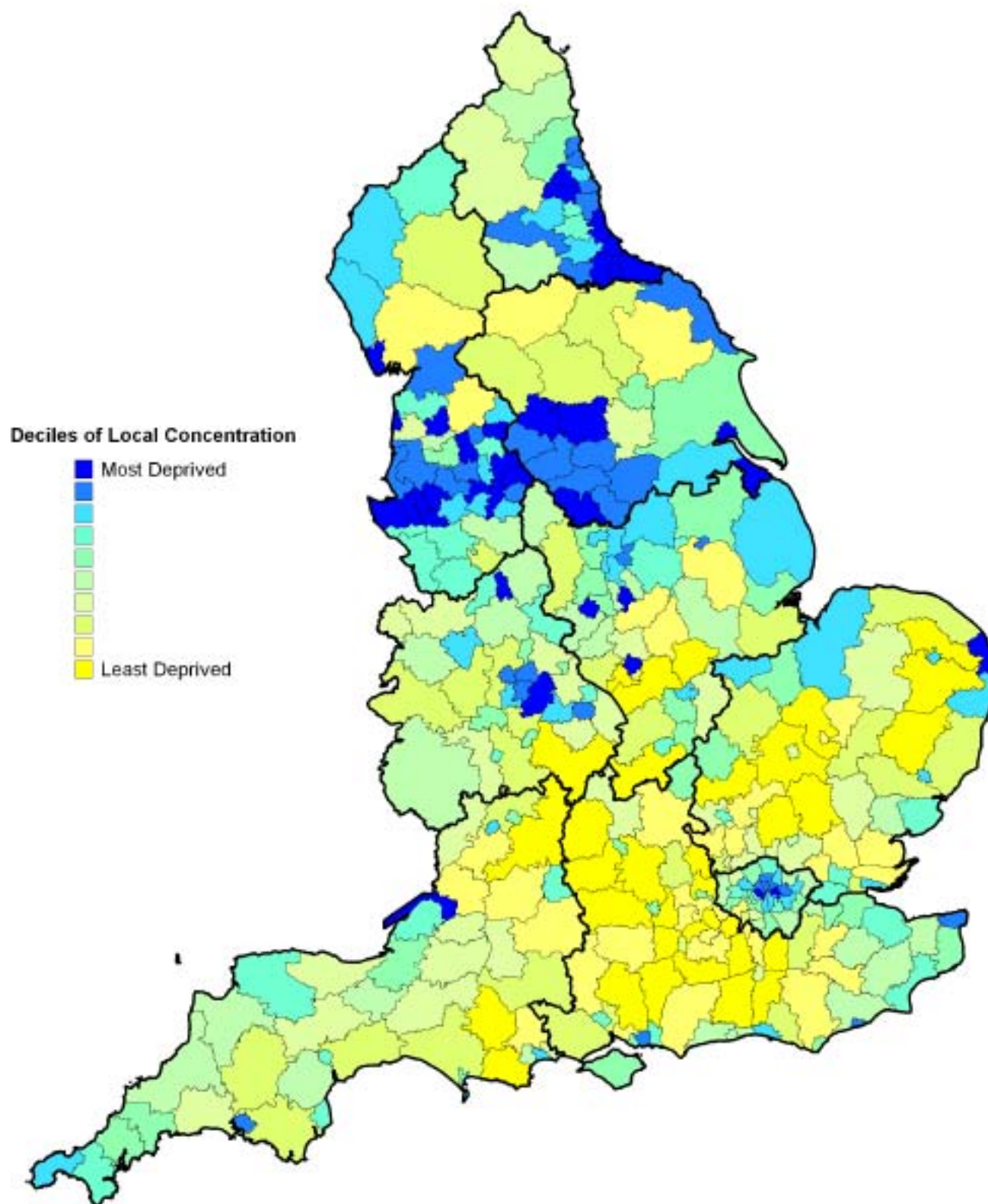
- The **local concentration** measure shows the severity of multiple deprivation in each authority, measuring ‘hot spots’ of deprivation.
- The **extent** measure is the proportion of a district’s population that lives in the most deprived SOAs in England.
- The ‘**average scores**’ and ‘**average ranks**’ measures are two ways of depicting the average level of deprivation across the entire district.
- The **income scale** and **employment scale** measures show the number of people experiencing income and employment deprivation respectively.

### LOCAL CONCENTRATION

Districts in the most deprived 10% of districts on this measure are concentrated in the North West (32.6% of its districts) and the North East (30.4% of its districts). On the other hand, none of the districts in London or the North East are in the least deprived decile. The South East has no districts in the most deprived decile on this measure.



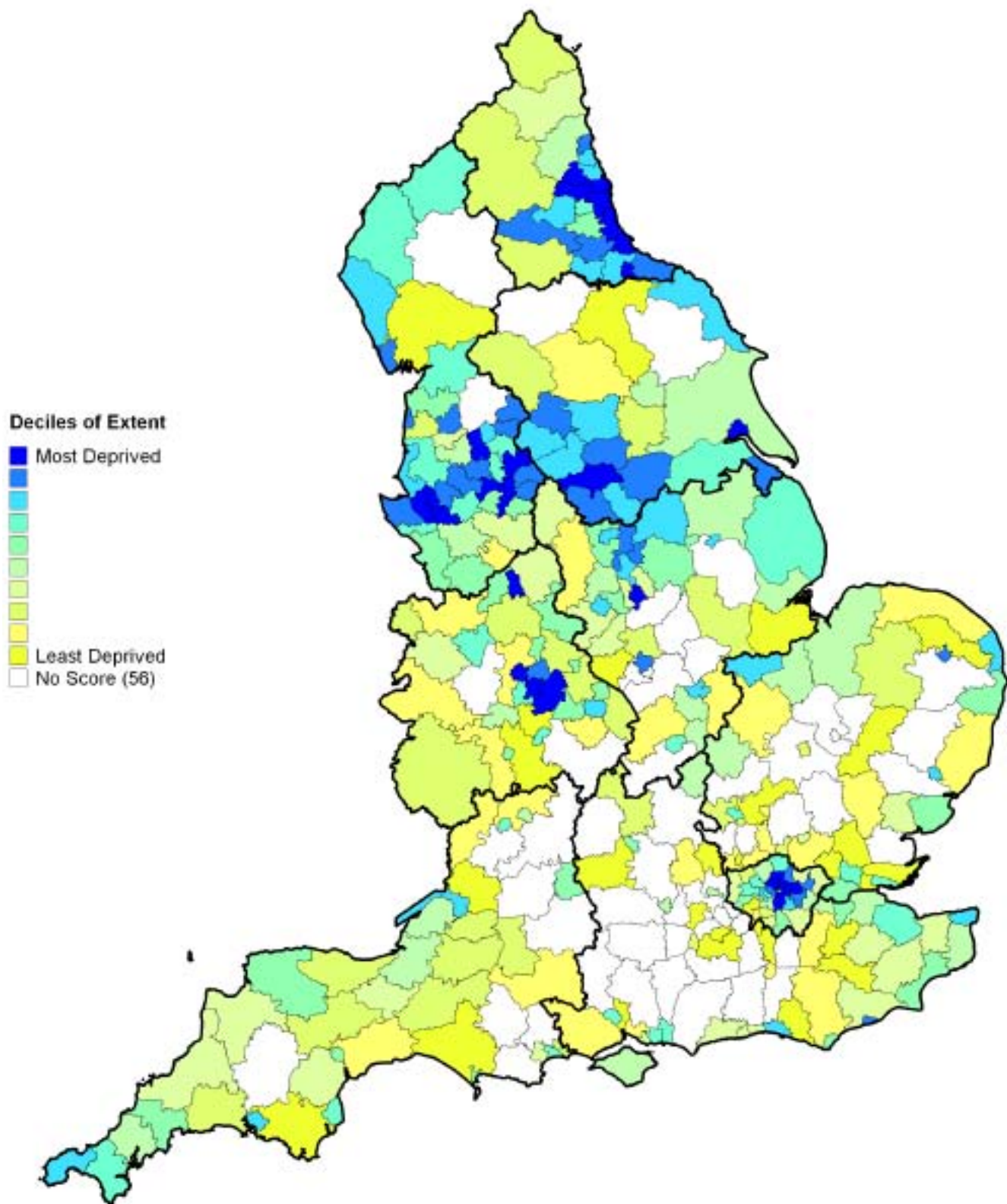
## England – Local Concentration District Level Summary of the IMD 2004



**EXTENT**

Because this measure captures only districts with people living in the most deprived SOAs, there will be some districts with no score on this measure. The North East (7 Districts – 30.4% of its districts) and London (8 Districts – 24.2% of its districts) are the Regions which have the highest numbers of districts in the top decile on this measure. As with local concentration, none of the districts in London or the North East are in the least deprived decile on this measure. The South East, the East and the South West have no districts in the most deprived decile on this measure.

England – Extent District Level  
Summary of the IMD 2004

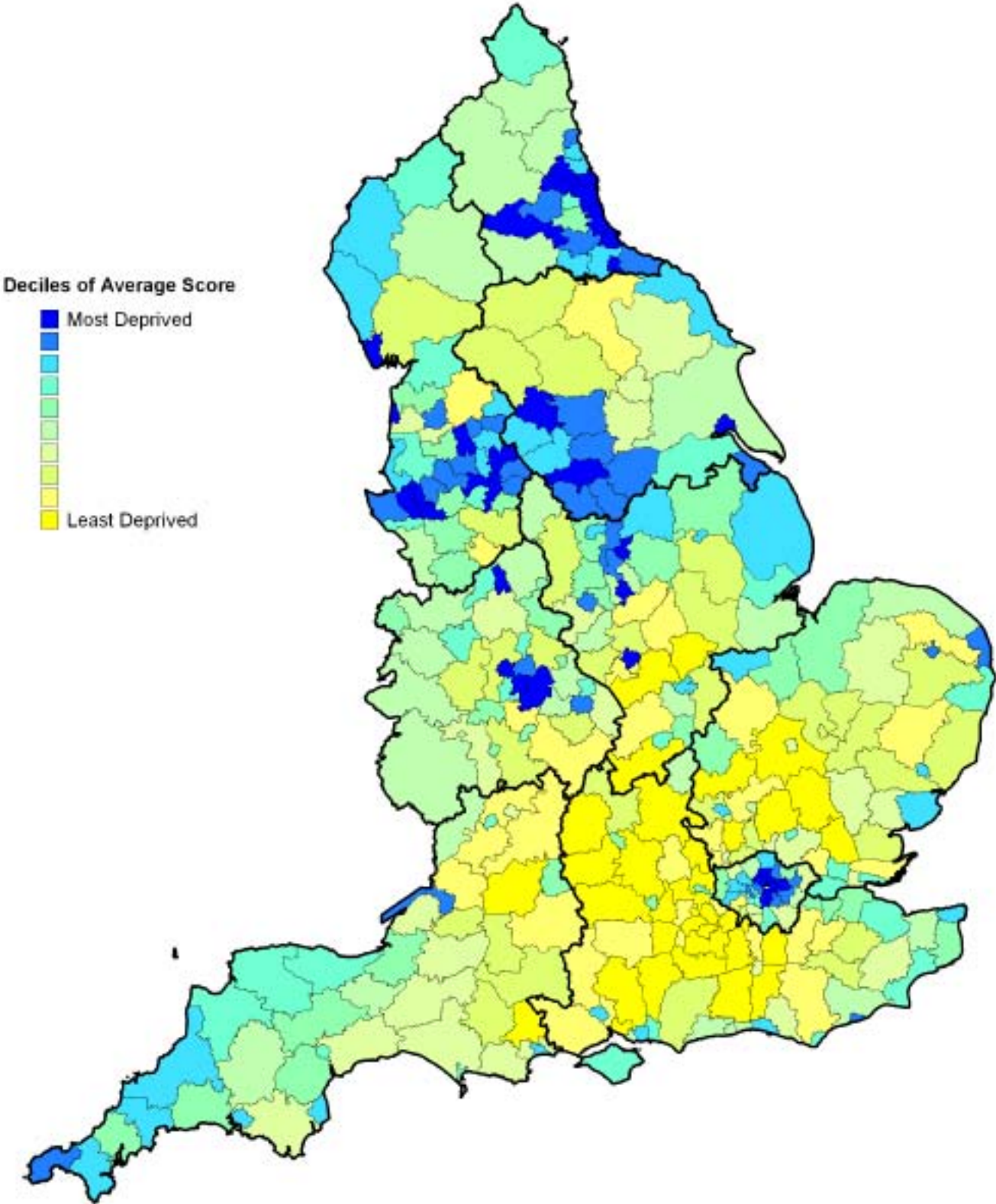


**AVERAGE SCORE AND AVERAGE RANK**

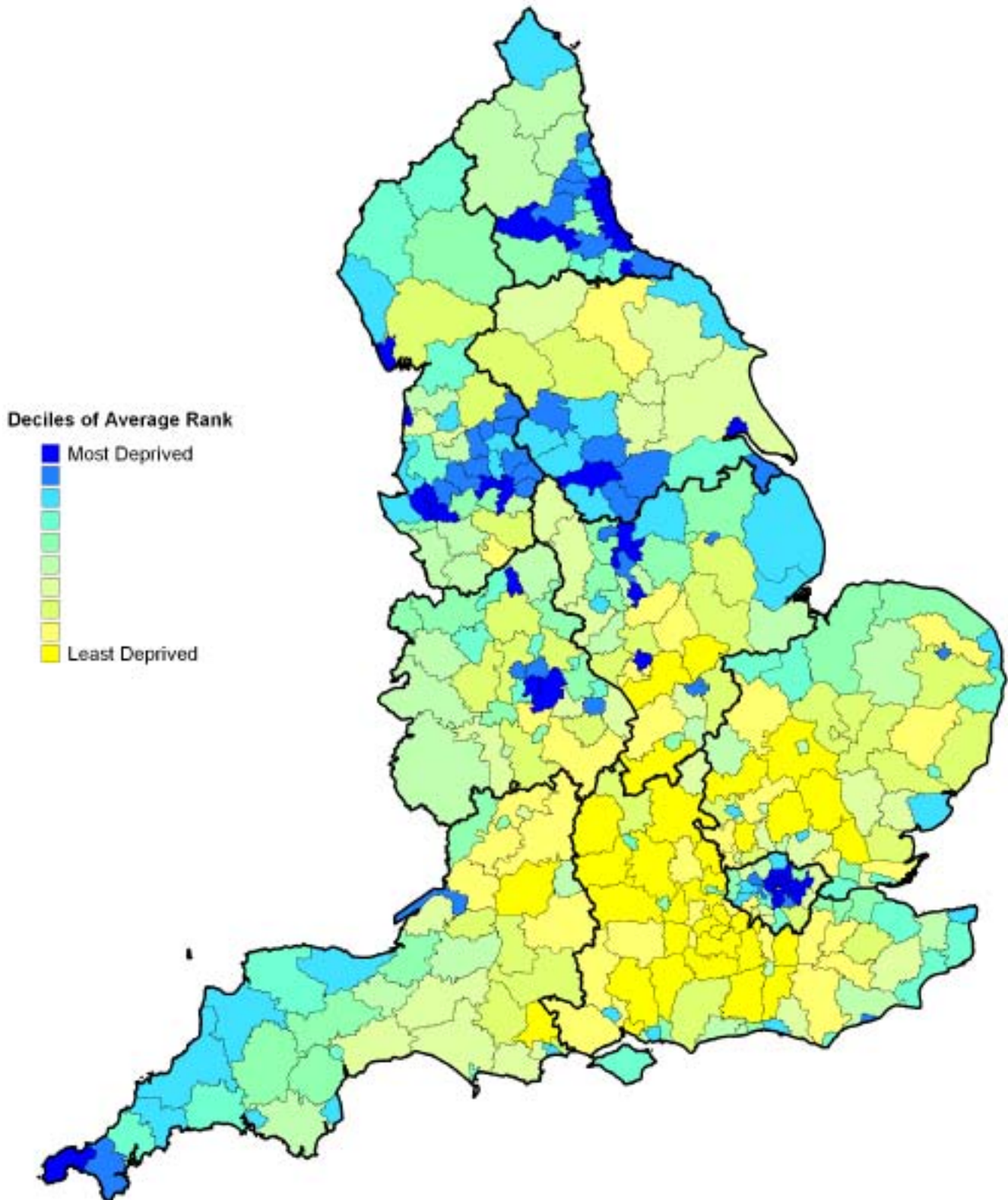
London, the North East and North West have the largest numbers (and percentages) of their districts in the most deprived decile on Average Score. The picture is similar for Average Rank except that here London stands out with 36.4% of its districts (12) in the most deprived decile. The East, South East and South West Regions have no districts in the most deprived decile for Average Score and the East and South East have no district in the most deprived decile for Average Rank.



# England – Average Score District Level Summary of the IMD 2004



## England – Average Rank District Level Summary of the IMD 2004

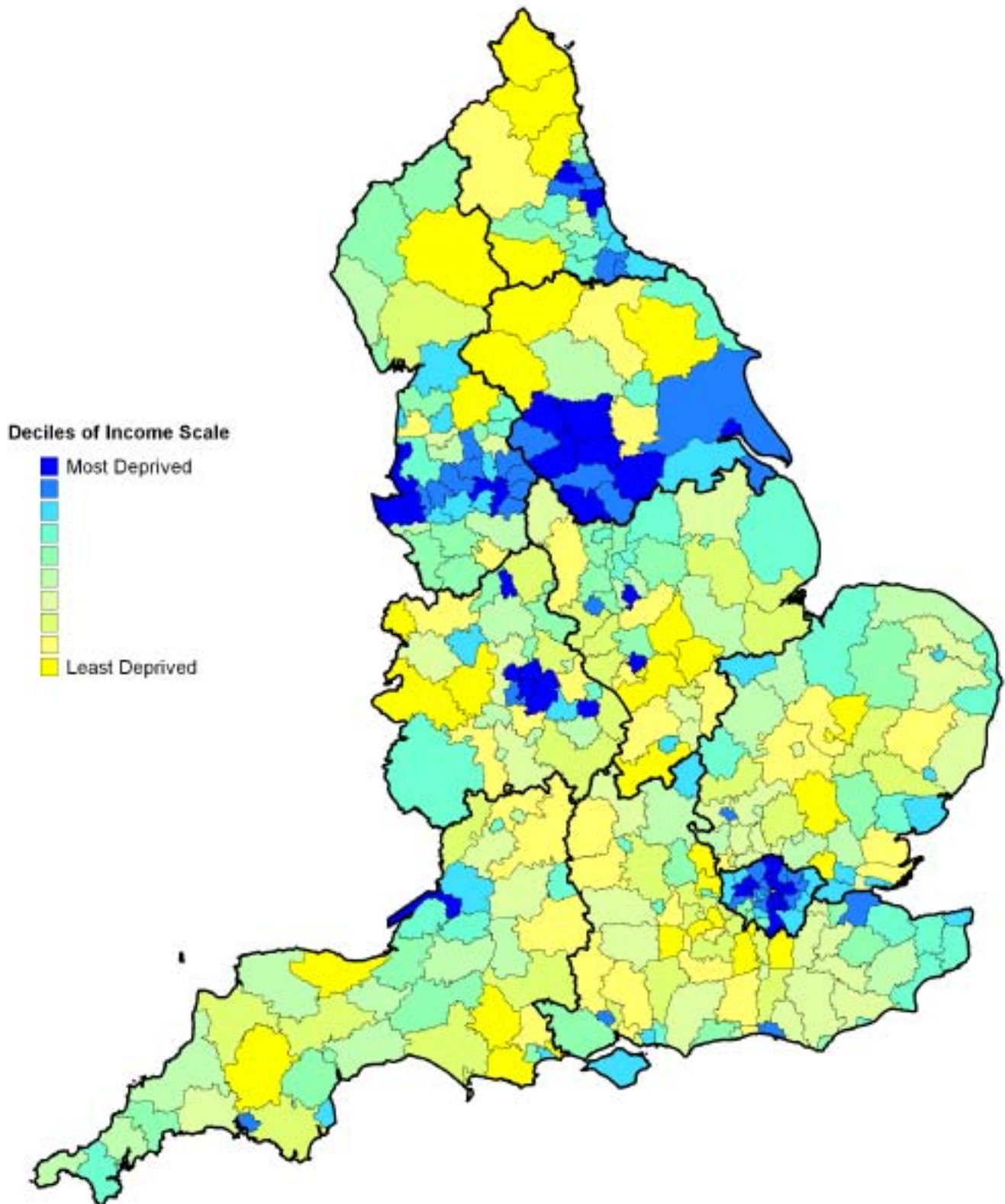


## **INCOME SCALE**

London (with 12 or 36% of its districts) followed by Yorkshire and the Humber (with 7 or 33% of its districts) have the highest numbers and percentages of districts in the top decile on this measure. Only the East and South East Regions have no districts in the most deprived decile.



## England – Income Scale District Level Summary of the IMD 2004

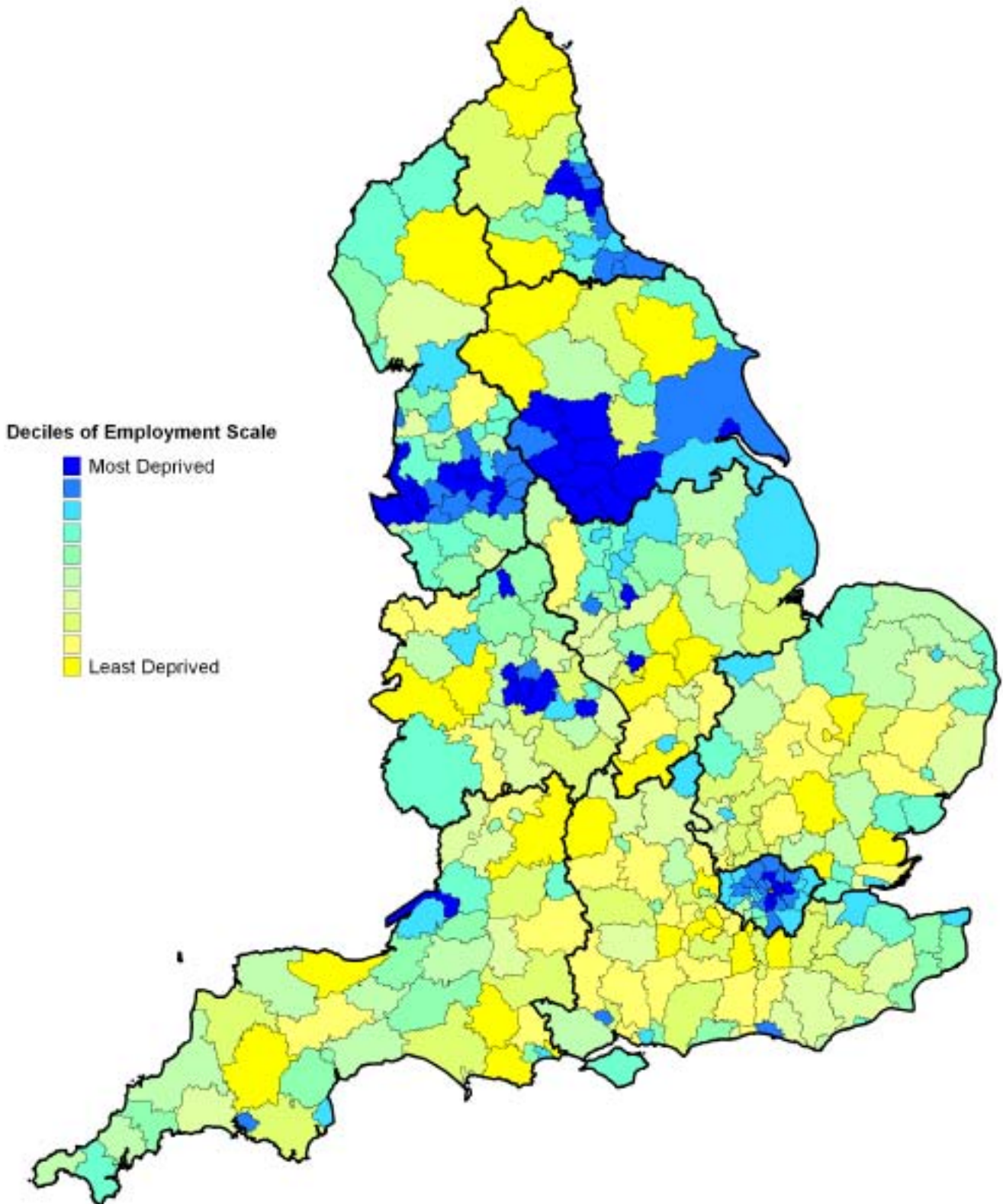




## **EMPLOYMENT SCALE**

Yorkshire and the Humber (with 9 or 43% of its districts) is the Region with the largest proportion of its districts in the most deprived decile of districts on this measure. The North West has 8 districts (18.6% of its districts) followed by London (with 6 or 18% of its districts) and the West Midlands (with 6 or 17.6% of its districts). As with Income Scale only the East and South East Regions have no districts in the most deprived decile.

## England – Employment Scale District Level Summary of the IMD 2004



The following table summarises the districts which are the 50 most deprived on each of the six district level measures. The district level summaries for all local authority districts can be found in **Annex L**.

**Table 5.4: The 50 most deprived districts, for each of the district level summaries of the IMD 2004**

Rank	Average score	Average rank	Extent	Local concentration	Income scale	Employment scale
1	Liverpool	Hackney	Hackney	Knowsley	Birmingham	Birmingham
2	Manchester	Tower Hamlets	Tower Hamlets	Liverpool	Liverpool	Liverpool
3	Knowsley	Manchester	Islington	Manchester	Manchester	Manchester
4	Tower Hamlets	Islington	Manchester	Middlesbrough	Leeds	Leeds
5	Hackney	Liverpool	Liverpool	Newcastle upon Tyne	Bradford	Sheffield
6	Islington	Newham	Newham	Kingston upon Hull, City of	Sheffield	Bradford
7	Nottingham	Easington	Easington	Salford	Newham	Sunderland
8	Easington	Knowsley	Knowsley	Wirral	Tower Hamlets	Wirral
9	Kingston upon Hull, City of	Nottingham	Nottingham	Nottingham	Hackney	Wigan
10	Middlesbrough	Haringey	Haringey	Blackpool	Nottingham	Newcastle upon Tyne
11	Newham	Kingston upon Hull, City of	Middlesbrough	Bradford	Sandwell	Wakefield
12	Salford	Southwark	Kingston upon Hull, City of	Rochdale	Leicester	Nottingham
13	Haringey	Lambeth	Southwark	Hartlepool	Wirral	Doncaster
14	Hartlepool	Sandwell	Birmingham	Redcar and Cleveland	Bristol, City of	Bristol, City of
15	Birmingham	Camden	Hartlepool	Birmingham	Lambeth	Sefton
16	Sandwell	Birmingham	Sandwell	Barrow-in-Furness	Kingston upon Hull, City of	Kirklees
17	Southwark	Salford	Salford	Stockton-on-Tees	Haringey	Stoke-on-Trent
18	Stoke-on-Trent	Hartlepool	Halton	Derby	Southwark	Sandwell
19	Camden	Middlesbrough	Stoke-on-Trent	Westminster	Newcastle upon Tyne	Kingston upon Hull, City of
20	Newcastle upon Tyne	Stoke-on-Trent	South Tyneside	Halton	Sunderland	Barnsley
21	Halton	Barking and Dagenham	Camden	Burnley	Kirklees	Lambeth
22	Sunderland	Sunderland	Lambeth	Tower Hamlets	Brent	Leicester
23	Lambeth	Greenwich	Sunderland	Gateshead	Lewisham	Coventry
24	Blackpool	Wear Valley	Newcastle upon Tyne	Leeds	Wolverhampton	Newham

Table 5.4: *continued*

25	Rochdale	Waltham Forest	Blackburn with Darwen	Blackburn with Darwen	Coventry	Southwark
26	Gateshead	Blackpool	Wolverhampton	Oldham	Doncaster	Hackney
27	South Tyneside	Barnsley	Gateshead	St. Helens	Ealing	Salford
28	Barnsley	South Tyneside	Barnsley	Easington	Enfield	Bolton
29	Barrow-in-Furness	Leicester	Rochdale	Leicester	Wakefield	Wolverhampton
30	Bradford	Halton	Mansfield	Sheffield	Islington	Knowsley
31	Leicester	Bolsover	Bradford	North East Lincolnshire	Croydon	Rotherham
32	Wear Valley	Mansfield	Doncaster	Preston	Walsall	Haringey
33	Mansfield	Westminster	Leicester	Stoke-on-Trent	Sefton	Gateshead
34	Blackburn with Darwen	Penwith	Barrow-in-Furness	Bristol, City of	Stoke-on-Trent	Tower Hamlets
35	Wolverhampton	Barrow-in-Furness	Blackpool	Great Yarmouth	Salford	Dudley
36	St. Helens	Gateshead	Oldham	Bolton	Greenwich	Walsall
37	Burnley	Rochdale	St. Helens	Sunderland	Waltham Forest	Lewisham
38	Hastings	Lewisham	Hastings	Mansfield	Knowsley	Islington
39	Westminster	Hastings	Walsall	Hastings	Bolton	Brent
40	Doncaster	Wolverhampton	Burnley	Barnsley	Wigan	St. Helens
41	Greenwich	St. Helens	Greenwich	Coventry	Dudley	Rochdale
42	Barking and Dagenham	Hammersmith	Wansbeck	Sefton and Fulham	Rotherham	Ealing
43	Oldham	Sedgefield	North East Lincolnshire	Doncaster	Camden	Brighton and Hove
44	Redcar and Cleveland	Doncaster	Wear Valley	Islington	Derby	Oldham
45	Wansbeck	Blackburn with Darwen	Barking and Dagenham	Wolverhampton	Barnsley	Tameside
46	Bolsover	Burnley	Bolton	Haringey	Rochdale	Plymouth
47	Waltham Forest	Wansbeck	Bolsover	Hackney	Barnet	Camden
48	Wirral	Newcastle upon Tyne	Preston	Wigan	Oldham	South Tyneside
49	Tameside	Tameside	Wirral	Wear Valley	Gateshead	North Tyneside
50	Bolton	Derwentside	Norwich	Wansbeck	Brighton and Hove	Croydon

# CHAPTER 6

## Comparing the Indices of Deprivation 2004 with the Indices of Deprivation 2000

### Introduction

The purpose of this Index of Multiple Deprivation is to measure as accurately as possible the relative distribution of multiple deprivation at a small area level. As time progresses, it becomes possible to measure the different dimensions of multiple deprivation more precisely, for example as new datasets become available. The dilemma then arises as to whether to retain the old indicators (if these still exist)<sup>7</sup> or to incorporate newer and better information. This dilemma – the extent to which a new Index should be ‘backwards’ comparable with its predecessor – was something that was considered during the Stage 1 Consultation at the outset of this update. Respondents to the consultation overwhelmingly argued that it was preferable to strive towards the best possible measurement of multiple deprivation, even if this was at the expense of ‘backwards’ comparability. This is the basis on which the IMD 2004 was created.

The Index of Multiple Deprivation was not designed specifically to be an instrument for measuring change over time, nor for evaluating the impact of area based policy initiatives or macro-economic change. There are better, more nuanced, tools for achieving each of these tasks (for example, Noble, Evans *et al*, 2001; Evans, Noble *et al*, 2002).

That having been said, it is useful to explore the differences that occur between the ID 2000 and the ID 2004 and the possible explanations for them. However it is important to note that the IMD measures the *relative positions* of small areas in terms of multiple deprivation. It says nothing about absolute levels of deprivation. If all areas improved at relatively the same rate, then the IMD rankings would remain the same (so long as the components, methodology and area units remained constant). Any change in ranks which might be observed is change to the relative positions, relative to other areas, and not in any absolute sense.

Section 1 describes the changes that have taken place at local authority level in terms of rank position of the local authority level summary measures of the IMD between the ID 2000 and the ID 2004.

Section 2 gives indications of the reasons for change at a district level.

<sup>7</sup> Indeed, in some cases it would not even be possible to use the old indicators as they no longer exist (for example, Family Credit in the ID 2000's Income Domain).

## Section 1: Change from the ID 2000 to the ID 2004

As will be discussed in greater detail in Section 2, the IMD 2000 and the IMD 2004 are constructed on different small area level geographies. The IMD 2000 was based on wards as on 1st April 1998, whereas the IMD 2004 was constructed at the Super Output Area (SOA) Lower Layer level. However, the larger area unit summaries for the Indices of Multiple Deprivation are at local authority level for both Indices. This makes comparisons between districts more straightforward, but it should be stressed that the IMD 2004 is primarily an *SOA level* Index. The summaries at district level are of secondary importance.

In the ID 2000, 81 Districts fell into the 'most deprived 50' on one or more district level summaries. In the ID 2004, 80 districts fell into this category. Of the 81 districts in the 'most deprived 50' in the ID 2000, 75 remain within the 'most deprived 50' in the ID 2004.

### 'LEAVERS'

Six local authorities are no longer in the 'most deprived 50' on one or more of the district level summaries: Kerrier, Allerdale, Hyndburn, Pendle, Lincoln and Ashfield. Kerrier, Allerdale, Lincoln and Ashfield were only represented in the ID 2000's 'most deprived 50' on one out of the six district level summaries. Hyndburn and Pendle were respectively represented in the 'most deprived 50' on two district summaries and three district summaries. Pendle's relative position has dropped more markedly.

### 'JOINERS'

Five local authorities are new-comers to the 'most deprived 50' in the ID 2004: Barnet, Westminster, North East Lincolnshire, Norwich and Hammersmith & Fulham. Of the 'joiners' Barnet, Norwich and Hammersmith & Fulham appear in the 'most deprived 50' on one district level summary only: position 47 on Income Scale for Barnet, position 50 on Extent for Norwich, and position 42 on Average Rank for Hammersmith & Fulham. Westminster makes an appearance in the 'most deprived 50' on three out of the six district level summaries and North East Lincolnshire is in the 'most deprived 50' on two of the district level summaries.

Though the reasons for change will be discussed further in Section 2, for Pendle ('leaver') and Westminster ('joiner') the recalibration of the population estimates, following the 2001 Census, will have had some impact<sup>8</sup>.

<sup>8</sup> Pendle's 1998 population when re-calibrated was 5.2% larger and Westminster's was 24% smaller.

The district level summaries for the ID 2000 and ID 2004 correlate as follows:

<b>Table 6.1: Correlations between the Six District Level Summaries in the ID 2004 and those on the ID 2000</b>	
<b>District Measure</b>	<b>Correlation with ID 2000<sup>9</sup></b>
Average Score	0.982
Average Rank	0.977
Local Concentration	0.959
Extent	n/a because a new measure was used
Income Scale	0.996
Employment Scale	0.997

<sup>9</sup> Spearman's Rho.

## Section 2: Reasons for change between the ID 2000 and the ID 2004

Though in an ideal world it would be possible to measure change in areas over time using a constant set of data sources and indicators, a fixed methodology and a constant set of geographical units, this has not taken place between 2000 and 2004, for the reasons given in Section 1 of this Chapter. Though the model of deprivation and the methodology of the ID 2004 have remained substantially the same as was used in the ID 2000, there have still been significant changes.

The possible reasons for relative change between the ID 2000 and the ID 2004 can broadly be grouped into five categories:

- The ID 2004 contains some new Domains and indicators.
- New geographical units were used for the ID 2004.
- Denominators have been recalibrated.
- One of the district level summaries was refined for the ID 2004.
- Real change will have taken place over time.

### SECTION 6.2.1: COMPONENTS OF THE ID 2004

The ID 2004 contains seven domains (Income, Employment, Health Deprivation and Disability, Education Skills and Training, Barriers to Housing and Services, Living Environment, Crime), and contains 37 indicators in total. The Education Skills and Training, Barriers to Housing and Services and Living Environment Domains each contain two sub-domains. In contrast, the ID 2000 contained six Domains (Income, Employment, Health Deprivation and Disability, Education Skills and Training, Housing, and Geographical Barriers to Services) with no sub-domains.

In some cases, the ‘component changes’ between the ID 2000 and ID 2004 are due to the fact that data required to create particular indicators have become available at a small area level, thus enabling the measurement to be included, for the first time. This would include: ‘Adults and children in households in receipt of National Asylum Support Service (NASS) vouchers’ in the Income Domain; ‘Measures of emergency admissions to hospital’ and ‘adults under 60 suffering from mood or anxiety disorders’ in the Health Deprivation and Disability Domain; the whole of the Crime Domain; ‘air quality’ and ‘road traffic accidents’ in the Living Environment Domain; and ‘difficulty of access to owner occupation’ in the Barriers to Housing and Services Domain.

Other ‘component changes’ are due to the fact that the previous indicators no longer exist or have been superseded by more accurate techniques to measure that type of deprivation. These include: the WFTC/DPTC indicators in the Income Domain; Average points scores for Key Stages 2, 3 and 4 in the Education, Skills and Training



Domain;<sup>10</sup> and the road distance-based indicators of access to GP premises, supermarkets or convenience stores, primary schools and post offices in the Barriers to Housing and Services Domain.

Finally, some of the ‘component changes’ are the result of refinements in *conceptualisation* of the Domains. Thus the ID 2000’s Housing Domain has been split so that the *quality* of housing is located in the new Living Environment Domain and *access* issues relating to housing are located in the Barriers to Housing and Services Domain. Similarly, the Education, Skills and Training Domain now contains a ‘Children/Young People’ sub-domain and a ‘Skills’ sub-domain. All these refinements will have an impact on the resultant scores.

## SECTION 6.2.2: NEW GEOGRAPHICAL UNITS

The ID 2000 was constructed at 1998 ward level, whereas the ID 2004 was constructed at Super Output Area lower layer. There are 32,482 SOAs compared to the original 8,414 wards that were used in the ID 2000, so England is being described in much finer detail. This means that areas that were presented as large wards in the ID 2000 have now been broken down into small components for the ID 2004. Where such large wards contain pockets of deprivation, this is now better captured. This is likely to be particularly the case for areas such as Birmingham and Leeds.

## SECTION 6.2.3: NEW DENOMINATORS

All rates are dependent not just on robust data sources for their numerators but also on robust estimates for their denominators. The ID 2000’s denominators were based on 1998 Mid-Year Estimates, apportioned to wards. The ID 2004’s denominators were mainly based on 2001 recalibrated Mid-Year Estimates apportioned to SOAs based on SOA ratios derived from the 2001 Census (see **Annex D**).

After the publication of the 2001 Census, and in the light of the 2001 Census population figures, ONS have recalibrated Mid-Year-Estimates at District level for the years between the 1991 Census and the 2001 Census. This means that the 1998 MYEs that were used to create the ID 2000’s denominators are no longer regarded as the best population estimates for 1998. Had the current (ie, post-2001 Census) 1998 population estimates been available at the time of the construction of the ID 2000, the position of some wards and their districts would have been different (either more or less deprived compared to other areas in England). Thus, for example if a district’s population is much smaller in the revised 1998 MYEs than in the 1998 MYEs that were published at the time, it would have had a higher rate of deprivation than it was accorded at the time.

<sup>10</sup> The child qualifications data source for the ID 2000 was at school level and had to be modeled to wards, whereas for the ID 2004 the PLASC data is at individual child level and enables the children to be directly linked to SOAs without the use of any modeling.

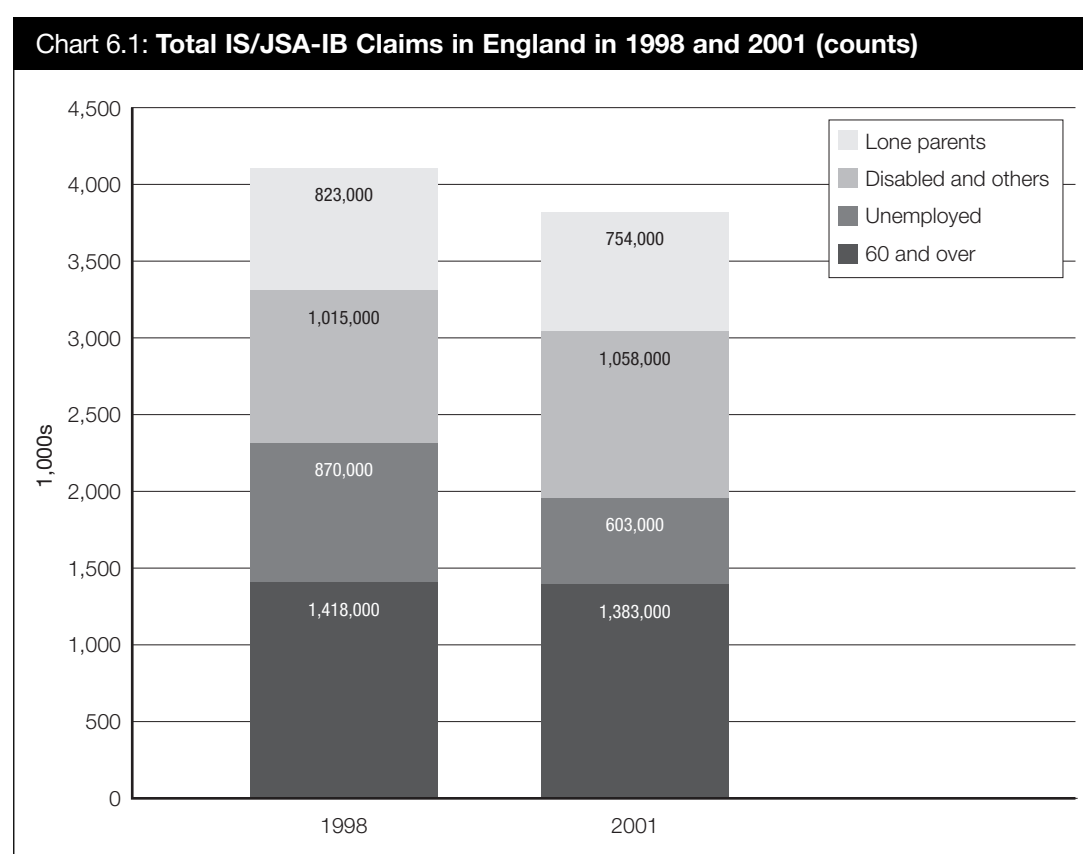
## SECTION 6.2.4: REVISED EXTENT MEASURE

One of the ID 2004's district level summaries of the IMD 2004 – the Extent measure – was changed slightly from the ID 2000's version in such a way that the cut-off point has become less abrupt (see **Chapter 4** for details).

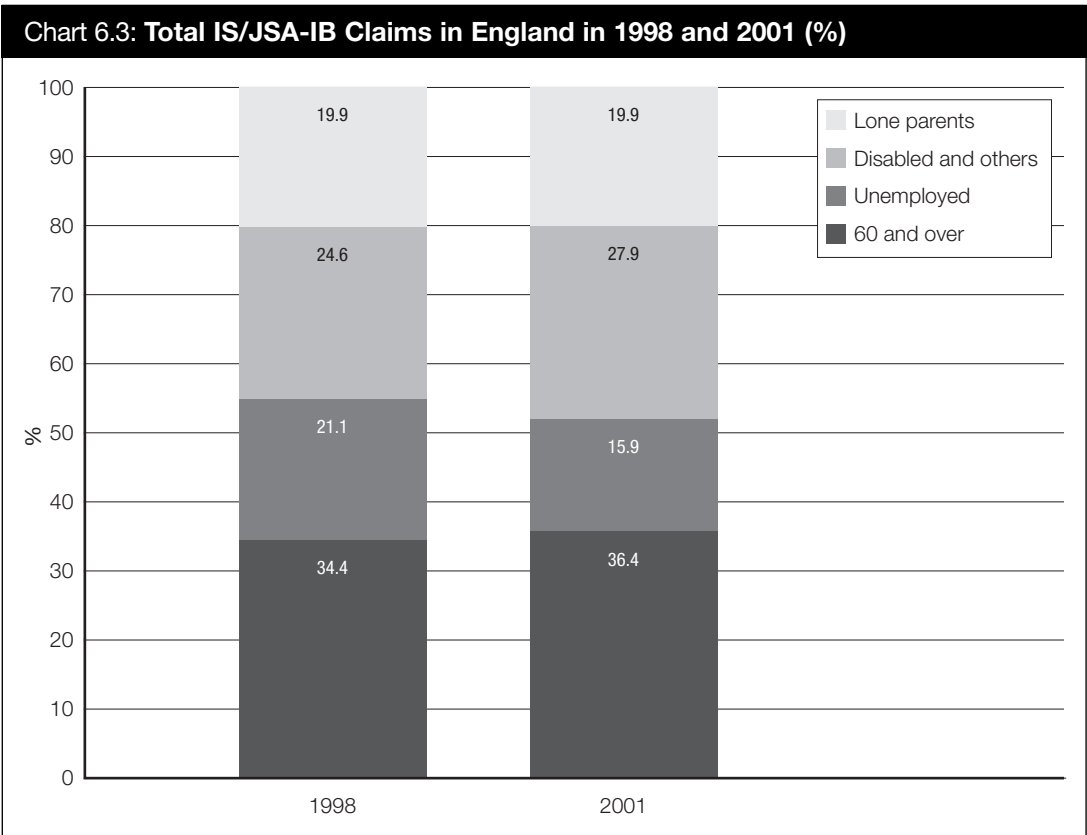
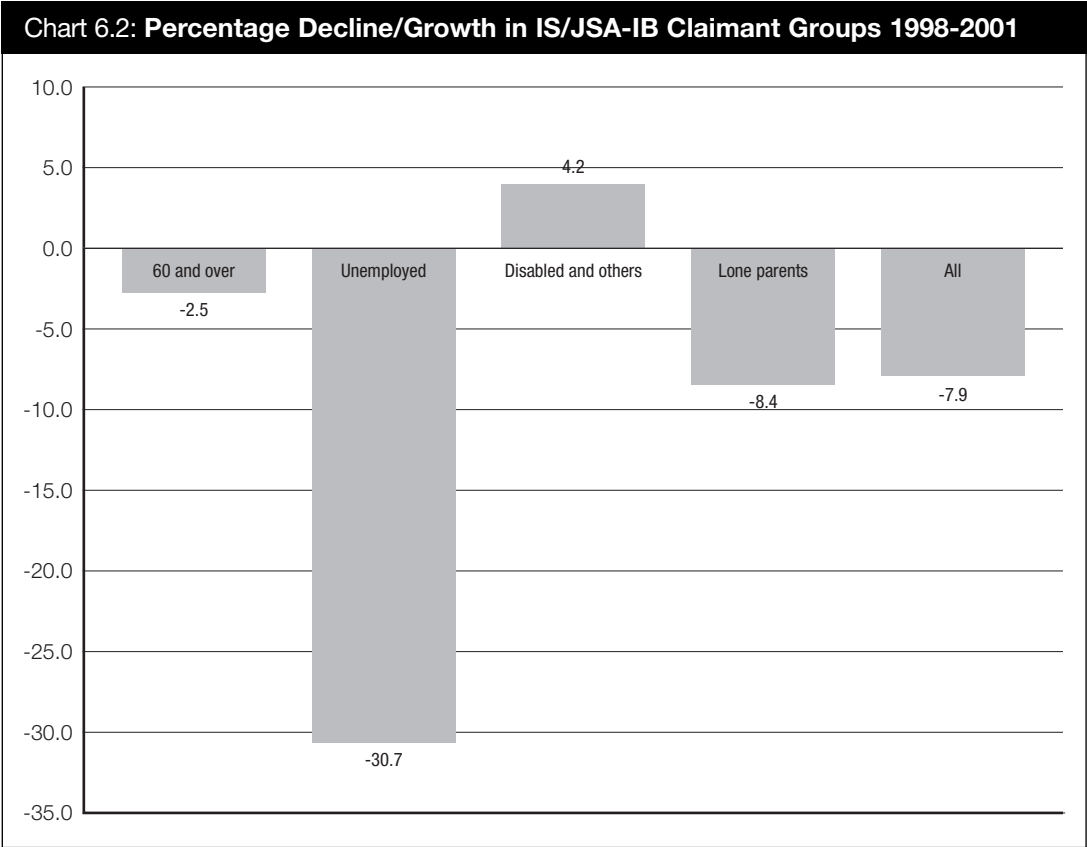
## SECTION 6.2.5: REAL CHANGE

This sub-section draws from a piece of research that has been conducted by the Social Disadvantage Research Centre at the University of Oxford, for the Office of the Deputy Prime Minister (ODPM). For further details see **Annex M**.

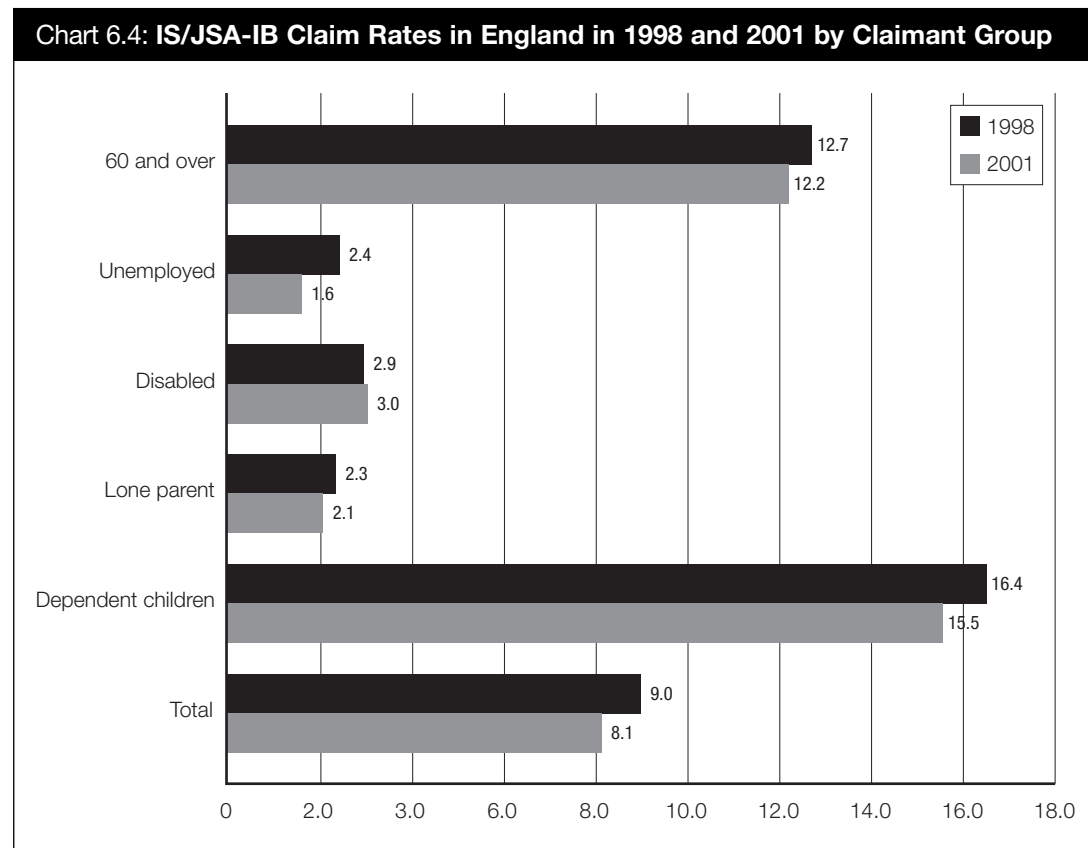
Analysis at the national level shows a decline of overall claimant numbers between 1998 (the ID 2000's data time point) and 2001 (the ID 2004's data time point), in particular among the Unemployed. The only group not affected by a decline in benefit claims is the Disabled claimants. **Chart 6.1** illustrates total IS/JSA-IB claims in England during 1998 and 2001. Between 1998 and 2001 (the period covering the ID 2000 and the present update – ID 2004) claims decreased by 328,000 (-8%) individuals.



**Chart 6.2** clearly shows that the decline in claimants has not been equally distributed across the different groups. From 1998 to 2001 the percentage of unemployed claimants has decreased by -30.7%, much more so than for other groups (for example, -8.4% among Lone Parents and -2.5% among individuals aged 60 and over). On the other hand, Disabled claimants have slightly increased (+4.2%). **Chart 6.3** shows that by 2001, claimants aged 60 and over and Disabled claimants have become an increasingly large proportion of the overall claimant population: 36% and 28% respectively.



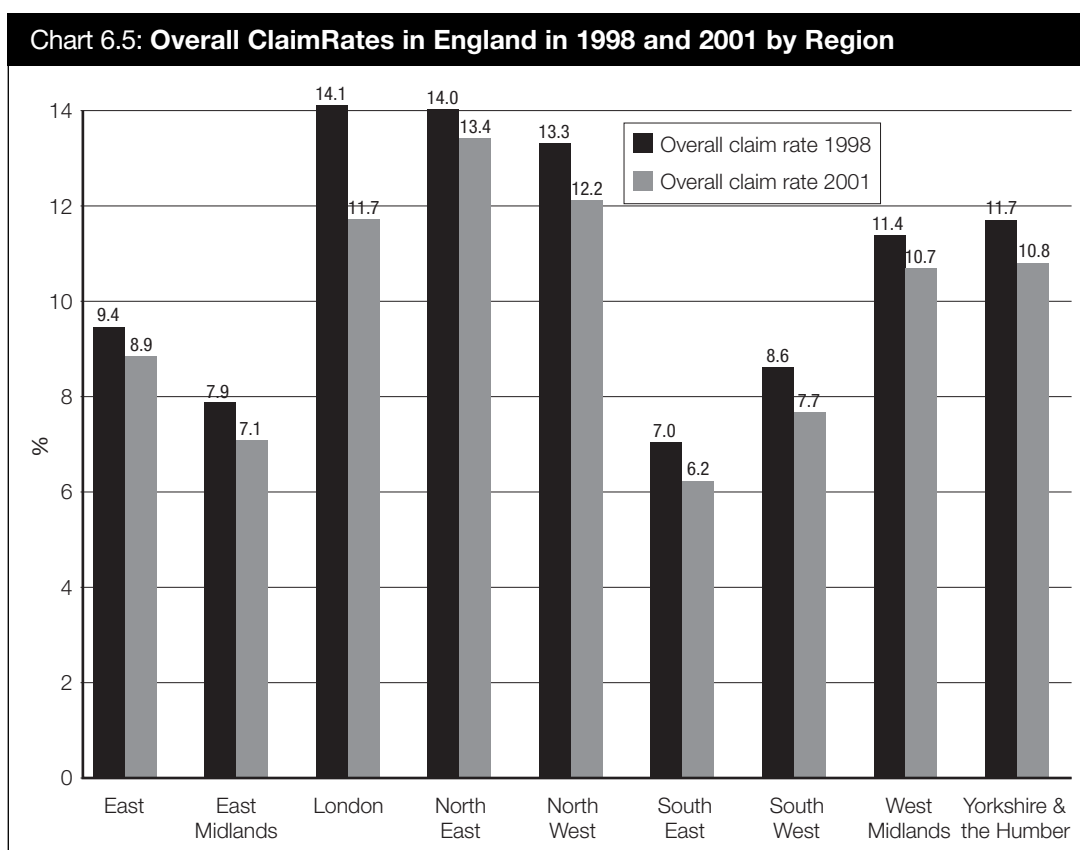
In order to compare the incidence of benefit claims for different claimant groups 'claim rates' for each benefit group have been calculated. The number of claims per area forms the numerator, while the denominator is the overall 'working-age' population (aged 16-59) per area for the following groups: Unemployed, Disabled and others and Lone parents. The denominator for claimants aged 60 and over is the overall 60 and over population per area. **Chart 6.4** gives an overall picture of the changing patterns of IS/JSA-IB receipt in 1998 and 2001.



Although the analysis at the national level contributes substantially to an understanding of the temporal transformations in the composition of the income deprived population, it allows only for an overall general view. Thus examining the impact of change at Region, Local Authority District and ward levels helps to focus on the local dimension of deprivation and to highlight the most significant geographical components of change across the country.

**Chart 6.5** shows the change in rates of overall claims of IS/JSA-IB for 1998 and 2001 by Region.<sup>12</sup> All Regions have seen a decline in overall claim rate between the data time points of the ID 2000 and the ID 2004. Though London and the North East had a very similar claim rate in 1998, by 2001 London had dropped to 11.7%, whereas the North East had only dropped to 13.4%.

<sup>12</sup> Differences between 1998 claim rates in Chart 6.5 and those published in the ID 2000 report are due to the recalibration by ONS of 1998 population estimates.



**Table 6.2** displays the 50 Local Authority Districts with the highest overall IS/JSA-IB claim rates in 1998. Although the claim rates in the 4 districts with the highest rates in 1998 (Hackney, Knowsley, Liverpool and Manchester) have decreased significantly between 1998 and 2001, they remain the four districts with the highest claim rates in 2001. 50% of the most deprived 20 Local Authorities on this measure in 1998 are London districts (10 out of 20) and most of them have experienced a decrease in claim rates, particularly Hackney, Newham, Haringey, Lambeth and Camden. Overall, the non-London districts have also improved (though more slowly than London) since 1998.

**Table 6.2: Overall IS/JSA-IB claim rates and rankings for the 50 Local Authorities with the highest claim rates in 1998 (ranked by 1998 claim rate)**

Local Authority District	GOR	Claim rate 1998 (%)	Claim rate 2001 (%)	Rank 1998	Rank 2001	Change in rank 1998 to 2001	% Point change from 1998 to 2001	% Change from 1998 to 2001
Hackney	London	28.1	21.7	1	2	-1	-6.4	-22.8
Knowsley	North West	24.9	21.6	2	3	-1	-3.3	-13.3
Liverpool	North West	24.9	22.2	3	1	2	-2.7	-10.8
Manchester	North West	24.6	20.6	4	4	0	-4.0	-16.3
Newham	London	24.4	18.6	5	7	-2	-5.8	-23.8
Tower Hamlets	London	23.4	19.6	6	5	1	-3.8	-16.2
Islington	London	22.6	18.9	7	6	1	-3.7	-16.4
Haringey	London	22.2	17.7	8	9	-1	-4.5	-20.3
Southwark	London	20.2	16.4	9	15	-6	-3.8	-18.8
Lambeth	London	19.6	15.6	10	17	-7	-4.0	-20.4
Kingston upon Hull	Yorkshire and the Humber	18.9	17.6	11	10	1	-1.3	-6.9
Camden	London	18.9	14.6	12	27	-15	-4.3	-22.8
Middlesborough	North East	18.6	17.9	13	8	5	-0.7	-3.8
Birmingham	West Midlands	18.2	16.9	14	11	3	-1.3	-7.1
Nottingham	East Midlands	18.0	16.4	15	14	1	-1.6	-8.9
Lewisham	London	17.6	14.3	16	31	-15	-3.3	-18.8
Hartlepool	North East	17.5	16.7	17	12	5	-0.8	-4.6
Greenwich	London	17.2	14.3	18	32	-14	-2.9	-16.9
South Tyneside	North East	17.0	16.4	19	13	6	-0.6	-3.5
Newcastle-upon-Tyne	North East	16.8	16.1	20	16	4	-0.7	-4.2
Brent	London	16.7	12.9	21	45	-24	-3.8	-22.8
Salford	North West	16.3	15.4	22	18	4	-0.9	-5.5
Hastings	South East	16.0	14.6	23	26	-3	-1.4	-8.8
Halton	North West	15.9	14.9	24	23	1	-1.0	-6.3
Barking and Dagenham	London	15.9	14.0	25	33	-8	-1.9	-11.9
Hammersmith and Fulham	London	15.8	12.4	26	57	-31	-3.4	-21.5
Waltham Forest	London	15.8	13.3	27	40	-13	-2.5	-15.8
Wirral	North West	15.8	14.5	28	29	-1	-1.3	-8.2
Sandwell	West Midlands	15.7	15.4	29	19	10	-0.3	-1.9
Leicester	East Midlands	15.7	15.2	30	21	9	-0.5	-3.2
Wolverhampton	West Midlands	15.5	15.1	31	22	9	-0.4	-2.6
Sunderland	North East	15.4	14.7	32	25	7	-0.7	-4.5
Blackburn with Darwen	North West	15.4	14.0	33	34	-1	-1.4	-9.1
Westminster	London	15.3	12.1	34	62	-28	-3.2	-20.9

Table 6.2: *continued*

Local Authority District	GOR	Claim rate 1998 (%)	Claim rate 2001 (%)	Rank 1998	Rank 2001	Change in rank 1998 to 2001	% Point change from 1998 to 2001	% Change from 1998 to 2001
Easington	North East	15.3	14.5	35	28	7	-0.8	-5.2
Blackpool	North West	15.3	15.2	36	20	16	-0.1	-0.7
Gateshead	North East	15.1	14.4	37	30	7	-0.7	-4.6
Thanet	South East	14.8	13.5	38	37	1	-1.3	-8.8
Rochdale	North West	14.7	13.4	39	38	1	-1.3	-8.8
Wear Valley	North East	14.7	14.7	40	24	16	0.0	0.0
Sefton	North West	14.7	13.0	41	44	-3	-1.7	-11.6
Bradford	Yorkshire and the Humber	14.6	13.3	42	39	3	-1.3	-8.9
Torbay	South West	14.2	12.1	43	61	-18	-2.1	-14.8
St. Helens	North West	14.2	12.9	44	48	-4	-1.3	-9.2
Redcar and Cleveland	North East	14.1	13.6	45	35	10	-0.5	-3.5
Norwich	East	14.1	12.4	46	52	-6	-1.7	-12.1
Brighton and Hove	South East	13.9	11.5	47	73	-26	-2.4	-17.3
North East Lincolnshire	Yorkshire and the Humber	13.9	13.5	48	36	12	-0.4	-2.9
Walsall	West Midlands	13.9	13.2	49	42	7	-0.7	-5.0
Sheffield	Yorkshire and the Humber	13.7	12.9	50	46	4	-0.8	-5.8

Focusing on changes in income deprivation between 1998 and 2001 has helped to confirm the fact that real change has taken place in terms of income deprivation, and that real change has occurred at different paces across England. Approximately 40% of change in the rank of the District Level Average Score measure between the ID 2000 and the ID 2004 can be explained by 'real change' in the Income Domain alone.

## CONCLUSION

The ID 2004 presents a more comprehensive and fine-grained account of multiple deprivation at a small area level than the ID 2000. Nevertheless, comparisons show a marked degree of similarity between the relative positions of local authorities. There are a number of reasons why change has taken place, but the primary reason is that real change has occurred between 1998 and 2001 (the respective data time points for the ID 2000 and the ID 2004).

# ANNEX A

## Consultation

The Office of the Deputy Prime Minister (ODPM) published two public consultation documents: Stage 1 Consultation on the updating of the Indices of Deprivation 2000 and Stage 2 'Blueprint' Consultation Report. Two hundred and four responses were received as part of the Stage 1 Consultation which lasted from November 2002 to mid-January 2003 and two hundred and thirty-two as part of the Stage 2 Consultation which lasted from August 2003 to mid-November 2003. The responses represent the views of local and central government, voluntary organizations and other interested parties.

In addition a peer review was undertaken during Spring 2003 by Professor Jonathan Bradshaw of the University of York: Review for the Neighbourhood Renewal Unit of the Blueprint for the Index of Multiple Deprivation at small area level. Professor Bradshaw gave overall support to the proposal to update the ID 2000 and gave general approval to the approach adopted. He made a number of recommendations. Some of these have been taken into account for this update and some are relevant to a longer-term agenda.



# ANNEX B

## Indicator Details

This Annex provides further numerator and denominator details for each of the 37 indicators that were used in the Indices of Deprivation 2004.

1. **Adults and children in Income Support households (SOA level)**  
Numerator: IS April 2001.  
Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs.
2. **Adults and children in Income Based Job Seekers Allowance households (SOA level)**  
Numerator: JSA-IB April 2001.  
Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs.
3. **Adults and children in Working Families Tax Credit households whose equivalised income (excluding housing benefits) is below 60% of median before housing costs (SOA level)**  
Numerator: Certain WFTC cases for April 2001 as described.  
Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs.
4. **Adults and children in Disabled Person's Tax Credit households whose equivalised income (excluding housing benefits) is below 60% of median before housing costs (SOA level)**  
Numerator: Certain DPTC cases for April 2001 as described.  
Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs.
5. **Adults and children in households in receipt of National Asylum Support Service (NASS) assistance (SOA level)**  
Numerator: NASS supported asylum seekers in England in receipt of subsistence only and accommodation support for end December 2002.  
Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs.
6. **Unemployment claimant count (JUVOS) of women aged 18-59 and men aged 18-64 averaged over 4 quarters (SOA level)**  
Numerator: as described, for October 2000, January 2001, April 2001 and July 2001.  
Denominator: Resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, for women aged 18-59 and men aged 18-64.

7. **Incapacity Benefit claimants women aged 18-59 and men aged 18-64 (SOA level)**  
 Numerator: as described, for April 2001.  
 Denominator: Resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, for women aged 18-59 and men aged 18-64.
8. **Severe Disablement Allowance claimants women aged 18-59 and men aged 18-64 (SOA level)**  
 Numerator: as described, for April 2001.  
 Denominator: Resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, for women aged 18-59 and men aged 18-64.
9. **Participants in New Deal for the 18-24s who are not included in the claimant count (SOA level)**  
 Numerator: as described, for 2001.  
 Denominator: Resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, for women aged 18-59 and men aged 18-64.
10. **Participants in New Deal for 25+ who are not included in the claimant count (SOA level)**  
 Numerator: as described, for 2001.  
 Denominator: Resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, for women aged 18-59 and men aged 18-64.
11. **Participants in New Deal for Lone Parents aged 18 and over (SOA level)**  
 Numerator: as described, for 2001.  
 Denominator: Resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, for women aged 18-59 and men aged 18-64.
12. **Years of Potential Life Lost (YPLL) (SOA level)**  
 Numerator: Mortality data in five year age-sex bands, for 1997-2001.  
 Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, in five year age-sex bands.  
 Method: Blane and Drever (1998) (with shrinkage applied to age-sex rates and an upper age of 75).
13. **Comparative Illness and Disability Ratio (CIDR) (SOA level)**  
 Numerator: Non-overlapping counts of people in receipt of IS Disability Premium, AA, DLA, SDA, IB, for 2001 in five year age-sex bands.  
 Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, in five year age-sex bands.  
 Method: Directly age-sex standardised ratio (shrinkage applied to age-sex rates).

14. **Measures of emergency admissions to hospital, derived from Hospital Episode Statistics (SOA level)**  
 Numerator: Hospital spells starting with admission in an emergency in five year age-sex bands, for 1999/2000 to 2001/2002.  
 Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs, in five year age-sex bands.  
 Method: Directly age-sex standardised ratio (shrinkage applied to age-sex rates).
  
15. **Measure of adults under 60 suffering from mood or anxiety disorders (SOA level)**  
 Modelled measure of adults under 60 suffering from mood (affective), neurotic, stress-related and somatoform disorders (ie, International Classification of Disease 10th revision ICD-10, F3 and F4) or suicide. Based on prescribing (2001, Source: Prescribing Pricing Authority), hospital episode (1998/1999 to 2001/2002, Source: Department of Health) and health benefits data (1999, Source: IB and SDA from DWP).
  
16. **Average points score of children at Key Stage 2 (end of primary) (SOA level)**  
 Numerator: All pupils in maintained schools taking KS2 in 2002 from NPD, for 2002.  
 Denominator: Total population in KS2 age group in maintained schools from PLASC, for 2002.
  
17. **Average points score of children at Key Stage 3 (SOA level)**  
 Numerator: All pupils in maintained schools taking KS3 in 2002 from NPD, for 2002.  
 Denominator: Total population in KS3 age group in maintained schools from PLASC, for 2002.
  
18. **Average points score of children at Key Stage 4 (GCSE/GNVQ – best of eight results) (SOA level)**  
 Numerator: All pupils taking KS4 in maintained schools for 2002 from NPD.  
 Denominator: All pupils in their final year of compulsory schooling in maintained schools for 2002 from PLASC.
  
19. **Proportion of young people *not* staying on in school or school level education above 16 (SOA level)**  
 Numerator: Those aged 17+ still receiving Child Benefit, from Child Benefit for 2001.  
 Denominator: Those aged 13-15 receiving Child Benefit in 2001.
  
20. **Proportion of those aged under 21 not entering Higher Education (SOA level)**  
 Numerator: Successful entrants under 21 in UCAS data, for 1999-2002  
 Denominator: Census population 14-17.
  
21. **Secondary school absence rate (SOA level)**  
 Numerator: Average number of authorised and unauthorised absences from secondary school for 2001 and 2002, from the school level survey of authorised and unauthorised absences.  
 Denominator: total number of possible sessions.  
 Method: The rates were attributed to all children in a school and this was assigned to areas using PLASC home postcode.

22. **Proportions of working age adults (aged 25-54) in the area with no or low qualifications (SOA level)**  
Numerator: Adults aged 25-54 in the area with no qualifications or with qualifications below NVQ Level 2, for 2001  
Denominator: All adults aged 25-54.
23. **Household overcrowding (SOA level)**  
Numerator: Overcrowded households (as defined in *Census 2001 Classifications* page 15), for April 2001.  
Denominator: Number of households from the 2001 Census, for April 2001.
24. **Percentage of households for whom a decision on their application for assistance under the homeless provisions of housing legislation has been made (LA level)**  
Numerator: as described, for 2002/3.  
Denominator: ODPM Household estimates, for 2002.
25. **Difficulty of Access to owner-occupation (LA level)**  
Numerator: modelled proportion of households unable to afford to enter owner occupation on the basis of their income, for 2002.  
Denominator: n/a.
26. **Road distance to GP premises (SOA level)**  
Numerator: Population weighted mean of OA road distance score. OA score is the road distance from the population weighted OA centroid to nearest GP premises, for May 2003.  
Denominator: n/a.
27. **Road distance to a supermarket or convenience store (SOA level)**  
Numerator: Population weighted mean of OA road distance score. OA score is the road distance from the populated weighted OA centroid to nearest supermarket or convenience store, for December 2002.  
Denominator: n/a.
28. **Road distance to a primary school (SOA level)**  
Numerator: Population weighted mean of OA road distance score. OA score is the road distance from the populated weighted OA centroid to nearest primary school, for 2001-02.  
Denominator: n/a.
29. **Road distance to a Post Office (SOA level)**  
Numerator: Population weighted mean of OA road distance score. OA score is the road distance from the populated weighted OA centroid to nearest open post office, for end of March 2003.  
Denominator: n/a.
30. **Burglary (SOA level)**  
Numerator: (4 recorded crime offence types, Police Force data for April 2002-March 2003, constrained to Crime and Disorder Reduction Partnership (CDRP) level).  
Denominator: total dwellings from the Census plus business addresses from Address Point.

31. **Theft (SOA level)**  
Numerator: (5 recorded crime offence types, Police Force data for April 2002-March 2003, constrained to CDRP level).  
Denominator: resident population plus non-resident working population.
32. **Criminal damage (SOA level)**  
Numerator: (10 recorded crime offence types, Police Force data for April 2002-March 2003, constrained to CDRP level).  
Denominator: resident population plus non-resident working population.
33. **Violence (SOA level)**  
Numerator: (14 recorded crime offence types, Police Force data for April 2002-March 2003, constrained to CDRP level).  
Denominator: resident population plus non-resident working population
34. **Social and private housing in poor condition (SOA level)**  
Numerator: Estimate of the probability that any given dwelling in the SOA fails to meet the decent standard. Modelled primarily from the EHCS by BRE and ODPM, for 2001.  
Denominator: n/a.
35. **Houses without central heating (SOA level)**  
Numerator: as described, for 2001.  
Denominator: Number of households from the 2001 Census, for April 2001.
36. **Air quality (SOA level)**  
Numerator: Modelled measure of the concentration of four pollutants (Nitrogen Dioxide, Benzene, Sulphur Dioxide and Particulates), by the Geography Department at Staffordshire University and NAEI, for 2001.  
Denominator: n/a.
37. **Road traffic accidents (SOA level)**  
Numerator: Injuries to pedestrians and cyclists caused by road traffic accidents from STATS19 (Road Accident Data) smoothed to SOA level, for 2000-2002.  
Denominator: Total resident population plus communal establishments minus prison establishment population (resident non-staff) from the 2001 Census, constrained to 2001 MYEs.

# ANNEX C

## Data Sources

### **2001 Census, Small Area Statistics Package Version 7 (October 2003 release)**

Working age adults (aged 25-59) with no or low qualifications (Education, Skills and Training Deprivation Domain).

Household overcrowding (Barriers to Housing and Services Domain).

Houses without central heating (Living Environment Deprivation Domain).

Census populations and residential dwellings (denominators).

### **Department for Education and Skills**

Pupil Level Annual School Census (PLASC) (Education, Skills and Training Deprivation Domain).

National Pupil Database (NPD) (Education, Skills and Training Deprivation Domain)

School level survey of authorised and unauthorised absences (Education, Skills and Training Deprivation Domain).

Location of primary schools (Barriers to Housing and Services Domain).

### **Department for Transport**

Road Accident Data STATS19.

### **Department for Work and Pensions**

Income Support recipients and their partners and children (Income Deprivation Domain).

Income Based Job Seekers Allowance recipients and their partners and children (Income Deprivation Domain).

Incapacity Benefit claimants women aged 18-59 and men aged 18-64 (Employment Deprivation Domain).

Severe Disablement Allowance claimants women aged 18-59 and men aged 18-64 (Employment Deprivation Domain).

Participants in New Deal for the 18-24s who are not included in the claimant count (Employment Deprivation Domain).

Participants in New Deal for 25+ who are not included in the claimant count (Employment Deprivation Domain).

Participants in New Deal for Lone Parents aged 18 and over (Employment Deprivation Domain).

Recipients of IS Disability Premium, AA, DLA, SDA and IB (Health Deprivation and Disability Domain, CIDR).

Recipients of IB and SDA (Health Deprivation and Disability Domain, 'adults under 60 suffering from mood or anxiety disorders or suicide').

Child Benefit data (Education, Skills and Training Deprivation Domain, 'not staying on in school').

### **Department of Health**

Hospital Episode Statistics (Health Deprivation and Disability Domain, 'emergency admissions to hospital' and 'adults under 60 suffering from mood or anxiety disorders or suicide').

### **Heriot-Watt University**

Difficulty of Access to owner-occupation indicator (Barriers to Housing and Services Domain).

**Home Office**

Crime and Disorder Reduction Partnership (CDRP) level recorded crime data (Crime Domain).

Police force and CDRP boundary files (Crime Domain).

**Home Office and National Asylum Support Service**

NASS supported asylum seekers in England in receipt of subsistence only and accommodation support (Income Deprivation Domain).

**Inland Revenue**

Adults and children in Working Families Tax Credit households whose equivalised income (excluding housing benefits) is below 60% of median before housing costs (Income Deprivation Domain).

Adults and children in Disabled Person's Tax Credit households whose equivalised income (excluding housing benefits) is below 60% of median before housing costs (Income Deprivation Domain).

**MapInfo Ltd**

Location of general stores or supermarkets (Barriers to Housing and Services Domain).

**National Health Service Information Authority**

Location of GP premises (Barriers to Housing and Services Domain).

**Office of the Deputy Prime Minister**

LA level number of households for whom a decision on their application for assistance under the homeless provisions of housing legislation has been made (Barriers to Housing and Services Domain).

LA level household estimates (Barriers to Housing and Services Domain).

Social and private housing in poor condition, modelled primarily from the English House Condition Survey by the Building Research Establishment and ODPM (Living Environment Deprivation Domain).

**Office of National Statistics**

Unemployment claimant count (JUVOS) of women aged 18-59 and men aged 18-64 averaged over 4 quarters (Employment Deprivation Domain).

Mortality data (Health Deprivation and Disability Domain, YPLL).

2001 Mid-Year Population Estimates – Provisional Results from the Manchester Matching Exercise, released by ONS on 4th November 2003.

**Post Office Ltd**

Location of open post offices (Barriers to Housing and Services Domain).

**Prescription Pricing Authority**

Prescribing data (Health Deprivation and Disability Domain, 'adults under 60 suffering from mood or anxiety disorders or suicide').

**Staffordshire University**

Air quality indicator (Living Environment Deprivation Domain).

**Universities and Colleges Admissions Service**

University Admissions data (Education, Skills and Training Deprivation Domain).

**39 Regional Police Forces in England**

Recorded crime data for April 2002-March 2003 (Crime Domain).



# ANNEX D

## Population Estimates and Denominators

### SUMMARY

The ID 2004 contain 37 indicators which are grouped into seven Domains of deprivation. Each indicator measures the probability of a particular form of deprivation and thus it requires a numerator (for example, the number of deprived people) and a suitable denominator (for example, the total number of 'at risk' people) with which to create a rate. This Annex details the issues involved and the data and methodology employed in the construction of estimates of population 'at-risk' for the various indicators.

### CHOOSING SUITABLE DENOMINATORS

A denominator should represent the population 'at-risk' of experiencing a given type of deprivation, therefore it is important to choose a denominator that relates to the numerator with which it will be combined. Certain indicators use numerators and denominators derived from the same data source, while other indicators require their numerators and denominators to be constructed from different sources. Whichever option is chosen, it is important to try to ensure that each denominator includes only those individuals (or households, properties etc) that are 'at-risk' of experiencing the particular form of deprivation being measured by that indicator.

So, for example in the Education Domain, the 'Average points score of children at Key Stage 2' indicator was constructed by deriving the numerator from linked PLASC and NPD datasets, and deriving the denominator from the PLASC dataset. Deriving both numerator and denominator using a single data source rules out any systematic error that arises from different datasets of different coverage or representativeness.

For a considerable number of indicators in the ID 2004, estimates of 'at-risk' population were constructed using a combination of the 2001 Census and the 2001 Mid-Year Estimates (MYEs) published by ONS. These particular population estimates are described in greater detail in this Annex. The denominators that were used for each of the indicators are summarised in **Annex B**.

### DEFINING 'AT-RISK' POPULATION

The population estimates employed as denominators in a considerable number of ID 2004 indicators included resident population and communal establishment population but excluded prison population. Prisoners were not included as they are not at risk of many forms of deprivation captured in the ID 2004. Other types of communal establishment population (for example, students; persons in care establishments; children in local authority homes) are at risk of experiencing these forms of deprivation (age/sex restrictions allowing) and so are included in the denominator.

The final population estimates can be summarised as:

$$[1] \quad a_{ij} = r_{ij} + c_{ij} - p_{ij}$$

where:  $a$  represents the 'at-risk' population in area  $i$  at time  $j$

$r$  represents the resident population in area  $i$  at time  $j$

$c$  represents the communal establishment population in area  $i$  at time  $j$

$p$  represents the prison population in area  $i$  at time  $j$

## GEOGRAPHY AND TIME POINT

The ID 2004 have been produced at the level of 2001 Census 'Super Output Area' for the whole of England. Super Output Areas (SOAs) are a continuous geography of areas of approximately equal population size (the mean SOA population in England according to the 2001 Census was approximately 1,500). This geography was overwhelmingly supported by the consultation exercise. As the majority of indicators employed within the ID 2004 use numerator data for 2001, the denominators required to produce the indicators were also constructed for 2001.

## DATA

The 2001 Census contains a wealth of demographic and social information on the population of the UK, as at Census night on 29th April 2001. It is the most comprehensive survey undertaken, with every individual person being legally required to register at the address they occupied on 29th April 2001.

The 2001 Census contains data at a variety of spatial scales. The smallest scale, and the building block from which all other higher level geographies are formed, is Output Area (OA) level. OAs contain a mean population of approximately 300 persons in England. OAs aggregate to both SOA level and statistical ward level; and both SOAs and wards aggregate to local and unitary authority level. Although the majority of SOAs nest within wards, a number do not adhere to this norm.

In addition to providing details of the total population living in each OA, the 2001 Census also provides a detailed breakdown of population subgroups, often by age and sex. For the construction of the ID 2004 denominators it was important to have a measure of prison population at small area level that could be subtracted from the total population to create the 'at-risk' population. The Census includes this information relating to prison populations, although a degree of data recalibration was required to produce the necessary estimates of prison population by age and sex.

The 2001 Census website <http://www.statistics.gov.uk/census2001> has links to a substantial literature explaining the different geographies and variables within the 2001 Census.

In the intercensal years, ONS publish annual Mid-Year Estimates (MYEs) broken down by age and sex for each local and unitary authority in England and Wales. These estimates are derived by 'ageing' the previous Census estimates, adding in births, subtracting deaths and adjusting for migration. These estimates are the 'gold standard'. While MYEs have the benefit over the Census of being annually updated,

they lack the desired level of spatial disaggregation (lowest level being local and unitary authority level) and in the detail which they contain (simple population counts by age and sex).

It is now widely recognised that the 2001 Census suffered from a population undercount in particular demographic groups and in particular geographical areas. ONS subsequently recalibrated the Census results and published revised figures for Local and Unitary Authority areas as the 2001 MYEs. It was agreed that the 2001 MYEs should be regarded as the most reliable estimate of population at local and unitary authority level for the purposes of the ID 2004, and so these recalibrated estimates were used.

## METHODOLOGY

Although the final ID 2004 population estimates were required at SOA level, the construction procedure was undertaken at OA level and then aggregated to SOA level once all the steps were complete. This approach was necessary as, at the time of producing the ID 2004, data were only available at OA or ward level – not SOA level.

The methodology employed in the construction of ID 2004 population estimates involved calculating an estimate of the total 2001 Census population by age and sex at OA level; subtracting estimated prison population by age and sex at OA level; constraining the resulting OA level age/sex estimates to the 2001 MYEs; and finally aggregating from OA to SOA level. The steps involved are as follows:

1. **Obtain total [resident + communal establishment] population by age and sex for each OA in England from the 2001 Census.**

OA level counts of 2001 Census 'resident' population and 'communal establishment' population – by sex and single or 5 year age groups – were extracted from SASPAC (provided by the Greater London Authority).

2. **Calculate estimate of prison population by age and sex for each OA in England from the 2001 Census.**

OA level counts of 2001 Census 'prison establishment' population – by sex – were extracted from SASPAC. Ward level counts of 2001 Census 'prison establishment' population – by sex and single or banded age groups – were also extracted from SASPAC.

The ward level age/sex distribution of prison population was expanded to form single or 5 year age groups, based on the assumption of equal probability of age within the broader age groups. For example, if a ward contained 9 male prisoners in the broad age group 20-34, the assumption of equal probability resulted in 3 prisoners being allocated to the 20-24 age group, 3 prisoners to the 25-29 age group and 3 prisoners to the 30-34 age group.

This expanded age/sex distribution at ward level was then applied to the OA level sex distribution of prison population to give an estimated age/sex distribution by single or 5 year age groups at OA level.

Due to the assumptions of equal probability within the broad age groups, a small number of OAs were found to have estimated prison populations in certain age/sex groups that were larger than the total communal establishment population in those age groups. As the prison population is a constituent part of the wider communal establishment population, this disparity had to be readjusted. For the age/sex groups in those OAs that suffered from this inconsistency, the prison population was 'capped' at the total number of communal establishment population in the age/sex group in the OA. The assumption was therefore made that all communal establishment population in that particular age/sex group in that OA were prisoners.

The disparities between the expected prison population in each age/sex group and the capped prison population were then summed over the entire age distribution (separately by sex) to give a total number of prisoners who had not been allocated an age group. This 'floating' prison population was then re-distributed over the remaining OA level age/sex differential between prison population and communal establishment population (in practice this refinement affected the numbers only negligibly). This adjustment ensured that no age/sex group in any OA had a greater prison population than communal establishment population, thus preserving the internal integrity of the estimates.

3. **Subtract estimate of prison population from total population by age and sex for each OA in England.**

The final OA level age/sex estimates of prison population were subtracted from the previously extracted OA level counts of total [resident + communal establishment] population to give an initial unconstrained estimate of 'at-risk' population by age and sex.

4. **Constrain resulting estimates of [resident + communal establishment – prison] population by age and sex to the 2001 MYEs.**

The expanded (ie, single or 5 year age groups) ward level age/sex prison population counts were aggregated to local/unitary authority level. These prison population counts were then subtracted from the 2001 overall MYEs (as provided by ONS) to give an estimated count of 'at-risk' population at local/unitary authority level that excludes prisoners. This process is based on the assumption that the 2001 MYEs offer a more reliable estimate of total population at local/unitary authority level than the 2001 Census itself.

The OA level counts of 'at-risk' population were then constrained to the local/unitary authority level counts of 'at-risk' population to give the final set of OA level population estimates of 'at-risk' population by age and sex.

5. **Aggregate from OA level to SOA level.**

The OA level population estimates were aggregated to SOA level to produce the complete set of ID 2004 denominators.

## RESULTS

The resultant population estimates were rigorously checked and quality assured by the Team. The majority of the indicators do use these population estimates as denominators, either using all ages (for example, for all indicators in the Income Domain) or a sub-set of ages (for example, for all indicators in the Employment Domain).

For most of the remaining indicators, denominators were drawn from the numerator's dataset (for example, PLASC data for the three Key Stage indicators in the Education, Skills and Training Domain). When Census numerators were used, Census denominators were also used and these were not constrained to 2001 MYEs (this was also the case for Census households and dwellings).

# ANNEX E

## The Shrinkage Technique

In some areas, particularly where populations at risk are small, data may be 'unreliable', that is more likely to be affected by measurement error or sampling error, with particular SOAs getting unrepresentatively low or high scores on certain indicators. The extent of a score's 'unreliability' can be measured by calculating its standard error.

This problem emerged in the construction of other indices or measures of multiple deprivation in the past and this prompted the use of the signed chi squared statistic (see for example Robson, 1994). However, this technique has been much criticised for its use in this context because it conflates population *size* with *levels* of deprivation (see for example Connolly and Chisholm, 1999). Given the problems with the signed chi squared approach, another technique – 'shrinkage estimation' ie, empirical Bayesian estimation – has been used subsequently to deal with the problem.<sup>13</sup>

Shrinkage involves moving 'unreliable' SOA scores (ie, those with a high standard error) towards another more robust score. This may be towards more deprivation or less deprivation. There are many possible candidates for the 'more robust' score to which an unreliable score could move. The district mean has been selected for this purpose but others could, in theory, include the national mean, the means of areas of similar characteristics, or the mean of adjacent SOAs.

Arguably, the movement of unreliable scores towards the mean score for England would be inappropriate because of the large variation across the country and because it would be preferable to take into account local circumstances. 'Borrowing strength' from adjacent SOAs would be difficult to apply technically for the whole country and could be problematic especially near the edges of towns. Though shrinking to the mean of SOAs with similar characteristics is attractive there are no SOA recognised classification systems currently available. On the other hand, local authority districts are 'natural' administrative units and, because of this, may share many socio-economic characteristics.

It was concluded that shrinkage to the district mean was the best and most reliable procedure. This is in essence the same as shrinking to the population weighted SOA mean for a district. Indeed it could be argued that shrinking to the district mean is compelling *because* it constrains the impact of shrinkage to a district's mean.

It could be argued that 'shrinkage estimation' is inappropriate for administrative data which are, in effect, a Census. This is not correct. The problem exists not only where data are derived from samples but also where scans of administrative data effectively mean that an entire Census of a particular group is being considered. This is because such Censuses can be regarded as samples from 'super populations' – one could consider these to be samples in time. Taking the Health Deprivation and Disability Domain as an example, in an SOA there may be only three adults under 60 in a

<sup>13</sup> For England see Noble, Smith *et al*, 2000a p.16; for Wales see Noble, Smith, Wright *et al*, 2000 p.8; for Northern Ireland see Noble, Smith, Wright *et al*, 2001 p.11; and for Scotland see Noble, Wright *et al*, 2003b p.15.

particular year, one of whom was suffering from mood or anxiety disorder. If another year was considered there may have been four adults under 60, one of whom was suffering from mood or anxiety disorder. With such a small 'at risk' population, the proportions thus fluctuate greatly between a third and a quarter, probably due to random fluctuation. By contrast another area might have 200 adults under 60 in a given year, with 20 adults suffering from mood or anxiety disorders. The ten per cent this represents is less likely to be the result of random fluctuation. The extent of a score's 'unreliability' is measured by calculating its standard error.

The actual mechanism of the procedure is to estimate deprivation in a particular SOA using a weighted combination of (a) data from that SOA and (b) data from another more robust source (for example the LA mean). The weight attempts to increase the efficiency of the estimation, while not increasing its bias. If the SOA has a high standard error and a district appears to be an unbiased estimation of the SOA score then the SOA score moves towards the district score.

Although most scores move a small amount, only 'unreliable' scores, that is those with a large standard error, move significantly. The amount of movement depends on both the size of the standard error and the amount of heterogeneity amongst the SOAs in an LA.

The 'shrunk' estimate of a SOA-level proportion (or ratio) is a weighted average of the two 'raw' proportions for the SOA and for the corresponding LA.<sup>14</sup> The weights used are determined by the relative magnitudes of within-SOA and between-SOA variability.

The 'shrunk' SOA-level estimate is the weighted average

$$z_j^* = w_j z_j + (1 - w_j)z \quad [1]$$

where  $z_j$  is the SOA level proportion,  $z$  is the LA level proportion,  $w_j$  is the weight given to the 'raw' SOA- $j$  data and  $(1-w_j)$  the weight given to the overall proportion for the LA. The formula used to determine  $w_j$  is

$$w_j = \frac{1/s_j^2}{1/s_j^2 + 1/t^2} \quad [2]$$

where  $s_j$  is the standard error of the SOA level proportion, and  $t^2$  is the inter-SOA variance for the  $k$  SOAs in the LA, calculated as

$$t^2 = \frac{1}{k-1} \sum_{j=1}^k (z_j - z)^2 \quad [3]$$

<sup>14</sup> Where appropriate the weighted average is calculated on the logit scale, for technical reasons, principally because the logit of a proportion is more nearly normally distributed than the proportion itself.

# ANNEX F

## Factor Analysis

In some Domains, deprivations tend to exist in different spatial and temporal forms. In these cases, indicators need to be combined at an ecological level to create an area score.

There are a number of ways in which a set of indicators might be used to identify a single dimension of deprivation. The indicators could be combined, after appropriate standardisation, using weights determined by researcher judgement. This judgement might be based on some theoretical premise of the relationship between the various indicators and the latent component, or it might be possible to assign weights based on the scrutiny of the inter-correlations of the indicators. This method has been used in such a way as to identify the indicator that had the highest correlation within the set of indicators and then to use this as a 'headline' indicator (Robson *et al*, 2001).

Alternatively, if one assumes the existence of a latent construct of the Domain of deprivation in question, factor analysis can be used to generate weights for the indicators. There are a number of problems associated with the accurate identification of such an underlying factor. The variables: [1] are measured on different scales, [2] have different levels of statistical accuracy, [3] have different distributions, [4] may or may not apply to the same individual and [5] measure, to different degrees, the underlying factor imperfectly. Maximum Likelihood (ML) factor analysis was used with a view to overcoming these problems. Other methods, such as applying a linear-scaling model (ie, adding a large number of items that purport to measure the same construct together to increase the reliability of a scale – assuming error elements to be non-additive and random), deal with only some. Alternative statistical methods, such as Principal Components Analysis (PCA), do not address all these problems. PCA, for example ignores measurement error (error variance) or the variables' imperfect measurement of the underlying construct (specific variance). This is because it does not attempt to separate common variance (ie, variance shared between three or more variables) from specific variance and error variance. The appropriate technique, where specific and error variance are suspected (ie, problems 2 and 5), is a form of common factor analysis of which ML factor analysis is a type.

The premise behind a simple one-common-factor model is that the underlying factor is imperfectly measured by each of the variables in the dataset but that the variables that are most highly correlated with the underlying factor will also be highly correlated with the other variables. By analysing the correlation between variables it is therefore possible to make inferences about the common factor and indeed to estimate a factor score for each case (ie, SOA). This, of course, assumes that the variables themselves are all related to the underlying factor to some extent and are in most cases fairly strongly related to it.

It is not the aim of this analysis to reduce a large number of variables into a number of theoretically significant factors as is usual in much social science use of factor analysis (ie, exploratory factor analysis). The variables are chosen because they are believed to measure a single area deprivation factor. The analysis therefore involves testing a one-common factor model against the possibility of there being more than one factor. If a meaningful second common factor is found it would suggest the need for a new Domain or the removal of variables. Decisions over whether a



meaningful second common factor exist are aided by standard tests and criteria, such as examination of Eigen values. Before factor analysis was applied the indicators were subjected to 'shrinkage estimation' and transformed to a normal distribution.

Once a satisfactory solution is achieved a factor score can be estimated for each SOA. That is, the combined indicators, using weights generated by the factor analysis process, are then used as the Domain score. Thomson's method for estimating factor scores was used.

The weights that were generated by factor analysis are as follows (summing to 1):

<b>Indicator weights for the Crime Domain</b>	
<b>Indicator</b>	<b>Indicator weight</b>
Burglary	0.18
Violence	0.25
Theft	0.35
Criminal Damage	0.22

<b>Indicator weights for the Education, Skills and Training 'Children/Young People Sub-Domain'</b>	
<b>Indicator</b>	<b>Indicator weight</b>
Not staying on at school	0.10
Absenteeism	0.12
Not entering higher education	0.19
Key Stage 4	0.29
Key Stage 3	0.18
Key Stage 2	0.12

<b>Indicator weights for the Health Deprivation and Disability Domain</b>	
<b>Indicator</b>	<b>Indicator weight</b>
Mood or anxiety disorders*	0.12
Years of potential life lost	0.17
Comparative Illness and Disability Ratio	0.61
Emergency admissions to hospital	0.10

<b>* Indicator weights for the 'Adults under 60 suffering from mood or anxiety disorders' indicator</b>	
<b>Components</b>	<b>Component weight</b>
Hospital admission for depression and anxiety	0.37
Rate of suicide	0.11
Prescribing of anti-depressants and anxiolytic drugs	0.15
Receipt of Incapacity Benefit and Severe Disablement Allowance because of either depression or anxiety	0.37

# ANNEX G

## The 'Adults under 60 suffering from mood or anxiety disorders' indicator

### INTRODUCTION

Mental ill health is a condition that can severely impact on the quality of life of those suffering from it and those immediately around them. It may also lead to other forms of deprivation such as unemployment or homelessness; potentially individuals may find themselves in a downward spiral that may be difficult to break out of. This makes it an important component of overall health which should be included in a small area measure of health deprivation.

Creating a small area measure of mental health is not straightforward. There are no standard small area measures covering England that are ready to use. Survey approaches, using standard measures, would require very large sample sizes and do not yet exist. This suggests an approach using information that is already collected in support of administrative processes. However there are problems with the use of administrative records. These datasets are likely to lead to definitions of mental illness which are particular to the administrative process they are drawn from. These will not necessarily fit exactly what is required for an index of deprivation. From Hospital records, for example, it is possible to identify individuals whose in patient spell is related to mental ill health. However this represents people who have probably reached a fairly critical state. It might be of greater interest to also take into account individuals who are in a less acute state and being treated, if at all, within primary care.

A further problem when using administrative data to measure mental health is the way the organisation of local services and different practices within and between organisations affect the type of treatment an individual receives. This may lead to groups of individuals, identical in terms of their mental health, coming in to contact with some services in some areas and not in others. Some General Practitioners, for example may be less eager to use drugs in the treatment of depression than others. A count therefore of those receiving a prescription for the treatment of depression may differ between areas with identical numbers of people suffering from depression.

The biases that result from the problems discussed above can be reduced through a careful choice of methodology.

### METHODOLOGY

Given the problems outlined above it is clear that single mental health indicators that are derived from administrative data should be used with caution: each indicator is likely to vary around what might be thought of as the 'true' state of mental health in a small area. There is however a fairly simple method to reduce this bias. This is achieved by combining a number of indicators that are believed to measure the same underlying 'true' state. As the number of indicators is increased, the influence

of under or over-recording bias should be reduced. This will be true as long as the bias does not result from an area effect that influences all the different administrative systems, leading to biases in the same direction. By choosing indicators from independent administrative data sources this problem should be minimised. The bias in the overall indicator, therefore, should be lower than that in any single indicator.

Although it would be possible to simply combine the different measures after standardising them with equal weights, more sophisticated methods are available. These take into account the extent to which individual indicators are more or less precise in their measure of the underlying 'true' rate over the whole population. The most suitable method in this instance is Factor Analysis.

The datasets that were used are from prescribing data; secondary care data; mortality data where the cause of death is recorded as suicide; and health-related benefit administrative data. Because each of the datasets covers a slightly different group of psychiatric conditions, it was only possible to produce an estimate for a sub-group of these conditions. The sub-group chosen was people aged under 60 suffering mood (affective) disorders and neurotic, stress-related and somatoform disorders. Together these represent a large proportion of all those suffering mental ill health.

## **PRESCRIPTION DATA**

This indicator uses information on drug prescribing to estimate levels of mental health. Because information on the conditions for which various types of drugs are prescribed as well as the typical dosages are known, it is possible to estimate the number of patients within a particular General Practitioner's (GP) practice who are suffering from mental health problems. The mental health problems examined here are depression and anxiety.<sup>15</sup> Unfortunately prescription data is not held at individual level and therefore a two-stage methodology must be adopted to calculate area rates. This method assumes that those with mental ill health take the national Average Daily Quantity (Prescribing Support Unit) of a specific drug on everyday of the year. While these assumptions may not fit very well in individual cases, they are more likely to hold across the 'average' for the practice population. The practice rates are then distributed to geographical areas through knowledge of practice population distribution. This process will tend to 'spatially smooth' the area rates where practice populations are heterogeneous. In effect the small area rate will move towards a larger area 'moving average'. However although this does mean high or low rates will tend to move towards the local average, it also reduces the impact of individual GP prescribing behaviour that might be introducing bias because the small area rate will be a combination of a number of different practices.

## **SECONDARY CARE DATA**

This indicator uses hospital inpatient data to estimate the proportion of the population suffering severe mental health problems relating to depression and anxiety. A count is made of all those who have had at least one in-stay spell in any one year coded within International Classification of Disease version 10 (ICD-10)

<sup>15</sup> This is measured using all drugs with the British National Formulary codes 4.1.2 (anxiolytics) and 4.3 (anti-depressant drugs).

chapter 'F' (the coding for mental ill health): the precise grouping of disorders included can be seen in table 1. The indicator is therefore an annual count of those suffering at least one severe mental health episode in a year, an 'annual incidence of hospitalisation'.<sup>16</sup> These individuals are then geocoded to their residential address and a standardised rate is calculated using the residential population in the small area as a denominator.

Table 1: ICD-10 mental health coding	
ICD10	Categories of disorder
F30-F39	Mood (affective) disorders
F40-F48	Neurotic, stress-related and somatoform disorders

There are two significant issues with this indicator as a measure of an underlying rate of mental health. Firstly, the admission of an individual into hospital may be influenced not only by the severity of their condition but also by factors arising from an interaction between primary, social and secondary care. If, for example there has been a failure of adequate primary care in an area, individuals who might have remained within primary care in another area may be admitted into secondary care. The second problem with this indicator is small numbers. This means that the estimate of the underlying risk of admission in some small areas has low precision. Combining a number of years together can reduce the small number problem. In this case 3 years of data (1999-2000, 2000-2001, 2001-2002) were combined. The problem of organisational bias can be reduced through combining different indicators of mental health as outlined above.

## HEALTH-RELATED BENEFITS

The rate of sickness and disability in an area can be measured using information on receipt of particular benefits. Incapacity Benefit (IB) and Severe Disablement Allowance (SDA) are benefits paid to individuals of working age who are unable to work because of ill health. IB is a non means-tested benefit paid to people who are incapable of work due to ill health and who have paid sufficient National Insurance contributions. SDA is a non means-tested benefit paid to people who are incapable of work through illness and have not paid sufficient National Insurance contributions to qualify for IB. Both of these benefit datasets are coded for medical conditions. This coding can be converted to an ICD-10 classification and then a count of individuals with a condition within chapter 'F' made: the precise ICD-10 codes used were F3 and F4 as for the hospital data. Using the working age population as a denominator, a standardised rate of mental ill health amongst those aged 16 to 59 can then be calculated.

<sup>16</sup> Where an individual spent the whole year in hospital they will be counted as one in the 'annual incidence of hospitalisation' measure and they will be attributed to the SOA they were resident in when first admitted.

## **SUICIDE**

Although suicide is not a direct measure of mental ill health, it is highly associated with depression where it is implicated in a majority of cases. Unlike the other measures it is more independent of organisational practises; therefore it may suffer less from biases relating to local practise. However numbers are small and so the precision of the measure may be poor. The actual measure used was deaths that occurred between 1997 and 2001 which had ICD-10 codes X60-X84 and Y10-Y34 excluding Y33.9 where the Coroner's verdict was pending.

## **COMBINING THE DATA TO CREATE A COMPOSITE INDICATOR**

The four indicators were combined using weights derived from Maximum Likelihood Factor Analysis (see **Annex F** for the indicator weights). The use of Factor Analysis here is based on the proposition that in any small area there is an unmeasured 'true' rate of mental health (a latent factor) that manifests itself through various mental health related administrative processes and events as a set of indicators. The variance in these administrative indicators will be either related to the 'true' rate of mental health or to some other factors unique to them and unrelated to the other indicators. The covariance between the indicators is therefore 'caused' by the 'true' rate of mental health. Indicators that have a lower correlation with all the other indicators are therefore a poorer measure of the 'true' rate than those with a high overall correlation and are given a lower weight to be combined with. The combined indicators should be a more precise measure of the underlying 'true' rate of mental health than any single indicator on its own.

# ANNEX H

## Categories of Recorded Crime Included in the Crime Domain

The Crime Domain consists of 33 categories of recorded crime (notifiable offences) which have been grouped to form four composite indicators: violence, burglary, theft and criminal damage.

Home Office offence code	Offence name
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### Violence

1	Murder	
4.1	Manslaughter	Homicide
4.2	Infanticide	
2	Attempted murder	
37.1	Causing death by aggravated vehicle taking	
5	Wounding or other act endangering life	
8A	Other wounding	
8C	Harassment	
8D	Racially-aggravated other wounding	
8E	Racially-aggravated harassment	
105A	Common assault	
105B	Racially-aggravated common assault	
34A	Robbery of business property	
34B	Robbery of personal property	

### Burglary

28	Burglary in a dwelling
29	Aggravated burglary in a dwelling
30	Burglary in a building other than a dwelling
31	Aggravated burglary in a building other than a dwelling

### Theft

37.2	Aggravated vehicle taking
39	Theft from the person of another
45	Theft from a vehicle
48	Theft or unauthorised taking of motor vehicle
126	Vehicle interference and tampering

**Criminal damage**

56	Arson
58A	Criminal damage to a dwelling
58B	Criminal damage to a building other than a dwelling
58C	Criminal damage to a vehicle
58D	Other criminal damage
58E	Racially-aggravated criminal damage to a dwelling
58F	Racially-aggravated criminal damage to a building other than a dwelling
58G	Racially-aggravated criminal damage to a vehicle
58H	Racially-aggravated other criminal damage
59	Threat etc. to commit criminal damage

Within the four composite indicators, each notifiable offence type has been assigned equal weight. Therefore, the numerator for the ‘violence’ rate is the sum of the fourteen notifiable offence categories listed above. In order to account for variability in recording practices between police forces, the SOA-level counts of crime have been constrained to Crime & Disorder Reduction Partnership (CDRP) totals provided by the Home Office.

The denominator for the ‘burglary’ indicator is the number of dwellings from the 2001 Census plus the number of business addresses from Ordinance Survey’s Address Point, while the denominator for the ‘violence’, ‘theft’ and ‘criminal damage’ indicators is total resident population plus non-resident workplace population, also from the 2001 Census.

As an example, the ‘theft’ indicator can be formulated as follows:

**Theft** =

(Aggravated vehicle taking + Theft from the person of another + Theft from a vehicle + Theft or unauthorised taking of motor vehicle + Vehicle interference and tampering)

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(Resident population + Non-resident workplace population)

# ANNEX I

## Exponential Transformation

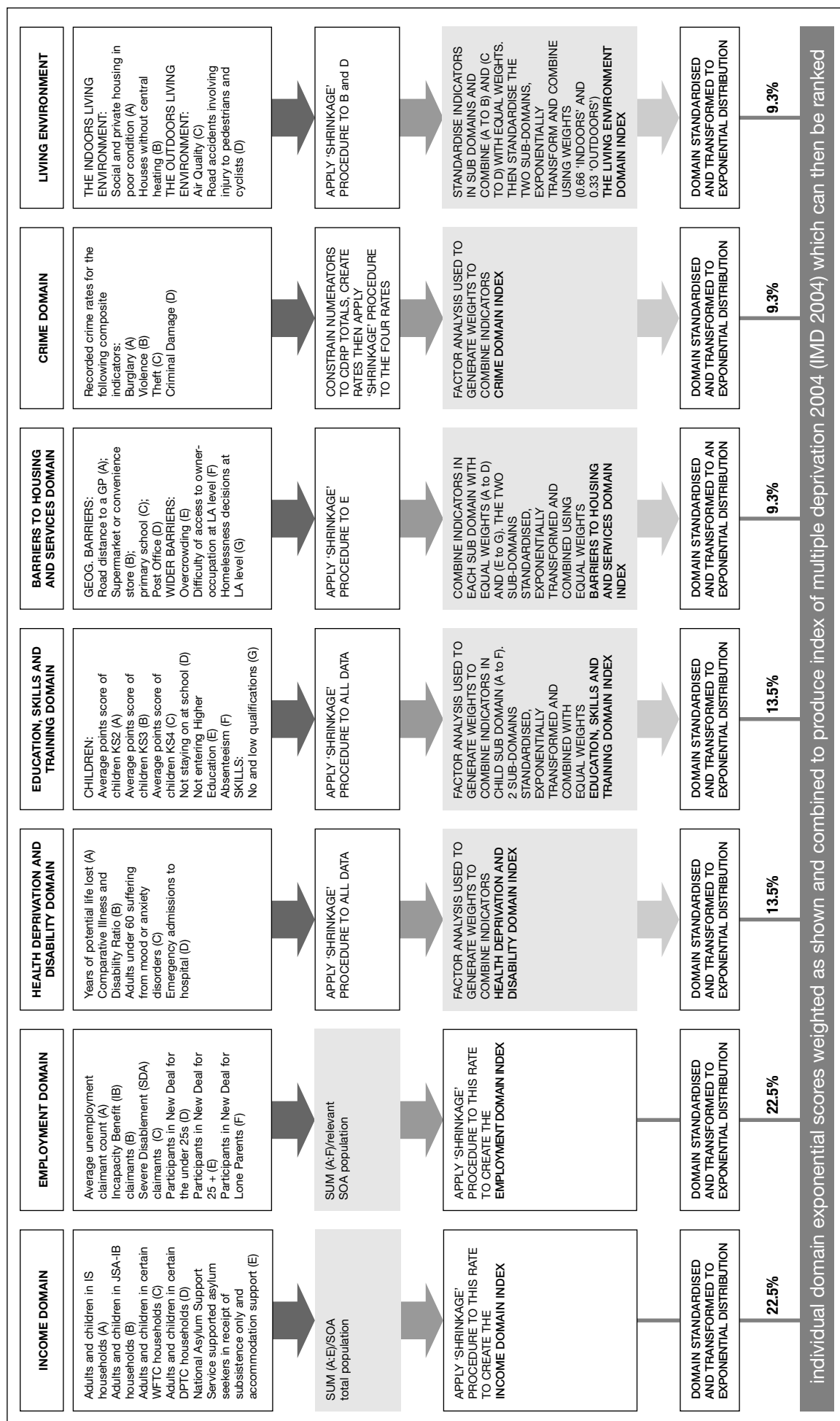
The transformation used is as follows. For any SOA, denote its rank on the Domain, scaled to the range [0,1], by  $R$  (with  $R = 1/N$  for the least deprived, and  $R = N/N$ , ie,  $R = 1$ , for the most deprived, where  $N$  = the number of SOAs in England).

The transformed Domain,  $X$  say, is  $X = -23 \log \{1 - R[1 - \exp(-100/23)]\}$

where  $\log$  denotes natural logarithm and  $\exp$  the exponential or antilog transformation.



# ANNEX J Diagram of components of the Index of Multiple Deprivation 2004



# ANNEX K

## The 100 most deprived SOAs on the Index of Multiple Deprivation 2004

SOA	LA Code	LA Name	GOR Code	GOR Name	IMD Score	Rank of IMD (where 1 is most deprived)
E01006559	00BY	Liverpool	B	North West	86.36	1
E01005204	00BN	Manchester	B	North West	85.76	2
E01006755	00BY	Liverpool	B	North West	85.59	3
E01005133	00BN	Manchester	B	North West	84.92	4
E01005203	00BN	Manchester	B	North West	84.78	5
E01005067	00BN	Manchester	B	North West	83.08	6
E01006468	00BX	Knowsley	B	North West	82.30	7
E01006676	00BY	Liverpool	B	North West	82.04	8
E01005202	00BN	Manchester	B	North West	81.89	9
E01006561	00BY	Liverpool	B	North West	81.39	10
E01005106	00BN	Manchester	B	North West	81.26	11
E01005108	00BN	Manchester	B	North West	80.65	12
E01006778	00BY	Liverpool	B	North West	80.62	13
E01006469	00BX	Knowsley	B	North West	80.49	14
E01006436	00BX	Knowsley	B	North West	80.31	15
E01005484	00BQ	Rochdale	B	North West	80.29	16
E01012070	00EC	Middlesbrough	A	North East	80.20	17
E01005482	00BQ	Rochdale	B	North West	79.99	18
E01014656	00HB	Bristol, City of	K	South West	79.98	19
E01005240	00BN	Manchester	B	North West	79.97	20
E01005205	00BN	Manchester	B	North West	79.84	21
E01006599	00BY	Liverpool	B	North West	79.75	22
E01007122	00CB	Wirral	B	North West	79.73	23
E01005228	00BN	Manchester	B	North West	79.69	24
E01012891	00FA	Kingston upon Hull, City of	D	Yorkshire and The Humber	79.61	25
E01006647	00BY	Liverpool	B	North West	79.60	26
E01006777	00BY	Liverpool	B	North West	79.56	27
E01013818	00FY	Nottingham	E	East Midlands	79.48	28
E01006515	00BY	Liverpool	B	North West	79.42	29
E01005129	00BN	Manchester	B	North West	79.39	30

<b>SOA</b>	<b>LA Code</b>	<b>LA Name</b>	<b>GOR Code</b>	<b>GOR Name</b>	<b>IMD Score</b>	<b>Rank of IMD (where 1 is most deprived)</b>
E01005609	00BR	Salford	B	North West	79.38	31
E01006703	00BY	Liverpool	B	North West	79.28	32
E01006646	00BY	Liverpool	B	North West	79.26	33
E01006704	00BY	Liverpool	B	North West	79.23	34
E01005658	00BR	Salford	B	North West	78.94	35
E01011372	00DA	Leeds	D	Yorkshire and The Humber	78.93	36
E01005350	00BP	Oldham	B	North West	78.88	37
E01006563	00BY	Liverpool	B	North West	78.81	38
E01006560	00BY	Liverpool	B	North West	78.78	39
E01009638	00CQ	Coventry	F	West Midlands	78.76	40
E01006598	00BY	Liverpool	B	North West	78.72	41
E01006467	00BX	Knowsley	B	North West	78.67	42
E01005095	00BN	Manchester	B	North West	78.64	43
E01005130	00BN	Manchester	B	North West	78.62	44
E01012895	00FA	Kingston upon Hull, City of	D	Yorkshire and The Humber	78.44	45
E01006750	00BY	Liverpool	B	North West	78.31	46
E01008439	00CJ	Newcastle upon Tyne	A	North East	78.30	47
E01013956	00FY	Nottingham	E	East Midlands	78.20	48
E01005132	00BN	Manchester	B	North West	78.14	49
E01006494	00BX	Knowsley	B	North West	78.13	50
E01006493	00BX	Knowsley	B	North West	78.08	51
E01011361	00DA	Leeds	D	Yorkshire and The Humber	78.06	52
E01006674	00BY	Liverpool	B	North West	77.93	53
E01006442	00BX	Knowsley	B	North West	77.85	54
E01026625	33UD	Great Yarmouth	G	East of England	77.78	55
E01007124	00CB	Wirral	B	North West	77.69	56
E01007132	00CB	Wirral	B	North West	77.66	57
E01012041	00EC	Middlesbrough	A	North East	77.61	58
E01005065	00BN	Manchester	B	North West	77.58	59
E01009585	00CQ	Coventry	F	West Midlands	77.54	60
E01012069	00EC	Middlesbrough	A	North East	77.51	61
E01010730	00CX	Bradford	D	Yorkshire and The Humber	77.45	62
E01006756	00BY	Liverpool	B	North West	77.44	63

<b>SOA</b>	<b>LA Code</b>	<b>LA Name</b>	<b>GOR Code</b>	<b>GOR Name</b>	<b>IMD Score</b>	<b>Rank of IMD (where 1 is most deprived)</b>
E01013137	00FC	North East Lincolnshire	D	Yorkshire and The Humber	77.43	64
E01008291	00CJ	Newcastle upon Tyne	A	North East	77.43	65
E01006447	00BX	Knowsley	B	North West	77.38	66
E01005201	00BN	Manchester	B	North West	77.38	67
E01009365	00CN	Birmingham	F	West Midlands	77.37	68
E01007293	00CB	Wirral	B	North West	77.34	69
E01007127	00CB	Wirral	B	North West	77.34	70
E01008214	00CH	Gateshead	A	North East	77.31	71
E01006691	00BY	Liverpool	B	North West	77.31	72
E01005144	00BN	Manchester	B	North West	77.25	73
E01006779	00BY	Liverpool	B	North West	77.21	74
E01005257	00BN	Manchester	B	North West	77.18	75
E01006470	00BX	Knowsley	B	North West	77.13	76
E01006740	00BY	Liverpool	B	North West	77.07	77
E01011663	00DA	Leeds	D	Yorkshire and The Humber	77.05	78
E01010732	00CX	Bradford	D	Yorkshire and The Humber	77.03	79
E01012875	00FA	Kingston upon Hull, City of	D	Yorkshire and The Humber	77.00	80
E01005213	00BN	Manchester	B	North West	76.99	81
E01008012	00CG	Sheffield	D	Yorkshire and The Humber	76.90	82
E01011357	00DA	Leeds	D	Yorkshire and The Humber	76.88	83
E01006638	00BY	Liverpool	B	North West	76.84	84
E01013960	00FY	Nottingham	E	East Midlands	76.81	85
E01012028	00EC	Middlesbrough	A	North East	76.81	86
E01004672	00BK	Westminster	H	London	76.78	87
E01009488	00CN	Birmingham	F	West Midlands	76.64	88
E01014653	00HB	Bristol, City of	K	South West	76.58	89
E01012266	00EF	Stockton-on-Tees	A	North East	76.57	90
E01006679	00BY	Liverpool	B	North West	76.44	91
E01005612	00BR	Salford	B	North West	76.41	92
E01006630	00BY	Liverpool	B	North West	76.41	93
E01006732	00BY	Liverpool	B	North West	76.40	94
E01005142	00BN	Manchester	B	North West	76.39	95

<b>SOA</b>	<b>LA Code</b>	<b>LA Name</b>	<b>GOR Code</b>	<b>GOR Name</b>	<b>IMD Score</b>	<b>Rank of IMD (where 1 is most deprived)</b>
E01008380	00CJ	Newcastle upon Tyne	A	North East	76.38	96
E01006448	00BX	Knowsley	B	North West	76.35	97
E01008818	00CM	Sunderland	A	North East	76.34	98
E01005243	00BN	Manchester	B	North West	76.33	99
E01006540	00BY	Liverpool	B	North West	76.30	100

# ANNEX L District level summaries of the SOA level Index of Multiple Deprivation

LA Code	LA Name	Average score	Rank of average score	Average rank	Rank of average rank	Extent	Rank of extent	Local concentration	Rank of local concentration	Income scale	Rank of income scale	Employment scale	Rank of Employment scale
45UB	Adur	17.01	179	14901.43	165	0.04	207	24589.45	212	5,961	295	2,343	311
16UB	Allerdale	22.92	105	18065.29	112	0.20	100	30324.30	79	12,257	159	6,892.25	134
35UB	Alnwick	16.14	192	14167.85	182	0.05	192	25536.81	191	3,376	342	1,813.75	333
17UB	Amber Valley	18.89	152	15963.76	144	0.09	162	27600.88	160	13,246	146	6,885.75	137
45UC	Arun	15.56	205	13388.31	203	0.05	189	25768.46	185	13,716	143	5,640.75	171.5
37UB	Ashfield	27.77	66	21765.84	52	0.28	74	30117.68	86	16,701	116	9,176.25	96
29UB	Ashford	13.44	233	11318.17	237	0.04	208	25045.83	204	10,285	191	4,101.5	222
11UB	Aylesbury Vale	8.30	324	6282.99	325	0.00	298	20148.93	288	9,834	206	4,178.5	219
42UB	Babergh	11.29	273	9699.51	271	0.00	298	20349.95	282	6,444	283	2,732.75	295
00AB	Barking and Dagenham	31.32	42	24127.11	21	0.37	45	29942.87	88	35,383	55	11,845.75	75
00AC	Barnet	16.09	193	13729.77	198	0.06	175	26491.83	174	40,239	47	13,915.75	63
00CC	Barnsley	32.99	28	23455.03	27	0.43	28	31608.69	40	40,450	45	23,969.75	20
16UC	Barrow-in-Furness	32.98	29	23058.21	35	0.41	34	31878.04	16	12,223	160	8,035	114
22UB	Basildon	20.72	132	16080.20	142	0.18	106	29183.24	116	24,333	83	8,270	110
24UB	Basingstoke and Deane	8.83	313	6989.17	314	0.00	298	19797.44	294	9,269	216	3,917.75	231
37UC	Bassetlaw	25.71	82	19980.23	77	0.25	82	30633.45	72	14,739	135	8,801	103
00HA	Bath and North East Somerset	12.22	255	10068.97	259	0.03	213	24011.72	222	13,806	142	6,051.5	159
09UD	Bedford	17.52	167	14212.86	180	0.11	153	28173.19	146	17,190	112	6,988.75	131
35UC	Berwick-upon-Tweed	21.16	124	18913.60	100	0.03	221	24245.67	217	3,099	347	1,580.25	342
00AD	Bexley	15.01	212	12533.23	216	0.06	177	26067.00	177	23,641	87	8,776.75	104
00CN	Birmingham	37.57	15	24650.19	16	0.54	14	31929.09	15	243,910	1	91,122.5	1

LA Code	LA Name	Average score	Rank of average score	Average rank	Rank of average rank	Extent	Rank of extent	Local concentration	Rank of local concentration	Income scale	Rank of income scale	Employment scale	Rank of employment scale
31UB	Blaby	8.68	318	6885.29	316	0.00	298	14609.93	341	5,162	311	2,979.25	283
00EX	Blackburn with Darwen	32.28	34	22273.40	45	0.45	25	31794.31	25	29,810	71	12,661.75	66
00EY	Blackpool	33.91	24	23488.47	26	0.40	35	32124.25	10	28,995	73	14,657.25	59
35UD	Blyth Valley	26.05	79	19434.23	92	0.29	70	30868.62	64	12,776	151	7,637	119
17UC	Bolsover	30.50	46	23161.29	31	0.37	47	30288.54	80	11,947	166	7,142.25	128
00BL	Bolton	29.41	50	20702.38	64	0.37	46	31649.09	36	45,419	39	21,081.25	28
32UB	Boston	21.86	111	18466.07	106	0.11	152	27380.51	163	7,251	264	3,115.5	274
00HN	Bournemouth	23.74	95	19095.34	96	0.19	101	29546.29	103	22,033	91	10,539.5	81
00MA	Bracknell Forest	8.61	319	6785.75	318	0.00	290	19138.42	306	6,518	281	2,817.75	290
00CX	Bradford	32.93	30	21826.43	51	0.43	31	32113.25	11	94,500	5	3,5781.5	6
22UC	Braintree	13.24	237	11659.45	228	0.01	263	22157.09	247	12,114	161	4,887.25	189
33UB	Breckland	14.48	222	12848.62	207	0.02	234	23511.95	232	11,355	176	4,863.75	190
00AE	Brent	25.95	81	20962.98	62	0.21	92	29964.63	87	52,953	22	19,031	39
22UD	Brentwood	8.90	312	7053.37	312	0.00	295	19056.50	307	4,429	321	2,041	323
39UB	Bridgnorth	12.32	254	10803.66	250	0.00	298	20476.06	280	4,024	330	2,020.75	324
00ML	Brighton and Hove	25.68	83	20187.46	74	0.22	87	30525.90	74	38,173	50	18,243	43
00HB	Bristol, City of	27.72	67	20461.99	68	0.28	71	31663.79	34	61,805	14	25,850.25	14
33UC	Broadland	9.63	302	7970.86	298	0.00	296	15922.73	330	8,204	239	4,388.25	209
00AF	Bromley	13.17	238	10655.85	252	0.05	185	26066.33	178	28,410	74	11,396.25	77
47UB	Bromsgrove	10.14	293	8360.46	292	0.00	288	20244.37	283	5,545	306	3186.5	269
26UB	Broxbourne	14.72	216	12828.38	208	0.02	224	24185.01	219	8,589	227	3,332	263
37UD	Broxtowe	16.03	194	13878.24	194	0.04	197	25435.90	192	10,091	197	5,633.25	173
30UD	Burnley	31.83	37	22246.10	46	0.39	40	31846.95	21	16,224	122	8,084.5	112
00BM	Bury	23.53	97	18477.87	105	0.21	93	30283.07	81	24,758	82	12,228.5	72

00CY	Calderdale	25.44	86	19556.80	87	0.25	83	30851.74	65	29,878	70	12,604	68
12UB	Cambridge	14.58	218	12779.97	212	0.02	235	23691.28	231	9,011	220	4,184.5	218
00AG	Camden	34.71	19	24835.84	15	0.48	21	31144.83	55	42,127	43	17,563.25	47
41UB	Cannock Chase	20.25	134	16799.82	133	0.13	136	27733.26	158	11,289	177	6,104	157
29UC	Canterbury	16.19	190	14016.77	188	0.05	187	25596.74	190	15,345	129	6,395.5	147
15UB	Caradon	18.39	157	16486.01	136	0.03	219	24441.13	214	8,473	230	3,977	227
16UD	Carlisle	22.20	108	17766.54	117	0.18	110	29351.44	110	12,100	162	6,977.25	132
15UC	Carrick	19.17	149	16892.87	132	0.07	174	26781.03	172	10,922	181	5,061	186
35UE	Castle Morpeth	15.80	197	12795.23	211	0.09	164	27115.66	167	4,292	324	2,990.75	282
22UE	Castle Point	12.71	245	11062.68	243	0.01	273	21691.50	258	8,261	237	3,584.75	245
31UC	Charnwood	12.14	257	9997.50	262	0.03	218	24003.78	223	12,411	156	6,011	160
22UF	Chelmsford	8.55	320	6544.02	321	0.00	274	20170.81	286	10,548	185	4,544.75	201
23UB	Cheltenham	14.41	224	11307.25	238	0.09	166	27681.42	159	10,528	187	4,619.25	198
38UB	Cherwell	11.15	274	8905.71	281	0.03	220	24242.37	218	8,797	222	3,542	248
13UB	Chester	17.03	178	13160.61	205	0.12	145	29463.76	109	12,671	153	6,588	142
17UD	Chesterfield	27.08	73	20568.80	66	0.31	66	30207.61	85	16,753	115	8,901.75	100
20UB	Chester-le-Street	21.41	118	17258.13	123	0.17	116	28573.70	135	7,047	270	4,507.5	202
45UD	Chichester	10.70	279	9140.56	277	0.00	298	18825.34	309	8,016	243	3,111.75	276
11UC	Chiltern	6.20	349	4189.92	351	0.01	272	15762.08	332	4,347	322	2,065.25	319
30UE	Chorley	17.15	172	13955.05	191	0.11	151	27797.57	156	9,922	203	6,002.25	161
19UC	Christchurch	12.62	247	10810.30	249	0.03	223	23413.12	233	3,971	332	1,639.25	340
00AA	City of London	14.26	226	11886.45	227	0.06	178	25064.00	203	578	353	322	353
22UG	Colchester	14.59	217	12330.59	221	0.04	193	25633.93	189	14,249	139	6,683.5	139
13UC	Congleton	9.51	305	7447.38	307	0.01	257	21217.53	266	5,930	296	3,730.25	240
16UE	Copeland	25.67	84	20195.96	73	0.23	86	30391.58	77	10,260	192	6,161.5	155
34UB	Corby	27.07	74	21067.11	60	0.28	75	30250.17	84	7,647	254	3,832.25	236



LA Code	LA Name	Average score	Rank of average score	Average rank	Rank of average rank	Extent	Rank of extent	Local concentration	Rank of local concentration	Income scale	Rank of income scale	Employment scale	Rank of employment scale
23UC	Cotswold	8.83	314	7073.27	310	0.00	298	14950.91	339	4,740	313	1,937.5	329
00CQ	Coventry	28.15	64	20361.58	70	0.32	63	31565.68	41	52,369	25	22,234.5	23
36UB	Craven	11.94	262	10293.13	256	0.02	237	21506.73	261	3,736	334	1,935	330
45UE	Crawley	14.75	215	13000.58	206	0.02	240	23335.75	234	9,172	218	3,403.25	256
13UD	Crewe and Nantwich	17.09	174	13486.41	201	0.12	147	28917.50	126	11,414	175	5,930.25	162
00AH	Croydon	19.85	140	16362.95	137	0.12	139	27819.12	154	49,288	31	16,854	50
26UC	Dacorum	9.49	306	7712.44	302	0.00	298	19664.57	297	10,801	184	4,044	225
00EH	Darlington	24.55	90	18239.81	109	0.25	80	31135.15	57	15,944	124	7,828	118
29UD	Dartford	17.18	170	14739.46	168	0.06	176	25724.35	187	8,302	234	3,439.5	253
34UC	Daventry	10.21	290	8160.60	296	0.01	243	21757.70	256	4,437	319	2,293.75	313
00FK	Derby	27.68	69	19183.68	93	0.32	61	31873.92	18	41,068	44	16,638.5	51
17UF	Derbyshire Dales	12.47	252	10983.72	245	0.01	248	20372.63	281	4,550	318	2,585.5	303
20UD	Derwentside	28.22	62	22065.01	50	0.30	67	29741.05	98	15,456	128	8,620.25	107
00CE	Doncaster	31.50	40	22274.21	44	0.41	32	31532.48	43	51,527	26	25,936.75	13
29UE	Dover	18.74	154	16137.70	141	0.08	168	26800.86	171	14,072	141	6,383.25	148
00CR	Dudley	22.08	109	17215.53	125	0.20	97	29601.87	102	44,759	41	19,649.5	35
20UE	Durham	18.51	156	14529.60	177	0.14	128	28929.67	125	9,779	207	6,582.75	143
00AJ	Ealing	23.40	99	19126.46	94	0.18	105	29066.72	122	50,860	27	18,541.25	42
20UF	Easington	41.75	8	27196.41	7	0.68	7	31737.80	28	19,948	100	1,4054	62
12UC	East Cambridgeshire	10.61	282	9074.20	279	0.00	298	17694.41	321	5,175	310	2,124.25	316
18UB	East Devon	12.71	246	11167.21	242	0.01	268	21689.91	259	10,107	196	4,720.25	193
19UD	East Dorset	8.22	325	6273.72	326	0.00	298	18099.99	317	5,226	309	2,320	312
24UC	East Hampshire	8.07	328	6145.61	328	0.00	298	15855.55	331	6,649	276	2,810.75	291
26UD	East Hertfordshire	6.29	348	4313.57	347	0.00	298	15135.53	337	6,834	273	2,859	288

32UC	East Lindsey	24.62	89	19840.47	78	0.21	91	29659.11	101	17,310	111	8,951.75	98
34UD	East Northamptonshire	11.76	263	9877.96	268	0.01	260	22284.68	246	6,246	285	2,664.25	299
00FB	East Riding of Yorkshire	15.34	208	12417.94	219	0.08	171	27922.09	153	31,888	63	1,5731.5	56
41UC	East Staffordshire	18.54	155	14627.56	174	0.16	121	28795.23	130	11,826	169	5338.5	177
21UC	Eastbourne	21.46	117	17986.51	113	0.12	142	28017.12	150	11,829	168	4,705	194
24UD	Eastleigh	8.91	311	6902.68	315	0.00	283	20922.95	273	7,181	267	3,287	265
16UF	Eden	15.70	200	14600.76	175	0.00	298	20670.75	277	3,121	346	1,971.5	327
13UE	Ellesmere Port & Neston	19.80	141	15091.92	160	0.20	98	28789.80	131	9,852	205	5,259.5	180
43UB	Elmbridge	7.02	337	4973.88	338	0.00	298	16643.45	325	6,608	279	2,483	306
00AK	Enfield	23.05	104	18650.30	104	0.18	109	28979.84	123	49,984	28	16,468.75	52
22UH	Epping Forest	13.33	234	11598.79	232	0.01	246	22516.78	243	10,911	183	4,251	213
43UC	Epsom and Ewell	6.88	340	4726.68	341	0.00	292	18785.62	310	3,545	338	1,756.75	337
17UG	Erewash	19.27	148	15740.32	148	0.12	141	27812.35	155	13,165	148	6,309.5	152
18UC	Exeter	21.58	115	17831.88	116	0.14	129	28962.38	124	13,208	147	6,140.25	156
24UE	Fareham	7.79	330	5716.19	333	0.01	264	18118.65	316	5,925	297	2,791.5	293
12UD	Fenland	19.76	142	17090.12	128	0.08	169	27319.49	164	10,079	198	4,194.5	217
42UC	Forest Heath	11.14	275	9684.66	272	0.00	298	18359.82	313	3,736	334	1,542	343
23UD	Forest of Dean	15.93	195	14587.74	176	0.01	253	22806.04	239	7,607	256	3,883.5	233
30UF	Fylde	13.06	240	11192.08	240	0.02	236	23177.74	235	6,204	288	3,632.25	241
00CH	Gateshead	33.20	26	23017.75	36	0.44	27	31844.24	23	38,572	49	20,114.5	33
37UE	Gedling	16.43	184	14129.72	183	0.04	195	25326.95	198	10,532	186	5,924.5	163
23UE	Gloucester	19.87	139	15208.34	157	0.19	103	29517.48	105	14,308	138	6,220.5	153
24UF	Gosport	16.27	189	13885.34	193	0.05	182	26114.48	176	7,478	258	2,842	289
29UG	Gravesham	18.07	158	14781.86	167	0.11	149	28040.98	149	11,440	174	4,682.25	196
33UD	Great Yarmouth	27.65	70	20355.97	71	0.28	72	31657.86	35	16,685	117	7,900	117
00AL	Greenwich	31.47	41	23610.88	23	0.39	41	30605.49	73	47,223	36	16,031	54

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43UD	Guildford	8.34	322	6412.51	323	0.00	279	19749.95	295	7,080	268	2,993.25	281
00AM	Hackney	45.06	5	28775.92	1	0.83	1	31392.81	47	66,834	9	21,821.25	26
00ET	Halton	34.29	21	23235.67	30	0.49	18	31865.87	20	25,596	77	12,743.25	65
36UC	Hambleton	10.38	285	8584.90	286	0.00	297	20629.90	278	5,113	312	3,100.75	277
00AN	Hammersmith and Fulham	27.82	65	22290.19	42	0.26	79	29211.77	115	30,926	67	1,1981	73
31UD	Harborough	7.22	336	5224.92	336	0.00	298	15378.88	334	4,229	327	1,999.75	325
00AP	Haringey	37.70	13	25897.82	10	0.58	10	31403.81	46	60,956	17	20,118.75	32
22UJ	Harlow	21.37	120	18848.66	101	0.05	180	24997.97	207	10,254	193	3,738.25	239
36UD	Harrogate	11.08	277	9296.79	274	0.01	249	21203.40	268	10,195	195	5,115.5	184
00AQ	Harrow	13.50	232	11584.53	233	0.02	226	23850.72	226	25,558	78	8,724	105
24UG	Hart	4.17	354	2082.13	354	0.00	298	8914.80	354	2,828	349	1,300.25	350
00EB	Hartlepool	37.68	14	24429.34	18	0.53	15	32021.19	13	21,220	93	11,114	79
21UD	Hastings	31.73	38	22786.24	39	0.39	38	31610.93	39	17,505	107	7,189.75	126
24UH	Havant	20.08	137	15477.93	153	0.20	94	29142.36	118	14,981	132	5,640.75	171.5
00AR	Havering	14.77	214	12492.96	217	0.04	196	25386.94	194	23,766	86	9,869.25	86
00GA	Herefordshire, County of	15.65	202	13890.90	192	0.03	209	24867.23	208	16,790	114	7,631.25	120
26UE	Hertsmere	12.01	260	10154.40	257	0.01	258	22371.73	245	8,371	232	2,957.75	284
17UH	High Peak	15.11	211	12760.70	213	0.05	186	25966.12	180	8,703	224	4,477.75	204
00AS	Hillingdon	17.68	166	15347.89	156	0.05	188	25703.34	188	29,803	72	10,243.75	84
31UE	Hinckley and Bosworth	11.07	278	9280.31	275	0.00	276	21208.91	267	7,402	261	3,774.5	238
45UF	Horsham	6.65	342	4769.28	340	0.00	298	12533.61	349	6,200	289	2,661.25	300
00AT	Hounslow	23.25	102	19654.34	85	0.14	131	28074.65	148	33,223	58	11,233.75	78
12UE	Huntingdonshire	10.18	291	8196.69	295	0.01	250	21827.40	254	10,299	190	4,501	203
30UG	Hyndburn	28.53	58	21087.71	59	0.33	60	31238.33	51	13,316	145	6,888.75	135

42UD Ipswich	23.43	98	18233.85	110	0.23	85	29797.51	96	17,564	106	6,888.5	136
00MW Isle of Wight	21.08	126	18288.83	108	0.09	165	26444.46	175	19,030	101	8,486.25	108
15UH Isles of Scilly	15.72	199	15046.00	162	0.00	298	15046.00	338	62	354	31.75	354
00AU Islington	42.65	6	28078.00	4	0.75	3	31509.55	44	49,372	30	19,087.25	38
46UB Kennet	10.11	295	8474.83	288	0.00	298	18226.26	314	4,736	315	2,124	317
00AW Kensington and Chelsea	21.49	116	17391.64	121	0.18	107	29096.20	120	21,059	96	8,942.75	99
15UD Kerrier	25.23	87	20941.58	63	0.16	119	29220.98	114	14,593	136	6,619	141
34UE Kettering	15.29	209	12439.58	218	0.08	173	26955.87	169	8,147	240	3,603.25	242
33UE King's Lynn and West Norfolk	19.09	150	15820.05	147	0.10	156	29516.93	106	15,871	125	7,054.5	129
00FA Kingston upon Hull, City of	41.13	9	25756.58	11	0.57	12	32230.78	6	61,454	16	24,500	19
00AX Kingston upon Thames	11.62	266	9916.03	265	0.01	261	21168.05	269	11,576	173	4,601	199
00CZ Kirklees	26.15	77	19741.13	81	0.28	73	30804.29	68	57,957	21	24,790	16
00BX Knowsley	46.57	3	27073.98	8	0.64	8	32435.36	1	45,685	38	20,869.5	30
00AY Lambeth	34.18	23	25229.50	13	0.48	22	30258.55	82	61,771	15	23,628.25	21
30UH Lancaster	22.25	107	17072.41	129	0.19	104	30920.80	62	19,001	102	9,332	93
00DA Leeds	27.68	68	19446.70	91	0.31	64	31800.28	24	103,490	4	45,448	4
00FN Leicester	32.80	31	23350.55	29	0.41	33	31725.30	29	63,736	12	23,205	22
21UF Lewes	12.89	243	11272.84	239	0.00	280	21809.80	255	8,041	242	3,562.75	246
00AZ Lewisham	28.55	57	22885.91	38	0.27	77	28433.14	138	52,718	23	19,377.5	37
41UD Lichfield	12.01	259	10137.60	258	0.02	238	22770.70	240	7,478	258	4,081.75	223
32UD Lincoln	27.23	72	20509.12	67	0.29	69	31075.05	59	15,166	130	6,354.25	150
00BY Liverpool	49.78	1	27801.06	5	0.71	5	32430.24	2	134,895	2	64,451.5	2
00KA Luton	23.27	101	18674.95	103	0.20	95	28637.25	134	29,942	69	10,492.5	82
13UG Macclesfield	11.13	276	8838.54	282	0.04	206	25023.96	205	10,918	182	5,814	165
29UH Maidstone	11.50	270	9196.91	276	0.04	199	25022.83	206	11,943	167	4,957.75	188
22UK Maldon	10.68	280	9029.70	280	0.00	298	19271.25	301	4,724	316	2,048.75	321.5

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47UC	Malvern Hills	13.06	241	11528.80	234	0.01	244	22138.86	248	5,797	298	2706.75	296
00BN	Manchester	48.91	2	28175.03	3	0.72	4	32425.62	3	123,635	3	51015.75	3
37UF	Mansfield	32.53	33	23148.80	32	0.43	30	31647.44	38	17,318	110	9399.5	91
00LC	Medway	17.96	160	15077.27	161	0.08	172	26889.78	170	31,190	66	11865.25	74
31UG	Melton	10.13	294	8286.44	293	0.00	298	19609.34	298	3,239	345	1371.25	348
40UB	Mendip	14.49	221	12800.85	210	0.02	225	23839.14	227	9,663	209	4353	210
00BA	Merton	14.50	220	12294.33	222	0.03	215	24576.84	213	20,580	99	7553	121
09UC	Mid Bedfordshire	7.71	334	5696.82	334	0.00	298	16042.69	328	6,728	275	3054	278
18UD	Mid Devon	17.07	175	15366.80	155	0.02	231	23789.85	229	6,781	274	2938.5	285
42UE	Mid Suffolk	9.81	297	8228.37	294	0.00	298	14850.62	340	5,568	304	2477.5	308
45UG	Mid Sussex	6.38	346	4355.43	345	0.00	298	16168.22	326	6,620	278	2913.25	287
00EC	Middlesbrough	40.73	10	24402.66	19	0.57	11	32310.23	4	36,158	53	16434.5	53
00MG	Milton Keynes	15.56	204	12413.66	220	0.10	157	28290.73	143	22,826	89	8872	101
43UE	Mole Valley	6.20	351	4245.18	348	0.00	298	13341.10	347	3,659	336	1610.75	341
24UJ	New Forest	10.38	286	8469.82	289	0.01	256	20774.24	276	12,572	155	5338	178
37UG	Newark and Sherwood	19.75	143	16042.20	143	0.15	125	28455.58	137	12,588	154	6356.5	149
00CJ	Newcastle upon Tyne	34.53	20	22209.57	48	0.45	24	32281.78	5	59,954	19	27493.75	10
41UE	Newcastle-under-Lyme	19.87	138	16286.21	139	0.13	135	28335.05	141	13,070	149	8011.25	115
00BB	Newham	40.41	11	27575.17	6	0.70	6	31055.81	60	76,338	7	22130.5	24
15UE	North Cornwall	22.82	106	20093.63	76	0.05	190	25781.26	184	9,579	211	4462.5	206
18UE	North Devon	20.59	133	17465.64	120	0.12	148	28342.01	140	11,101	179	5145.25	183
19UE	North Dorset	11.37	271	10050.69	261	0.00	298	16881.98	324	4,112	329	1793.75	336
17UJ	North East Derbyshire	18.93	151	15515.12	151	0.12	146	27933.90	152	11,603	172	6653.5	140
00FC	North East Lincolnshire	29.36	52	20377.59	69	0.37	43	31714.73	31	30,175	68	11714.25	76

26UF	North Hertfordshire	10.14	292	8392.49	290	0.00	294	20110.38	289	9,064	219	3,405.75	254
32UE	North Kesteven	11.52	269	9903.66	267	0.00	298	20156.32	287	7,268	263	3,863	235
00FD	North Lincolnshire	21.23	121	16756.00	134	0.16	117	30480.97	76	20,963	97	9,201.25	95
33UF	North Norfolk	16.92	180	15513.88	152	0.01	254	22060.15	250	10,231	194	4,752.75	191
39UC	North Shropshire	16.57	181	15097.90	159	0.01	252	22604.82	242	5,666	303	2,674.75	297
00HC	North Somerset	14.13	228	10988.41	244	0.08	167	28713.26	132	17,361	109	8,656.75	106
00CK	North Tyneside	25.97	80	19505.75	90	0.30	68	30511.62	75	33,187	59	17,106.25	49
44UB	North Warwickshire	16.38	186	14685.73	169	0.03	214	24164.77	220	5,692	302	3,160.25	271
31UH	North West Leicestershire	15.88	196	13859.97	195	0.04	200	25370.10	195	7,438	260	4,078.75	224
46UC	North Wiltshire	8.42	321	6477.65	322	0.00	298	19166.79	303	7,951	244	3,403.75	255
34UF	Northampton	20.24	135	15950.73	145	0.17	115	29093.57	121	24,029	85	9,859	87
33UG	Norwich	28.33	61	21392.20	55	0.35	50	29874.57	90	21,460	92	9,339.25	92
00FY	Nottingham	41.75	7	26497.92	9	0.63	9	32164.14	9	66,538	10	2,5988.5	12
44UC	Nuneaton and Bedworth	21.17	123	17146.86	126	0.16	123	28836.28	129	14,945	133	7,275.75	125
31UJ	Oadby and Wigston	9.70	300	7583.17	304	0.00	298	21348.38	264	4,133	328	2,054.5	320
00BP	Oldham	30.73	43	21352.58	56	0.40	36	31743.80	26	39,468	48	17,806.5	44
39UD	Oswestry	17.10	173	15193.25	158	0.02	229	24098.53	221	4,243	326	2,117.5	318
38UC	Oxford	19.72	144	16570.51	135	0.12	144	28119.03	147	14,532	137	5,864.75	164
30UJ	Pendle	27.59	71	20576.74	65	0.34	58	30662.35	71	14,934	134	6,928.5	133
15UF	Penwith	29.03	56	23107.01	34	0.25	81	29884.22	89	11,120	178	5,173.25	182
00JA	Peterborough	23.37	100	18104.60	111	0.22	88	29811.68	95	25,091	80	8,812.25	102
00HG	Plymouth	26.16	76	19671.41	84	0.28	76	30838.77	66	37,609	52	17,648.75	46
00HP	Poole	14.31	225	12109.01	224	0.04	205	25196.78	201	13,497	144	5,795	166
00MR	Portsmouth	24.88	88	19529.90	88	0.21	90	30749.10	69	25,614	76	10,256.75	83
30UK	Preston	28.47	59	19762.00	80	0.36	48	31705.68	32	22,409	90	10,578.25	80
19UG	Purbeck	12.60	248	11469.47	236	0.00	298	17382.13	322	3,496	340	1,539	344

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00MC	Reading	18.78	153	15846.27	146	0.09	160	27006.89	168	15,766	126	5,571	174
00BC	Redbridge	17.77	163	15587.15	150	0.05	183	25848.11	182	33,538	57	12,231	71
00EE	Redcar and Cleveland	30.57	44	21327.20	57	0.35	54	31989.04	14	27,524	75	14,483	61
47UD	Redditch	19.44	146	15398.06	154	0.17	112	27766.33	157	9,945	202	4,228.5	215
43UF	Reigate and Banstead	8.95	309	7003.67	313	0.00	282	19847.92	293	7,494	257	3,220.5	266
15UG	Restormel	23.85	93	20331.81	72	0.13	137	28269.39	144	12,848	150	6,187	154
30UL	Ribble Valley	10.34	288	8756.86	283	0.00	298	18062.63	318	2,860	348	2,225	315
00BD	Richmond upon Thames	9.67	301	7751.32	300	0.00	281	20206.43	285	11,964	165	5,244	181
36UE	Richmondshire	12.49	251	11167.73	241	0.00	298	19238.08	302	2,701	350	1,504.5	345
00BQ	Rochdale	33.69	25	22911.36	37	0.43	29	32082.07	12	40,415	46	18,763.25	41
22UL	Rochford	8.71	316	6623.36	319	0.01	271	19445.16	299	5,780	299	2,596.75	302
30UM	Rossendale	24.05	92	19615.69	86	0.20	99	28852.92	128	9,387	214	5,015.75	187
21UG	Rother	16.19	191	14188.16	181	0.04	194	25425.75	193	8,690	225	3,597.25	244
00CF	Rotherham	28.19	63	21143.95	58	0.32	62	31139.34	56	43,470	42	20,734	31
44UD	Rugby	13.60	231	11527.69	235	0.02	228	23861.59	225	7,777	250	3,551.75	247
43UG	Runnymede	7.76	331	5842.13	330	0.00	298	16928.69	323	4,262	325	1,806	335
37UJ	Rushcliffe	8.95	310	7159.51	309	0.00	298	18160.91	315	6,197	290	3,601.25	243
24UL	Rushmoor	10.37	287	8392.02	291	0.02	233	21863.38	252	6,235	286	2,513.75	305
00FP	Rutland	6.62	343	4481.22	343	0.00	298	10452.89	353	1,557	352	692.5	352
36UF	Ryedale	12.92	242	11654.21	229	0.00	298	18728.92	311	3,934	333	1,691.5	338
00BR	Salford	38.19	12	24624.72	17	0.52	17	32215.00	7	47,311	35	21,676.5	27
46UD	Salisbury	11.75	264	9991.21	263	0.01	242	21634.27	260	7,792	249	3,506.5	251
00CS	Sandwell	35.39	16	24969.00	14	0.53	16	31234.93	52	64,373	11	24,586.5	18
36UG	Scarborough	24.09	91	18756.73	102	0.21	89	30815.67	67	16,096	123	7,385	123

20UG	Sedgefield	29.06	55	22278.67	43	0.35	55	29696.01	100	15,090	131	9,064.5	97
40UC	Sedgemoor	17.41	169	14655.80	172	0.09	163	27163.40	165	11,657	171	5,341.25	176
00CA	Sefton	26.12	78	18928.16	99	0.27	78	31552.98	42	48,945	33	24,800.75	15
36UH	Selby	13.09	239	10971.46	247	0.03	217	24362.38	215	6,110	291	3,375.5	257
29UK	Sevenoaks	9.56	303	7563.92	305	0.01	255	21867.75	251	7,896	247	3,127.75	273
00CG	Sheffield	28.42	60	19741.11	82	0.35	51	31720.23	30	91,727	6	3,9501.5	5
29JL	Shepway	20.75	131	17230.29	124	0.12	143	28865.22	127	14,083	140	6,100.5	158
39JE	Shrewsbury and Atcham	15.69	201	13580.21	200	0.04	204	25333.99	197	9,195	217	4,548.75	200
00MD	Slough	20.87	129	17910.55	115	0.09	161	26552.75	173	16,359	121	5,715.25	167
00CT	Solihull	16.44	183	12200.13	223	0.16	124	29829.14	93	20,940	98	9,924	85
09UE	South Bedfordshire	12.32	253	10315.23	255	0.02	230	23728.79	230	9,379	215	3,867.75	234
11UE	South Bucks	8.07	327	6264.21	327	0.00	298	15143.47	336	3,323	343	1,289.25	351
12UG	South Cambridgeshire	6.39	345	4343.53	346	0.00	298	12809.56	348	5,989	294	2,931	286
17UK	South Derbyshire	14.79	213	12559.04	215	0.04	201	25349.76	196	7,201	266	4,175	220
00HD	South Gloucestershire	9.76	298	7960.19	299	0.00	291	19736.61	296	17,795	105	7,952.25	116
18UG	South Hams	14.22	227	12824.35	209	0.00	285	21474.01	263	7,271	262	3,443.25	252
32UF	South Holland	15.27	210	13831.09	196	0.00	278	21474.14	262	6,586	280	3,359.25	260
32UG	South Kesteven	12.21	256	9976.57	264	0.03	210	24724.14	210	10,308	189	4,686.5	195
16UG	South Lakeland	12.01	258	10576.08	254	0.00	277	19857.30	292	6,637	277	4,213	216
33UH	South Norfolk	10.66	281	9129.43	278	0.00	298	17860.00	320	8,267	236	3,944.75	229
34UG	South Northamptonshire	6.59	344	4443.12	344	0.00	298	11962.10	351	3,643	337	1,808.5	334
38UD	South Oxfordshire	7.71	332	5768.26	332	0.00	298	15987.97	329	6,334	284	2,794.75	292
30UN	South Ribble	13.95	229	11620.78	231	0.04	203	25201.23	200	8,229	238	5,335	179
39UF	South Shropshire	15.46	206	14105.26	185	0.02	241	20997.97	271	3,508	339	1,679	339
40UD	South Somerset	13.68	230	11971.80	226	0.03	222	23794.92	228	12,051	163	5,368.75	175
41UF	South Staffordshire	11.65	265	9914.88	266	0.01	262	22111.26	249	8,578	228	4,397.25	208



LA Code	LA Name	Average score	Rank of average score	Average rank	Rank of average rank	Extent	Rank of extent	Local concentration	Rank of local concentration	Income scale	Rank of income scale	Employment scale	Rank of employment scale
00CL	South Tyneside	33.06	27	23352.73	28	0.49	20	31105.81	58	34,473	56	17,181.5	48
00MS	Southampton	23.72	96	19097.19	95	0.20	96	29510.26	107	32,220	62	12,300	69
00KF	Southend-on-Sea	21.66	114	17014.74	130	0.18	111	29771.97	97	25,341	79	9,792.5	89
00BE	Southwark	35.38	17	25461.95	12	0.55	13	30253.22	83	59,965	18	21,949	25
43JH	Spelthorne	10.44	284	8676.92	285	0.00	298	19978.65	291	6,491	282	2,647.25	301
26UG	St Albans	7.71	333	5799.22	331	0.00	298	19164.66	304	7,825	248	3,366.25	259
42UF	St. Edmundsbury	11.53	267	9868.26	269	0.00	293	21012.77	270	7,248	265	3,350.25	261
00BZ	St. Helens	31.95	36	22592.35	41	0.39	37	31742.51	27	31,818	64	18,798	40
41UG	Stafford	12.88	244	10778.63	251	0.03	211	24805.03	209	9,511	212	5,695	169
41UH	Staffordshire Moorlands	16.53	182	14368.49	178	0.05	179	26011.28	179	7,728	252	5,707.5	168
26JH	Stevenage	15.61	203	14105.68	184	0.02	239	22615.14	241	9,598	210	3,332.5	262
00BS	Stockport	18.06	159	14073.65	187	0.12	140	29705.78	99	31,638	65	15,231	58
00EF	Stockton-on-Tees	26.30	75	18289.64	107	0.31	65	31875.71	17	32,448	61	15,835	55
00GL	Stoke-on-Trent	35.29	18	24216.01	20	0.49	19	31684.54	33	47,411	34	24,670.5	17
44UE	Stratford-on-Avon	8.80	315	7057.22	311	0.00	298	15569.47	333	7,001	272	3,151.75	272
23UF	Stroud	10.23	289	8533.42	287	0.00	298	19164.44	305	8,269	235	3,979	226
42UG	Suffolk Coastal	11.52	268	9826.01	270	0.01	267	20979.87	272	8,664	226	3,907.25	232
00CM	Sunderland	34.24	22	23799.60	22	0.47	23	31647.92	37	58,599	20	31,520	7
43UJ	Surrey Heath	4.93	353	3051.81	353	0.00	298	14269.74	345	3,409	341	1,326.5	349
00BF	Sutton	13.28	236	10978.58	246	0.04	202	25152.64	202	17,040	113	6,566.5	144
29UM	Swale	20.85	130	16928.93	131	0.16	118	29482.55	108	16,529	119	6,755.25	138
00HX	Swindon	17.18	171	13476.24	202	0.13	132	29307.88	112	17,487	108	7,515.5	122
00BT	Tameside	29.81	49	22190.49	49	0.35	53	31217.55	53	35,407	54	17,789.5	45
41UK	Tamworth	19.65	145	16301.66	138	0.13	138	28211.63	145	9,667	208	4,280	211

43UK	Tandridge	8.33	323	6555.10	320	0.00	298	14435.97	343	4,436	320	1927	331
40UE	Taunton Deane	16.28	188	14099.01	186	0.05	191	25749.82	186	10,015	199	4666.75	197
20UH	Teesdale	16.42	185	14657.05	171	0.03	216	24621.48	211	2,510	351	1421.5	347
18UH	Teignbridge	17.03	177	15027.35	163	0.04	198	25280.11	199	12,333	157	5660.25	170
00GF	Telford and Wrekin	21.81	112	17140.79	127	0.19	102	29528.06	104	24,240	84	9845.75	88
22UN	Tendring	23.13	103	18955.24	98	0.14	127	29346.39	111	18,771	103	8381	109
24UN	Test Valley	8.71	317	6808.41	317	0.00	298	19299.13	300	6,225	287	2756	294
23UG	Tewkesbury	10.10	296	8159.86	297	0.01	265	21748.55	257	5,698	301	2427.25	310
29UN	Thanet	25.60	85	19673.28	83	0.24	84	30902.16	63	23,449	88	9405.75	90
26UJ	Three Rivers	9.42	308	7376.53	308	0.01	247	21291.81	265	5,779	300	2249.25	314
00KG	Thurrock	21.22	122	17385.85	122	0.14	130	29239.04	113	18,145	104	7151.5	127
29JP	Tonbridge and Malling	9.55	304	7654.10	303	0.00	284	20088.47	290	7,914	246	3198.25	267
00HH	Torbay	23.74	94	19510.85	89	0.17	113	29139.02	119	21,096	95	9251.75	94
18UK	Torridge	21.40	119	18991.96	97	0.05	184	25845.55	183	7,015	271	3520.25	250
00BG	Tower Hamlets	45.88	4	28405.21	2	0.80	2	31845.44	22	69,368	8	19944.25	34
00BU	Trafford	20.15	136	15725.89	149	0.16	120	29818.60	94	24,975	81	12650.75	67
29UQ	Tunbridge Wells	10.50	283	8755.57	284	0.00	289	20228.03	284	8,337	233	3188.75	268
35UF	Tynedale	15.45	207	13769.11	197	0.02	227	23956.71	224	4,554	317	3049.5	279
22UQ	Uttlesford	6.66	341	4609.83	342	0.00	298	11437.85	352	3,275	344	1448.25	346
38UE	Vale of White Horse	6.90	339	4863.30	339	0.00	287	14461.18	342	6,022	292	2481.25	307
13UH	Vale Royal	17.06	176	13657.19	199	0.10	154	28569.06	136	11,977	164	7012	130
00DB	Wakefield	29.08	54	21492.27	53	0.35	56	31011.04	61	49,380	29	26771.25	11
00CU	Walsall	29.38	51	21056.93	61	0.39	39	31147.17	54	48,996	32	19643	36
00BH	Waltham Forest	30.24	47	23502.08	25	0.33	59	29871.22	91	45,905	37	15438.25	57
00BJ	Wandsworth	20.89	128	17957.82	114	0.10	155	27143.82	166	38,058	51	14612	60
35UG	Wansbeck	30.54	45	22237.77	47	0.38	42	31305.13	50	10,470	188	6527	145

LA Code	LA Name	Average score	Rank of average score	Average rank	Rank of average rank	Extent	Rank of extent	Local concentration	Rank of local concentration	Income scale	Rank of income scale	Employment scale	Rank of employment scale
00EU	Warrington	19.39	147	14684.80	170	0.17	114	30332.96	78	21,168	94	12,240	70
44UF	Warwick	12.56	250	10620.21	253	0.01	245	23110.77	237	9,949	201	4,726.75	192
26UK	Watford	14.46	223	12606.12	214	0.01	269	22985.77	238	7,624	255	3,006	280
42UH	Waveney	21.76	113	17584.36	118	0.16	122	29842.31	92	16,678	118	7,297.75	124
43JL	Waverley	6.20	350	4206.43	349	0.00	298	14099.07	346	6,010	293	2,530.25	304
21UH	Wealden	9.43	307	7544.73	306	0.01	259	18984.42	308	8,938	221	3,800.5	237
20UJ	Wear Valley	32.57	32	23560.54	24	0.37	44	31324.16	49	12,274	158	6,467.75	146
34UH	Wellingborough	17.51	168	13972.00	189	0.11	150	28306.63	142	8,575	229	3,522.75	249
26JL	Welwyn Hatfield	12.60	249	10863.19	248	0.01	251	22412.98	244	8,074	241	3,288.75	264
00MB	West Berkshire	7.92	329	6058.33	329	0.00	298	15246.62	335	7,917	245	3,171.5	270
18JL	West Devon	16.31	187	14955.68	164	0.00	298	20856.90	274	4,318	323	1,996.75	326
19UH	West Dorset	13.33	235	12079.25	225	0.00	275	20476.42	279	7,069	269	3,371.75	258
30UP	West Lancashire	21.07	127	16220.78	140	0.18	108	30668.29	70	15,584	127	8,054	113
32UH	West Lindsey	17.71	164	14821.73	166	0.09	159	27961.09	151	8,760	223	4,468.25	205
38UF	West Oxfordshire	6.31	347	4206.02	350	0.00	298	12025.88	350	4,739	314	1,956.25	328
40UF	West Somerset	22.05	110	19790.23	79	0.03	212	24342.86	216	3,990	331	1,816.5	332
46UF	West Wiltshire	11.96	261	10063.98	260	0.02	232	23160.17	236	9,398	213	4,174.5	221
00BK	Westminster	31.68	39	23133.81	33	0.34	57	31867.84	19	32,884	60	13,369.5	64
19UJ	Weymouth and Portland	21.15	125	17546.74	119	0.15	126	28403.47	139	7,698	253	3,944	230
00BW	Wigan	29.26	53	21432.10	54	0.35	52	31378.50	48	45,039	40	29,361.25	9
24UP	Winchester	6.99	338	5033.23	337	0.00	298	16084.36	327	5,299	308	2,443.75	309
00ME	Windsor and Maidenhead	8.22	326	6313.93	324	0.00	298	18477.09	312	7,742	251	3,113	275
00CB	Wirral	30.06	48	20129.12	75	0.36	49	32181.53	8	62,231	13	30,922	8
43UM	Woking	7.29	335	5288.27	335	0.00	286	17925.81	319	5,557	305	2,048.75	321.5

00MF	Wokingham	5.09	352	3070.91	352	0.00	298	14355.24	344	5,544	307	2669.75	298
00CW	Wolverhampton	32.19	35	22641.36	40	0.45	26	31424.18	45	52,384	24	20996.5	29
47UE	Worcester	17.68	165	13959.42	190	0.13	133	28661.38	133	9,982	200	4455.5	207
45UH	Worthing	15.74	198	13388.08	204	0.05	181	25957.48	181	9,908	204	4247.75	214
47UF	Wychavon	11.31	272	9585.39	273	0.01	270	20839.95	275	8,379	231	3958.25	228
11UF	Wycombe	9.71	299	7749.84	301	0.01	266	21856.09	253	12,707	152	4272.25	212
30UQ	Wyre	17.77	161	14267.87	179	0.13	134	29157.75	117	11,800	170	6315.5	151
47UG	Wyre Forest	17.77	162	14641.36	173	0.09	158	27518.13	161	11,013	180	5109.75	185
00FF	York	14.51	219	11652.29	230	0.08	170	27403.93	162	16,440	120	8182.25	111

# ANNEX M

## Change in income deprivation between 1998 and 2001

The project that is being undertaken by SDRC focuses on income-deprived people who were claiming benefits in 1995, 1998 and 2001, and is based on both cross sectional and longitudinal analyses. The analysis carried out on the data provided by the Department for Work and Pensions (DWP)<sup>17</sup> and the Office for National Statistics (ONS)<sup>18</sup> has been conducted at ward<sup>19</sup> and local authority district (LAD) level and includes summaries at national level. Drawing from the cross-sectional analysis component of this research, it is possible to explore the extent to which real change took place between the construction of the current and previous Income Domains. The Income Domain in the ID 2000 used 1998 benefits data and the ID 2004 used 2001 benefits data.

The study takes into account the following claimant groups:

1. Individuals aged 60 and over in receipt of *Income Support*
2. Disabled and Others in receipt of *Income Support*
3. Lone Parents in receipt of *Income Support*
4. Unemployed in receipt of *Job Seekers' Allowance*

Focusing on these groups will allow for a detailed evaluation of how changes over time for different components of the Income Deprivation Domain contribute to the overall 'real' change that took place over this time period.

*Income Support* is currently paid to people who are unable to work and who have an income less than the 'applicable amount', and who have savings under £8,000 (for example, Lone parents, Disabled, Pregnant and incapable of work, People caring for someone claiming Disability Living Allowance, Registered blind, 16/17 year olds in full time 'relevant education' who are unable to live at home). *Job Seekers' Allowance* replaced Unemployment Benefit and Income Support for unemployed people on October 1996. Since 1996 Job Seekers' Allowance has been paid to people out of work, capable of working, available for work and actively seeking work. There are two types of Job Seekers' Allowance. *Contributory JSA* is a contributory

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  - Income Support (IS) claimants data set for 1995 (which includes information about individuals 60 and over, Disabled, Lone Parent as well as Unemployed claimants).
  - Income Support (IS) claimants data set for 1998 (which includes information about individuals 60 and over, Disabled, Lone Parent claimants) + Job Seekers' Allowance (JSA – Income Based) claimants data set for 1998.
  - Income Support (IS) claimants data set for 2001 (which includes information about individuals 60 and over, Disabled and Lone Parent claimants) + Job Seekers' Allowance (JSA – Income Based) claimants data set for 2001.
- 18 ONS Census 2001 and ONS Mid-Year Estimates for 1995, 1998 and 2001 (post Census amendments version).
- 19 Wards are based on 2003 boundaries revised by the Boundary Committee for England (BCFE).

benefit (the benefit is paid only if the claimant has paid a certain number of National Insurance contributions at the right time, approximately two years before you can claim) and it is paid for a maximum of 6 months. The claimant must be available for work and show proof of actively seeking full time employment. *Means tested (Income Based) JSA* is payable to people who have an income less than the 'applicable amount' and who have savings under £8,000. Means Tested Jobseekers' Allowance is the equivalent of Income Support for people who have to sign-on as available for work but do not meet the qualifying conditions for Contributory Jobseekers Allowance. Thus the analysis cited in this section is based on IS and JSA-IB claimants in 1998 and 2001.

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# Glossary

The following abbreviations have been used in this report:

AA	Attendance Allowance
BRE	Building Research Establishment
CB	Child Benefit
CDRP	Crime and Disorder Reduction Partnership
CIDR	Comparative Illness and Disability Ratio
DfES	Department for Education and Skills
DfT	Department for Transport
DLA	Disability Living Allowance
DPTC	Disabled Person's Tax Credit
DWA	Disability Working Allowance
DWP	Department for Work and Pensions
EHCS	English House Condition Survey
FC	Family Credit
GCSE	General Certificate of Secondary Education
GIS	Geographical Information Systems
GNVQ	General National Vocational Qualification
GP	General Practitioner
HES	Hospital Episode Statistics
IB	Incapacity Benefit
ID 2000	Indices of Deprivation 2000
ID 2004	Indices of Deprivation 2004
IDAC	Income Deprivation Affecting Children Index (to replace the ID 2000's Child Poverty Index)
IDAOP	Income Deprivation Affecting Older People Index
IMD 2000	Index of Multiple Deprivation 2000
IMD 2004	Index of Multiple Deprivation 2004
IS	Income Support
JSA-IB	Income Based Job Seeker's Allowance
JSA	Job Seeker's Allowance
JUVOS	Computerised individual level unemployment data held by ONS
LAD	Local Authority District
MIG	Minimum Income Guarantee

MYE	Mid-Year Estimate
NAEI	National Atmospheric Emissions Inventory
NDLP	New Deal for Lone Parents
NDYP	New Deal for Young People
NASS	National Asylum Support Service
NPD	National Pupil Database
OA	Output Area
ODPM	Office of the Deputy Prime Minister
OLS	Ordinary Least Squares
ONS	Office for National Statistics
PCT	Primary Care Trust
PLASC	Pupil Level Annual School Census
SDA	Severe Disablement Allowance
SDRC	Social Disadvantage Research Centre, University of Oxford
SOA	Super Output Area
UCAS	University and Colleges Admissions Service
WFTC	Working Families Tax Credit
YPLL	Years of Potential Life Lost

The Indices of Deprivation 2004 provide a powerful tool for the identification and analysis of deprived areas across England. The Indices combine 37 separate indications of deprivation, into a ward level Index of Multiple Deprivation.

This report includes detailed information about the methodology, and analysis and interpretation of the patterns of deprivation found across England, including full colour maps showing the geographic distribution of deprivation.

The ward and district scores and ranks are available from the ODPM website: [www.odpm.gov.uk/indices](http://www.odpm.gov.uk/indices)

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