Monograph:
Vickers, D., Rees, P. and Birkin, M. (2003) A New Classification Of UK Local Authorities Using 2001 Census Key Statistics. Working Paper. School of Geography , University of Leeds.

School of Geography Working Paper 03/03

WORKING PAPER

03/03

A NEW CLASSIFICATION OF UK LOCAL AUTHORITIES

USING 2001 CENSUS KEY STATISTICS

Daniel Vickers, Phil Rees, Mark Birkin

School of Geography

University of Leeds

Leeds LS2 9JT

United Kingdom

E-mail:

d.vickers@geog.leeds.ac.uk

p.rees@geog.leeds.ac.uk

m.birkin@geog.leeds.ac.uk

October 2003

ABSTRACT

The 2001 Census has been successfully administered and the Census Organisations are currently engaged in processing the returns. A very large and rich dataset will be produced for the 58,789,194 people of the UK. The Census Area Statistics, for example, delivers 190 tables containing about 6 thousand unique counts relating to the characteristics of the UK population, for output areas and all higher geographies. This paper represents the first results of a project that aims to develop, in collaboration with the Office for National Statistics, a set of general purpose classifications at different geographic scales, including households, neighbourhoods, wards, local authorities and to link the classifications at different levels together. The paper reports on the methods used and results of a classification of the UK's 434 Local Authorities, using the Key Statistics released in February 2003. This initial classification and description of methods will feed into the ONS/GROS/NISRA project to classify Local Authorities for the whole UK.

Further data or digital versions of the classification system are available on request from Daniel Vickers.

ACKNOWLEDGEMENTS

The authors wish to thank firstly the ESRC and the ONS who provided funding for this project in the form of a CASE PhD studentship for Daniel Vickers. Many thanks must go to, Richard Webber, Tony Champion, John Stillwell, Graham Clarke, Danny Dorling, John Charlton, Alison Whitworth and Samantha Poole who have shown help and support and given useful and valuable comment.

CONTENTS

LIST OF FIGURES

LIST OF TABLES

1 Introduction

This paper classifies the 434 local authority units that cover the UK into an organised typology. The UK consists of 434 Local Authorities (LAs); these are a mixture of Metropolitan Districts, Unitary Authorities, Non-Metropolitan Districts and London Boroughs in England. Unitary Authorities in Wales, Council Areas in Scotland and District Council Areas in Northern Ireland. These are the units at which local government operates. They can vary greatly in size of population and area as shown in table 1. The average size is just over 135,000 people and 56,000 hectares.

Table 1 the variation in size of the UK's LAs in terms of population and area

Rank	LA Name	Population	Rank	LA Name	Area (hectares)
1	Birmingham	977,087	1	Highland	2,565,934
2	Leeds	715,402	2	Argyll & Bute	690,899
3	Glasgow City	577,869	3	Dumfries & Galloway	642,601
4	Sheffield	513,234	4	Aberdeenshire	631,259
5	Bradford	467,665	5	Perth & Kinross	528,581
430	Shetland Islands	21,988	430	Hammersmith & Fulham	1,640
431	Orkney Islands	19,245	431	Isles of Scilly	1,637
432	Moyle	15,933	432	Islington	1,486
433	City of London	7,185	433	Kensington and Chelsea	1,213
434	Isles of Scilly	2,153	434	City of London	290

Classifications provide a unique way of bringing together areal patterns from a range of variables, and identify areal similarities and dissimilarities between a range of different variables (Webber & Craig 1976). The idea of sorting things into categories based on similarities is not a new one. The basic premise of classification is a primitive one. The nouns of the English language are little more than labels to describe classes of objects into which objects can be place. When applied to the animal world objects can be divided into classes such as pigs, cows, and sheep (Everitt 1993).

In its widest sense, a scheme of classification represents a convenient technique for the organisation of a large dataset to enhance the efficiency of information recovery. Class labels describing arrangements of differences and similarities between objects of investigation provides a convenient summary of the data (Everitt 1993). Put simply classification is the process by which objects are placed into sets called classes on the basis of their properties.

A classification is a powerful and effective way of condensing a large volume of information, and summarising it into a single or small number of descriptive variables. Classifications are especially useful when used on socio-economic data such as that generated from the census. The census contains large amounts of specific information that in turn can be used as a basis by which further variables can be derived. It enables the variables that represent the characteristics of the population within an area to be grouped together using a variety of statistical techniques. This creates a single value for each area, which is descriptive of both the area and the people who live there. The classification can be used as a quick and easy assessment of the properties of an area and it can also be used to compare and contrast that area with other areas. Classifications enable similar areas, which are geographically spread to be grouped and by similar reasoning a classification enables areas that are geographically close or connected to be contrasted. Members of the groups share similarities based on the characteristics of their residents rather than their geography, the members of the groups do not have to contiguous.

This paper will start by reviewing the general procedures used in classification, then move on to review previous classifications of local authority areas. The aims of the paper will then be set out before presenting the outputs from the classification.

2 Review of the general procedures used in classification

The goal of classification is to arrange N units into M clusters such that the inter-M variation in attributes is maximise and the intra-M variation in attributes is minimised. However there are several problems to be solved in developing a classification.

2.1 What attributes?

The way in which the clusters are formed will reflect the variable attributes from which they are built, the attributes that are selected for the clustering process will drive the classification and determine whether two objects are put into the same, or a different group. There is no standard method for the selection of variables and it is far from an exact science. Variables

can be selected based on the factors that are thought to be important and variables are then simply chosen which, are thought to best represent those factors, in some cases little or no statistical testing is done on the variable choices. An opposing method would be to use a series of statistical methods to aid variable choice.

2.2 How many clusters?

The number of cluster selected can significantly alter the result that the classification produces, by having 11 clusters instead of 10 can completely alter the way in which the objects are separated. There are no rules as to what is the optimum or best number of cluster within a classification, each classification needs to be taken on its own merit and previous decisions such as variable choice and method of clustering will determine the most suitable number of clusters to be used. There is no standard method for choosing the most suitable number of clusters but a method that is being increasingly used is by measuring the increase in distance between the most dissimilar objects within merged clusters as the number of clusters reduces. The clusters to select are those before a large rise in the distance between the objects in the same cluster.

Before any further variable selection can be made the variables need to be standardised over the same range, this ensures that each variable has the same weighting on the classification. This is important when there is different type of data e.g. population density will give number of people per an area, however Detached housing is a percentage of all households. If these variables were clustered without being standardised it would add bias to the dataset. The method chosen for standardising the variables was to transform them into z-scores. The method for calculating z-scores is shown in equations 1 & 2, firstly the standard deviation is calculated. The z-score is then calculated by taking the mean value of the variable away from the value for that variable for each local authority in turn and then dividing them by the standard deviation of the variable across all local authorities. This should be repeated for all variables to standardise them over the same range.

The Standard deviation is defined as:

$$\sigma x = \frac{\sqrt{(x_i - \bar{x})^2}}{n} \qquad (1)$$

The Standard normal variate or z-score is defined as:

$$Z_i = \frac{x_i - \bar{x}}{\sigma x} \qquad (2)$$

There are other methods for variable standardisation, for example in the 1999 classification of Local Authorities the ONS used a range method defined as:

$$Z_i = 100 \frac{x_i}{x_{\max} - x_{\min}} \qquad (3)$$

where $x_{\max}$ is the maximum value of x and $x_{\min}$ the minimum value of x

For their 2003 Local Authority classification they have decided to change there method slightly using a $90^{th}/10^{th}$ percentile method of standardisation, defined as:

$$Z_i = 100 \frac{x_i}{x_{90} - x_{10}} \qquad (4)$$

where x_{90} is the 90^{th} percentile value of x and x_{10} is the 10^{th} percentile value of x, when the values of x are arranged from lowest to the highest and the cumulative percentage of cases (LAs).

The standard normal z-score was chosen above other methods as it reduces the effect of extreme values on the data. This is of great importance, as Table 1 shows there is great

variation within the areas to be classified. By reducing the effect of extreme values on the classification, the number of very small clusters will be limited, therefore creating a more usable and valuable classification system.

2.3 Which method of clustering?

The purpose of clustering is to find the best arrangement of N areas into M clusters for any number M. There are several methods of clustering, the most common and most widely used is k-means which produces a single predefined solution. In contrast to k-means, hierarchical clustering procedures produce a series of solutions from which one or more of the most suitable solutions can be selected.

2.3.1 The procedure used in k-means classifications

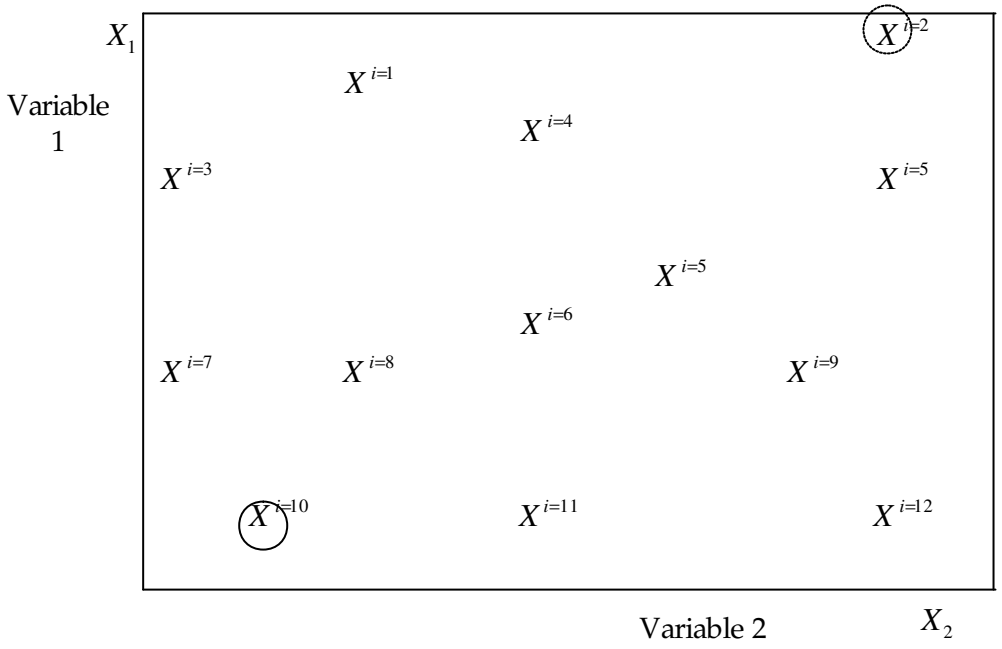
The K-means partitions n data points with m variables into k clusters. This results in a matrix of cluster centres $J(k,m)$ which minimises the Euclidean sum of squares given by the equation:

$$J(k,m) = \sum_{i=1}^{n} \sum_{l=1}^{m} (Z_{ij} - Z_{cj})^2 \qquad (5)$$

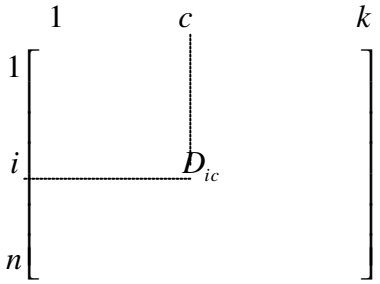
Where Z_{cj} = Value for cluster $_c$ and variable $_j$

Z_{ij} = Value for object $_i$ and variable $_j$

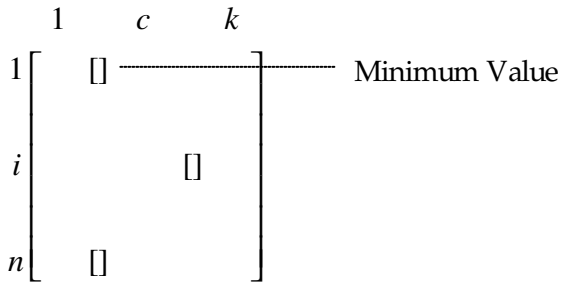
Step 1: Select cluster centres, set up $J(k,m)$ with 2 values



Step 2: Compute distances from objects to clusters



Assign to the cluster with the minimum distance



Step 3: Compute new average values for cluster centres

$$Z_{cj} = \sum_{i \in c} Z_{ij} / M_c \qquad (6)$$

The previous steps are repeated until a stopping criterion is met, i.e., when there is no further change in the assignment of the data points

2.3.2 The advantages of arranging a classification hierarchically

There are two main advantages of using a hierarchical method of clustering

1. Do not have to predefine the number of clusters
2. More than one level of classification can be produce which fits into the one above

At the start of the process each object is in a class by itself. Then in small steps the criterion by which the objects are clustered is relaxed to produces few but larger clusters on the next step up the hierarchy, this process continues until all the objects being clustered fall within a single cluster and therefore completing the hierarchy. The process of linking more and more objects together means that they are amalgamated into larger and larger clusters of increasing dissimilarity (Ward 1963).

The process of hierarchical clustering is a agglomerative or (bottom-up) approach beginning with *n* groups each containing 1 object then after merging them together ending with 1 group containing *n* objects. The process of getting from *n* to 1 groups can be summarised as below:

Step 1: Place each object O into its own cluster C, creating the cluster file f therefore:

$$f = C_1, C_2, C_3, \ldots\ldots\ldots\ldots C_{n-2}, C_{n-1}, C_n$$

Step 2: Compute a measure of similarity between every pair of clusters in the cluster file f to find the closest cluster to each cluster $\{C_i, C_j\}$

Step 3: Remove C_i and C_j from f

Step 4: Merge C_i and C_j to create a new cluster C_{ij} which will be the parent of C_i and C_j in the hierarchical cluster tree.

Step 5: Return to step 2 and repeat until there is only one cluster left.

Methods of hierarchical clustering have been incorporated into the statistical packages for the social sciences (SPSS) and are frequently used to cluster census type information.

3 Review of previous classifications of local authorities

In *British Towns: A statistical study of their social and economic differences* Moser and Scott (1961) conducted one of the first comparative studies of the socio-economic variations across Great Britain. They grouped 157 British towns and cities into 14 groups, themselves arranged in three types with London county council left outside any group being unlike other cities in Britain. This marked an important juncture in the development of geodemographics as classifications moved from small study areas into comprehensive national systems. They used factor analysis to measure *common segments in an 'area of overlap'*. The analysis produced 4 factors: Social class, Population change 1931–51, Population change 1951–8, and Overcrowding. This enabled the authors to make a judgement as to which towns shared similarities, based on just 4 components rather than their original 57 variables. By graphing

the correlation values for each town against each other for each of the four components they were able to make an estimation as to which towns should be grouped together (Moser & Scott 1961). However their study received little practical application.

The real take off of area classifications came at the Centre for Environmental Studies, where Webber and colleagues developed a classification of residential neighbourhoods, which was based on the 1971 Census Small Area Statistics. This was adopted by the Office of Population Censuses and Surveys (OPCS) as their lower level area classification and developed further by CACI (an American market analysis firm). From these 1970s origins the Geodemographics 'industry' was born which saw a proliferation of classifications based on the census and non-census variables.

The OPCS Socio-Economic Classification of Local Authorities in Great Britain as described in (Webber & Craig 1978;Webber & Craig 1976) was the first to use census data (1971 census) to create a hierarchical classification of Britain at the local authority level. They created a two level hierarchy of 6 families and 30 clusters, firstly using the k-means method to create the 30 clusters, then using a hierarchical method of clustering to fit those 30 clusters into a higher level of 6 families. The OPCS developed the use of area classifications further with classifications at the local authority level based on both the 1981 and 1991 censuses.

A classification was made for the Office for National Statistics (ONS) the replacement of the OPCS for the local authorities of Great Britain based on 1991 census data (first done in 1996 then revised in 1999). They split Britain's 407 local authorities into a three tier hierarchy of 27, 15 & 7 clusters each was given a descriptive name such as 'Urban Fringe' or 'Growth Areas'. The classification was accompanied by a host of statistics and maps to form a

comprehensive picture of the social make-up of Britain at the local authority scale (Bailey et al. 1999).

4 The Aims of this paper

The aims of this paper are to create a general purpose classification of UK local authorities, which will have several key factors which set it apart from its predecessors.

1. Coverage – The classification will cover the whole of the UK's 434 local authorities for the first time (previous classifications have only covered GB).

2. New Data - The paper will make use of the most up to date information about the UK's population, the 2001 census data that was published in February this year.

3. Linked Hierarchy of classifications – The classification will be produced within three different and liked classifications that will enable comparison and analysis at three different levels

5 The Process of Classification

5.1 Variable Selection

The variables that are used in a classification are vitally important because the results that the classification produces will be determined by the variables which were included and excluded from the input (Blake & Openshaw 1995). For the classification to be to be comprehensive it needs to include variables all domains within the census (Demographic, Ethnicity, Household Composition, Housing, Socio-Economic, Employment and Health). What needs to be decided upon is how many variables each domain should include, and what those variables should be.

Therefore a representative set of census based variable indicators needs to be created. The importance of each domain should be a general reflection of the original census questionnaire rather than that of the cross-tabulated counts

A comprehensive list of list of 129 variables was selected (see table 2), by reviewing variables used in previous classification systems and adding variables which had been introduced in the 2001 census for the first time.

Table 2 The 129 variables considered for use in the LA Classification

	Variable	*Domain*
1	Population Density	Demographic
2	Male	Demographic
3	Female	Demographic
4	Communal Establishments	Demographic
5	People aged: 0 – 4	Demographic
6	People aged: 5 – 7	Demographic
7	People aged: 8 – 9	Demographic
8	People aged: 10 – 14	Demographic
9	People aged: 15	Demographic
10	People aged: 16 – 17	Demographic
11	People aged: 18 – 19	Demographic
12	People aged: 20 – 24	Demographic
13	People aged: 25 – 29	Demographic
14	People aged: 30 – 44	Demographic
15	People aged: 45 – 59	Demographic
16	People aged: 60 – 64	Demographic
17	People aged: 65 – 74	Demographic
18	People aged: 75 – 84	Demographic
19	People aged: 85 – 89	Demographic
20	People aged: 90 & over	Demographic
21	Married (Living in Couple)	Demographic
22	Cohabiting	Demographic
23	Single (Never Married)	Demographic
24	Married (Not living in Couple)	Demographic
25	Separated	Demographic
26	Divorced	Demographic
27	Widowed	Demographic
28	Born in: England	Ethnicity & Religion
29	Born in: Scotland	Ethnicity & Religion
30	Born in: Wales	Ethnicity & Religion
31	Born in: Northern Ireland	Ethnicity & Religion
32	Born in: Republic of Ireland	Ethnicity & Religion
33	Born in: Other EU Countries	Ethnicity & Religion
34	Born Rest of the World (Outside EU)	Ethnicity & Religion
35	Black minority ethnic groups	Ethnicity & Religion
36	Indian, Pakistani or Bangladeshi	Ethnicity & Religion
37	Chinese	Ethnicity & Religion

38	White	Ethnicity & Religion
39	Christian	Ethnicity & Religion
40	Other Religion	Ethnicity & Religion
41	Not Stated or No Religion	Ethnicity & Religion
42	Limiting long-term illness	Health
43	Residents whose health is good	Health
44	Residents whose health is fairly good	Health
45	Residents whose health is not good	Health
46	Residents who provide unpaid care	Health
47	Unemployment	Employment
48	Self-employed	Employment
49	Economically active residents 16+	Employment
50	Male Unemployment	Employment
51	Working Women ft	Employment
52	Women who work part-time	Employment
53	Agriculture; hunting; forestry and fishing employment	Employment
54	Mining, quarrying and construction employment	Employment
55	Manufacturing employment	Employment
56	Electricity; gas and water supply employment	Employment
57	Wholesale & retail trade; repair of motor vehicles employment	Employment
58	Hotels and catering employment	Employment
59	Transport, storage and communication employment	Employment
60	Financial intermediation employment	Employment
61	Real estate; renting and business activities employment	Employment
62	Public administration and defence employment	Employment
63	Education employment	Employment
64	Health and social work employment	Employment
65	Managers and senior officials employment	Employment
66	Professional occupations employment	Employment
67	Associate professional and technical occupations employment	Employment
68	Administrative and secretarial occupations employment	Employment
69	Skilled trades occupations employment	Employment
70	Personal service occupations employment	Employment
71	Sales and customer service occupations employment	Employment
72	Process; plant and machine operatives employment	Employment
73	Elementary occupations employment	Employment
74	No qualifications	Employment
75	Highest qualification attained level 1	Employment
76	Highest qualification attained level 2	Employment
77	Highest qualification attained level 3	Employment
78	Highest qualification attained level 4/5	Employment
79	Full time Students	Employment
80	Large employers and higher managerial occupations employment	Employment
81	Higher professional occupations employment	Employment
82	Lower managerial and professional occupations employment	Employment
83	Intermediate occupations employment	Employment
84	Small employers and own account workers employment	Employment
85	Lower supervisory and technical occupations employment	Employment
86	Semi-routine occupations employment	Employment
87	Routine occupations employment	Employment
88	Never worked	Employment
89	Long-term unemployed	Employment
90	Train to work	Socio-Economic

91	Bus, Mini Bus or Coach to work	Socio-Economic
92	Car to work	Socio-Economic
93	Motorcycle, Scooter or Moped to work	Socio-Economic
94	Walk to work	Socio-Economic
95	Bike to work	Socio-Economic
96	Work mainly from home	Socio-Economic
97	Purpose-built flats	Housing
98	Terraced houses	Housing
99	Detached housing	Housing
100	Semi-detached Housing	Housing
101	Bedsits	Housing
102	Households With no residents: Vacant	Housing
103	Households With no residents: Second residence / holiday home	Housing
104	Caravan or other mobile or temporary structure	Housing
105	Households with 3+ cars	Socio-Economic
106	Households with 2 cars	Socio-Economic
107	Households with 1 car	Socio-Economic
108	No car households	Socio-Economic
109	Average number of cars per household	Socio-Economic
110	LA Rented	Housing
111	Owner occupiers	Housing
112	Private Rented	Housing
113	Mortgaged	Housing
114	Household size	Housing
115	Rooms per household	Housing
116	No central heating	Housing
117	Lacking bath, shower and toilet	Housing
118	Households: with an occupancy rating of -1 or less (Overcrowding)	Household Composition
119	One-person no-pensioner households	Household Composition
120	Single pensioner households	Household Composition
121	Wholly student households	Household Composition
122	2 adults no children	Household Composition
123	Only Pensioner households	Household Composition
124	Households with dependent children	Household Composition
125	Lone Parent Families	Household Composition
126	Households: With one or more person with a limiting long-term illness	Household Composition
127	Households: No adults in employment :with dependent children	Household Composition
128	Male lone parents	Household Composition
129	Population change 1991 – 2001	Demographic

N.B. Migration data could not be used, as it has not yet been published for Northern Ireland at the time when the classification was created.

These 129 variables needed to be assessed in terms of how much information they contain about the areas and the inter correlations within the data, this will enable the reduction of the list of variables whilst keeping as much information as possible.

Classification and Principal Components Analysis (PCA) are aspects of "social area analysis" which are two sides of the same coin. The attention each has received has fluctuated over the decades of the 20th Century. PCA can be used to establish which variables have the strongest

influence over the data; a correlation matrix can then be used to locate and remove high levels of correlation within the data. Alternatively many commercial firms prefer to use a strict PCA and cluster the components which are produced. Those components which represent the first 90% of the variance within the data are selected to be used in the cluster analysis. Each method is likely to produce slight variations in the final list of variables used in the cluster analysis.

It was decided that the most suitable method of variable selection for this project was to use the original variables rather than using PCA to produce surrogate variables. The interpretation of the results is easier when the original variables are used rather than composite components. However, PCA can play an important part in the selection of which variables to keep and which to throw away. PCA was run using the SPSS statistical package on the 129 variables producing both a 'component loadings matrix' and a 'correlation matrix'. The component matrix was studied first; this is a matrix showing how much of the variance of a variable was accounted for by each principal component. Variables which had a large amount of their variance covered by the early principal components will be those variables that are likely to have the most significance within the data and drive the classification. The component loadings of first five principal components for the variables that have the greatest amount of their variance associated with component one is shown in Table 3. The component loading is the correlation between a variable and a component. Variables that have a large amount of their variances covered by the first few principal components shows that a variable has a strong influence within a dataset.

Table 3 First 20 Rows and first 5 columns of the component loadings matrix

Variable Number	*Variable Name*	*Component Loadings*				
		I	*II*	*III*	*IV*	*V*
13	People aged: 25 - 29	0.89	0.10	-0.15	0.04	0.15
118	Households: with an occupancy rating of -1 or less	0.88	0.21	0.08	0.15	-0.18
37	Chinese	0.88	-0.13	0.10	0.03	0.09
119	One-person no-pensioner households	0.87	0.19	0.22	0.01	-0.01
34	Born Rest of the World (Outside EU)	0.86	-0.10	0.02	0.03	0.05
1	Population Density	0.86	0.14	0.12	-0.10	0.03
21	Married (Living in Couple)	-0.86	-0.40	-0.21	-0.01	-0.07
92	Car to work	-0.85	0.02	-0.35	-0.10	0.09
23	Single (Never Married)	0.84	0.36	-0.09	0.29	-0.02
24	Married (Not living in Couple)	0.82	0.03	0.13	0.12	0.02
97	purpose-built flats	0.80	0.08	0.22	-0.09	-0.30
38	White	-0.79	-0.08	0.07	0.05	-0.09
52	Women who work part-time	-0.78	-0.28	0.03	-0.34	0.15
16	People aged: 60 - 64	-0.75	-0.11	0.49	0.04	-0.19
33	Born in: Other EU Countries	0.74	-0.41	0.21	0.13	0.06
35	Black minority ethnic groups	0.74	0.08	-0.02	0.02	-0.04
61	Real estate; renting and business activities employment	0.73	-0.59	0.00	-0.11	-0.10
12	People aged: 20 - 24	0.73	0.27	0.00	0.13	0.39
15	People aged: 45 - 59	-0.73	-0.44	0.16	-0.05	-0.14

As well as establishing which variables power the dataset it is important to consider the correlations between variables. There is no sense in having two highly correlated variables as they will add little data to the classification. There are two different types of correlation between variables. Variables that are positive represent characteristics of people which are likely to be present in a person due to the type of person that they are, e.g. a student is likely to be in their late teens or early twenties therefore the full time student variable will be positively correlated with the age variable in which they fall as a large number of people who are in one group are likely to be in the other. Negative correlations occur between variables which represent characteristics that are unlikely to be present in a person for example people over 65 years of age are highly unlikely to be full time students therefore these two variables will high a high negative correlation. Negative correlations can also appear between variables within the same domain, an example of this is age groups. Age groups at opposite extremes i.e. young and old will be negatively correlated as an individual can only be of one age and therefore can only be in one of the groups. Areas with high numbers of old people are likely to have a low number of young people and this would make these two groups of people negatively correlated. This can be seen in the figure 1 the correlation matrix of age variables.

0 - 4	5 - 7	8 - 9	10 - 14	15	16 - 17	18 - 19	20 - 24	25 - 29	30 - 44	45 - 59	60 - 64	65 - 74	75 - 84	85 - 89	90+	Age
X	0.84	0.68	0.55	0.45	0.47	0.15	0.27	0.49	0.56	-0.60	-0.75	-0.77	-0.72	-0.66	-0.61	**0 - 4**
	X	0.91	0.81	0.70	0.67	0.05	-0.04	0.07	0.29	-0.31	-0.45	-0.51	-0.55	-0.57	-0.53	**5 - 7**
		X	0.90	0.79	0.74	0.05	-0.13	-0.10	0.14	-0.18	-0.29	-0.37	-0.44	-0.52	-0.48	**8 - 9**
			X	0.92	0.88	0.09	-0.20	-0.25	-0.08	-0.07	-0.13	-0.22	-0.31	-0.41	-0.39	**10 - 14**
				X	0.92	0.16	-0.15	-0.24	-0.14	-0.07	-0.09	-0.18	-0.28	-0.38	-0.37	**15**
					X	0.21	-0.09	-0.17	-0.13	-0.11	-0.14	-0.23	-0.32	-0.39	-0.37	**16 - 17**
						X	0.81	0.29	-0.08	-0.54	-0.43	-0.36	-0.30	-0.29	-0.29	**18 - 19**
							X	0.72	0.27	-0.78	-0.69	-0.58	-0.45	-0.37	-0.37	**20 - 24**
								X	0.69	-0.78	-0.80	-0.76	-0.64	-0.52	-0.49	**25 - 29**
									X	-0.42	-0.70	-0.78	-0.78	-0.68	-0.62	**30 - 44**
										X	0.79	0.61	0.47	0.41	0.39	**45 - 59**
											X	0.91	0.74	0.62	0.57	**60 - 64**
												X	0.91	0.78	0.73	**65 - 74**
													X	0.93	0.88	**75 - 84**
														X	0.97	**85 - 89**
															X	**90+**

Figure 1 Correlation matrix of age variables

In addition to the correlations between the variables another thing that needs to be considered is the variance of the variable across all local authorities. One way of doing this is to compare the standard deviation of each variable, so that the variables which show the biggest differences between the LAs are identified. The variables with the highest and lowest standard deviation can be seen in table 4, which shows how different the standard deviation can be for each variable ranging from as high as 31.54 down to 0.14.

Table 4 The variables with the highest and lowest standard deviation across all local authorities

Largest Std. Deviation			**Smallest Std. Deviation**		
Rank	*Variable*	*S.D.*	*Rank*	*Variable*	*S.D.*
1	Born in: England	31.54	129	Household size	0.14
2	Born in: Scotland	22.45	128	People aged: 15	0.16
3	Average number of cars per Hhold	22.28	127	People aged: 90 & over	0.22
4	Born in: Northern Ireland	21.63	126	People aged: 8 - 9	0.25
5	Population Density	18.74	125	People aged: 16 - 17	0.30
6	Born in: Wales	16.37	124	Chinese	0.34
7	Detached housing	13.87	123	Lacking bath, shower and toilet	0.36
8	purpose-built flats	10.84	122	People aged: 85 - 89	0.36
9	Car to work	10.80	121	People aged: 5 - 7	0.37
10	Terraced houses	9.63	120	M'cycle, Scooter or Moped to work	0.39
11	No car households	9.41	119	Elec, gas & water supply employ	0.41
12	Owner occupiers	9.01	118	Rooms per household	0.44
13	White	8.70	117	Long-term unemployed	0.49
14	Christian	8.48	116	People aged: 18 - 19	0.49
15	Semi-detached Housing	8.43	115	Caravan or temporary structure	0.51

It is much more reliable to use all of the different methods of selection as mentioned above. Using just one you can make a case for most variables e.g. Chinese that has 88% of its variance represented by Principal Component One suggesting that it could be an important variable. However it has the 6th lowest standard deviation showing that it varies very little between local authorities and is therefore unlikely to add significant value to the classification in terms of separating local authority areas into dissimilar clusters.

It is also important to consider which variable domains are covered by the variables that have been selected. The Classifications also vary greatly in the variables that are used to make the classifications. As there are so many different variables that have been used in the classifications it was essential to group the variables in some way to enable a meaningful comparison between them. The purpose of the investigation is to capture the complete spectrum of people's lives, living arrangements and problems. Therefore the classification can be seen as being based on people's *'socio-economic life course'* in which, each person experiences a sequence of several parallel *'careers'* during their lifetime. The variables used in the classifications can be split into separate domains each representing a different *'career'* within the *'socio-economic life course'*. The variables within the classification were split in seven domains or *'careers'* that represent different types of variables. The seven domains covered by the variables have been named: Demographic, Employment, Ethnicity & Religion, Household Composition, Health, Housing, and Socio-Economic. Variables from each of these domains need to be included in the final variable list to ensure that many different types of data representing different characteristics of the people who live within each local authority.

After all the criteria for reducing the variable list had been considered a final list of 56 variables was produced. So, 73 variables were either dropped from the list or merged with another variable to create a less specific variable. The variables along with the reason behind their inclusion or non inclusion are listed in Appendix A. The final list of variables used can be found in table 5. The references for the calculation of the final 56 variables from the Key Statistics National Reports can be seen in Appendix B.

In general an attempt was made to reduce the list of 129 as much as possible but with losing as little as possible of the information they contain. To do this variables that show extremes within the population have been treated as the most important variables to keep as they are the most likely to distinguish between areas.

Table 5 The final list of 56 variables to be used in the classification.

	Variable	*Domain*
1	Population Density	Demographic
2	People aged: 0 - 9	Demographic
3	People aged: 10 - 17	Demographic
4	People aged: 18 - 24	Demographic
5	People aged: 25 - 29	Demographic
6	People aged: 45 - 64	Demographic
7	People aged: 65+	Demographic
8	Married	Demographic
9	Single (Never Married)	Demographic
10	Born outside UK	Ethnicity & Religion
11	Black minority ethnic groups	Ethnicity & Religion
12	Indian, Pakistani or Bangladeshi	Ethnicity & Religion
13	Christian	Ethnicity & Religion
14	Other Religion	Ethnicity & Religion
15	Limiting long-term illness	Health
16	Residents whose health is good	Health
17	Residents who provide unpaid care	Health
18	Unemployment	Employment
19	Economically active residents 16+	Employment
20	Male Unemployment	Employment
21	Women who work Full-time	Employment
22	Women who work Part-time	Employment
23	Agriculture; hunting; forestry and fishing employment	Employment
24	Real estate; renting and business activities employment	Employment
25	Managers and senior officials employment	Employment
26	No qualifications	Employment
27	Highest qualification attained degree level or above	Employment
28	Full time Students	Employment
29	Large employers and higher managerial occupations employment	Employment
30	Higher professional occupations employment	Employment
31	Lower managerial and professional occupations employment	Employment
32	Small employers and own account workers employment	Employment
33	Routine occupations employment	Employment
34	Never worked	Employment
35	Long-term unemployed	Employment
36	Car to work	Socio-Economic
37	Walk to work	Socio-Economic
38	purpose-built flats	Housing
39	Terraced houses	Housing
40	Detached housing	Housing
41	Bedsits	Housing
42	Households With no residents: Second residence / holiday home	Socio-Economic
43	Households with 2+ cars	Socio-Economic

44	No car households	Socio-Economic
45	LA Rented	Housing
46	Private Rented	Housing
47	Household size	Household Composition
48	No central heating	Housing
49	Households: with an occupancy rating of -1 or less (overcrowding)	Household Composition
50	One-person no-pensioner households	Household Composition
51	Single pensioner households	Household Composition
52	2 adults no children	Household Composition
53	Households with dependent children	Household Composition
54	Lone Parent Families	Household Composition
55	Households: No adults in employment :with dependent children	Household Composition
56	Population change 1991 - 2001	Demographic

5.2 Clustering the Local Authorities

The method that was used for clustering the variables was Ward's Hierarchical Grouping Procedure also known as the Increased Sums of Squares Method. Developed by Joe H. Ward of the Aerospace Medical Division, Lockland Air Force Base, it was first published in the Journal of the American Statistical Association in 1963, and developed as a method *"to cluster large numbers of objects, symbols or persons into smaller numbers of mutually exclusive groups, each having members that are as much alike as possible"* (Ward 1963 pp236), the aim is to join objects together into ever increasing sizes of cluster using a measure of similarity or distance. Cluster membership is assessed by calculating the total sum of squared deviations from the mean of a cluster. The criterion for fusion is that it should produce the smallest possible increase in the error sum of squares (ESS).

The clustering procedure forms groups in a manner that minimizes the loss associated with each grouping and to quantify that loss in readily interpretable form. Information loss is defined by Ward in terms of an error sum-of-squares (ESS) criterion. ESS is defined as the following:

x_{ij} = Value for area i of variable j

k = index for clusters, $k = 1,..., K$

D_k = Set of areas belonging to cluster k

i = index of an area, $i = 1,...,N$

j = index for variables, $j = 1,...,M$

j = number of areas in the cluster

The Sum of Squared deviations from the mean for cluster k is

$$SS_k = \sum_{i \in D_k} \sum_{j=1}^{M} (x_{ij} - \bar{x}_{kj})^2 \qquad (7)$$

Where $\bar{x}_{kj}$ = mean of x_{ij} for all i in cluster k = $\sum_{i \in D_k} \frac{x_{ij}}{n_k}$

The Sums of Squared Deviation (SS) for cluster k is given as:

$$\sum_k \sum_{i \in D_k} \sum_{j=1}^{M} (x_{ij} - \bar{x}_{kj})^2 \qquad (8)$$

and the Error Sums of Squared deviations (ESS) is simply the sum across all clusters

$$ESS = \sum_k SS_k \qquad (9)$$

The process of hierarchical clustering is an agglomerative or (bottom-up) approach beginning with n groups each containing 1 object which are merged together ending with 1 group containing n objects. The process of getting from n to 1 groups can be summarised by the following 5 steps:

Step 1: Place each object O into its own cluster C, creating the cluster file f therefore:
$f = C_n, C_{n-1}, C_{n-2}, ..., C_3, C_2, C_1$

Step 2: Compute a measure of similarity between every pair of clusters in the cluster file f to find the closest pair $\{C_i, C_j\}$

Step 3: Remove C_i and C_j from f

Step 4: Merge C_i and C_j to create a new cluster C_{ij} which will be the parent of C_i and C_j in the hierarchical cluster tree.

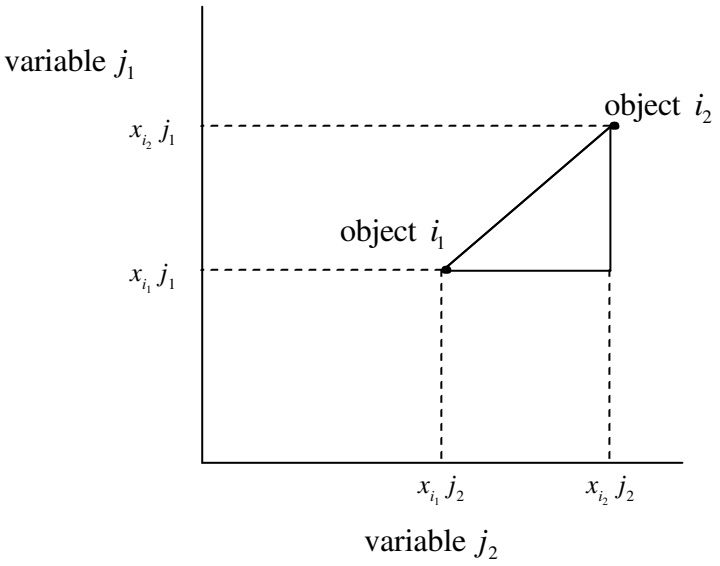
Step 5: Return to step 2 and repeat until there is only one cluster left.

Methods of hierarchical clustering have been incorporated into the Statistical Package for the Social Sciences (SPSS) and are frequently used to cluster census type information. There are several different formulae that can be used as the criterion in a hierarchical grouping procedure, most commonly used is Euclidean distance (SPSS 1999).

Assume two objects $i = i_1$, $i = i_2$

Assume two variables $j = j_1$, $j = j_2$

Assume the distance is given by the Pythagorean formula (square of the hypotenuse = sum of the squares on the other two sides of a right angle triangle)



then the distance between the objects is

$$d_{i_1 i_2} = \{(x_{i_1 j_1} - x_{i_2 j_1})^2 + (x_{i_1 j_2} - x_{i_2 j_2})^2\}^{\frac{1}{2}} \qquad (10)$$

Generalising over variables this becomes

$$d_{i_1 i_2} = \{\sum_{j=1}^{M} (x_{i_1 j} - x_{i_2 j})^2\}^{\frac{1}{2}} \qquad (11)$$

The distances between clusters can then be calculated, the Intra-cluster distance involves generalising over objects i which are members of cluster k

$$d_{kk} = \sum_{i_1 \in k} \sum_{i_2 \in k} \{\sum_{j=1}^{M} (x_{i_1 j} - x_{i_2 j})^2\}^{\frac{1}{2}} \qquad (12)$$

Inter-cluster distance is then defined as

$$d_{k_1 k_2} = \sum_{i_1 \in k_1} \sum_{i_2 \in k_2} \{\sum_{j=1}^{M} (x_{i_1 j} - x_{i_2 j})^2\}^{\frac{1}{2}} \qquad (13)$$

Once the variables have been clustered the next decision that has to be made is how many clusters to split the LAs into. Unlike other methods of clustering such as k-means, the Ward's method clustering used does not have to be provided with predefined a number of clusters. Instead a range of solution is produced, from 434 clusters where all LAs are in separate groups, to just 2 clusters. In total this gives 433 different classifications of the LAs so some method of selecting the most suitable number of clusters to use is needed. It is important as well to remember that the cluster in procedure is hierarchical so a multiple level classification system can be produced.

The ONS classification of local authorities of Great Britain using 1991 data produced a three tier hierarchy of 27, 15 and 7 clusters (Bailey et al. 1999). Using the ONS classification as a guide the aim will be to produce a three tier hierarchy with the number of clusters more or less doubling with each tier hopefully ending in the tier with between 25 – 30 clusters e.g. (28, 14 and 7). However knowing the structure would work best theoretically does not mean that they will be the must suitable number of clusters in reality for the data that has been used. The method used to choose the clusters the number of clusters was to examine the relative increase in the sum of squares. The tiers that are suitable for selection are those that where the sum of squares shows a sharp rise immediately afterwards, therefore those tiers having clusters which are most compact clusters. Figure 2 shows how the three tiers for the

classification were chosen the graph clearly shows a significant increase in the sums of squares immediately after the tiers with 26, 13 and 5 clusters.

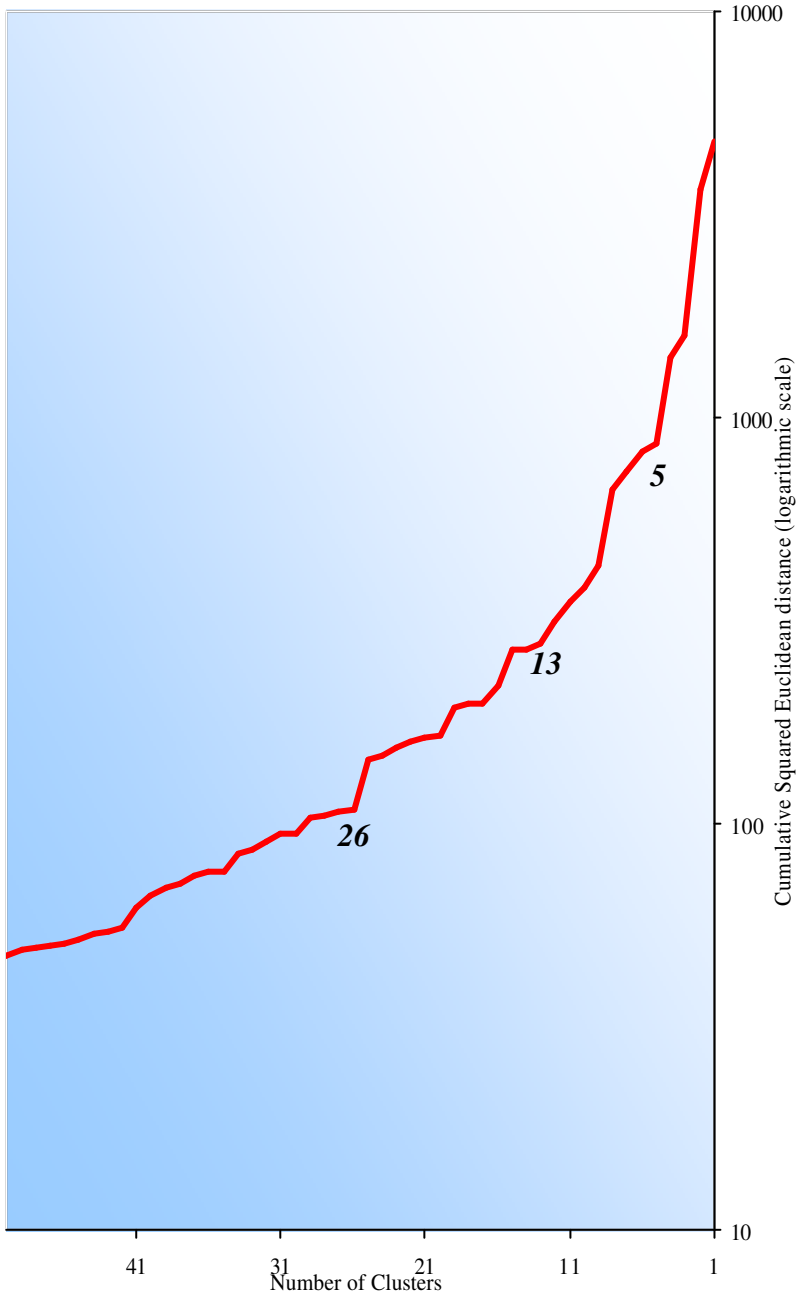


Figure 2 The distance between the most dissimilar local authorities within merged clusters

As for approximately doubling in the number of clusters with each tier, 5 to 13 shows an increase of 2.6 times, and 13 to 26 doubles exactly. Both the number of clusters produced and

the increase in the number of clusters between tiers fit within the framework that was identified as being appropriate before the clustering process.

6 Classification Outputs

A three tier hierarchy of clusters has been created and will be referred to in the following way the tier with 5 clusters as Families, the tier with 13 clusters as Groups, the tier with 26 clusters as Classes. Table 6 shows how the Families, Groups and Classes fit together and the way in which they have been labelled and named. Table 7 shows which Family, Group and Class that each local authority fit into. The methods behind the process of naming are outlined in section 5.

6.1 The Structure of Families, Groups and Classes

Although the clusters can be easily named Family A, Group A3, Class A3a etc this tells nothing about the Local Authorities within the clusters, there is no indication of where the areas may be or the characteristics that the areas may have. Therefore each Family, Group and Class requires a name. Before each cluster can be named they need to be explained in terms of their geography and their social make-up.

Names are a very useful aide-mémoire for users. However, they are quite short pieces of information and hide a lot of variety. Profiles of the variable values linked to the named cluster help give the user a quick and straightforward insight into the make-up of each cluster. Naming the five families is not a difficult process as they are uncomplicated and reflect the underlying geography of the UK. Naming the groups and clusters is a little trickier. The increased number of clusters makes the geography much less of an indicator of why they have been placed into that individual cluster (although a good knowledge of the geography of the UK and the likely social characteristics of people in each area is invaluable). To accurately assess and provide a name for each group and class the variables, which power each cluster, need to be investigated. By finding the average value of each variable in each cluster, it can be established which variables have the most effect on each cluster. By

knowing which variables have the most effect on shaping the character of each cluster a suitable name can be given to the cluster as the defining characteristics of that cluster are known. For example if the most distinct characteristic for a cluster is a very low value for population density it is likely the area is rural, we then may wish to label the cluster as rural areas.

Before the 434 Local Authority areas were clustered the variables were standardised with the use of z-scores. This is a decision that we are grateful for at this point as the standardisation now makes it easy to assess which values are large (positive and negative). The average z-score for each variable across all Local Authorities is 0 with a positive value being above the average and a negative value being below average with the size of the number indicating the strength of the value. By calculating the average z-score value of each variable within each cluster it is possible to pick out which variables have extreme values in cluster. The extreme values within the clusters will be for those variables that are most distinct within that area and therefore characterise it most accurately.

For each cluster the variables with the most extreme values were selected to explain the characteristics of the cluster. By examining these variables it is now possible to see which have been the most important variables in terms of the creation of each cluster. By using this information along with any useful geographic information that the names and locations of each LA within the cluster may give, each cluster can be given a suitable name.

It is important to remember when naming the clusters not give them derogatory names. The purpose of giving the clusters names is not so we can instantly assess whether one area is better than another but to quickly get some idea of where the area is likely to be and the characteristics of the people who live there. It is all too easy to let personal preference for or prejudices about an area cloud one's judgement when naming clusters. Bill Bryson expressed the view that *"Bradford's role in life is to make every place else in the World look better in comparison"* (Bryson 1995) Taking Bryson's view as inspiration, class A2c containing Bradford could be named *'the worst places in the UK'*. However, this would import serious prejudice to the classification system and would seriously offend anyone who lives in an area that falls within cluster A2c.

Table 6 The structure of Families, Groups and Classes

5 Families	13 Groups	26 Classes
A: Urban UK (103 LAs 35.8% population)	A1: Industrial Legacy (38 LAs 9.4% population)	*A1a: Industrial Legacy* (38 LAs 9.4% population)
	A2: Established Urban Centres (43 LAs 17.7% population)	*A2a: Struggling Urban Manufacturing* (14 LAs 5.6% population)
		A2b: Regional Centres (6 LAs 3.0% population)
		A2c: Multicultural England (13 LAs 6.1% population)
		A2d: M8 Corridor (10 LAs 3.0% population)
	A3: Young & Vibrant Cities (22 LAs 8.7% population)	*A3a: Redeveloping Urban Centres* (14 LAs 6.7% population)
		A3b: Young Multicultural (5 LAs 2.0% population)
B: Rural UK (205 LAs 36.2% population)	B1: Rural Britain (93 LAs 14.7% population)	*B1a: Rural Extremes* (24 LAs 2.7% population)
		B1b: Agricultural Fringe (35 LAs 5.8% population)
		B1c: Rural Fringe (39 LAs 6.2% population)
	B2: Coastal Britain (44 LAs 7.6% population)	*B2a: Coastal Resorts* (8 LAs 1.7% population)
		B2b: Aged Coastal Extremities (28 LAs 4.6% population)
		B2c: Aged Coastal Resorts (8 LAs 3.0% population)
	B3: Averageville (67 LAs 14.0% population)	*B3a: Mixed Urban* (41 LAs 8.8% population)
		B3b: Typical Towns (26 LAs 5.2% population)
	B4: Isles of Scilly (1 LA 0.0037% population)	*B4a: Isles of Scilly* (1 LA 0.0037% population)
C: Prosperous Britain (77 LAs 16.3% population)	C1: Prosperous Urbanites (23 LAs 5.4% population)	*C1a: Historic Cities* (3 LAs 2.7% population)
		C1b: Thriving outer London (10 LAs 2.7% population)
	C2: Commuter Belt (54 LAs 10.9% population)	*C2a: the Commuter Belt* (54 LAs 10.9% population)
D: Urban London (26 LAs 9.6% population)	D1: Multicultural Outer London (11 LAs 4.4% population)	*D1a: Multicultural Outer London* (11 LAs 4.4% population)
	D2: Mercantile Inner London (7 LAs 2.0% population)	*D2a: Central London* (6 LAs 1.9% population)
		D2b: City of London (1 LA 0.01% population)
	D3: Cosmopolitan Inner London (8 LAs 3.2% population)	*D3a: Afro-Caribbean Ethnic Borough* (5 LAs 2.0% population)
		D3b: Multicultural Inner London (3 LAs 1.2% population)
E: Northern Irish Heartlands (23 LAs 2.2% population)	E1: Northern Irish Heartlands (23 LAs 2.2% population)	*E1a: Northern Irish Urban Growth* (10 LAs 1.1% population)
		E1b: Rural Northern Ireland (13 LAs 1.1% population)

6.2 Table 7 The LA to cluster look-up table

Authority Name	*Family*	*Group*	*Class*	*Authority Name*	*Family*	*Group*	*Class*
Aberdeen City UA	A	A3	A3b	Bristol, City of UA	A	A3	A3a
Aberdeenshire UA	B	B1	B1a	Broadland LA	B	B1	B1c
Adur LA	B	B2	B2b	Bromley LB	C	C2	C2a
Allerdale LA	B	B2	B2b	Bromsgrove LA	B	B1	B1c
Alnwick LA	B	B1	B1a	Broxbourne LA	B	B3	B3b
Amber Valley LA	B	B3	B3a	Broxtowe LA	B	B3	B3a
Angus UA	B	B1	B1a	Burnley LA	A	A2	A2c
Antrim	E	E1	E1a	Bury LA	B	B3	B3b
Ards	E	E1	E1a	Caerphilly UA	A	A1	A1a
Argyll and Bute UA	B	B1	B1a	Calderdale LA	A	A2	A2c
Armagh	E	E1	E1b	Cambridge LA	A	A3	A3b
Arun LA	B	B2	B2c	Camden LB	D	D2	D2a
Ashfield LA	A	A1	A1a	Cannock Chase LA	B	B3	B3a
Ashford LA	B	B1	B1c	Canterbury LA	A	A3	A3a
Aylesbury Vale LA	C	C2	C2a	Caradon LA	B	B2	B2b
Babergh LA	B	B1	B1c	Cardiff UA	A	A3	A3a
Ballymena	E	E1	E1a	Carlisle LA	B	B2	B2b
Ballymoney	E	E1	E1b	Carmarthenshire UA	B	B2	B2b
Banbridge	E	E1	E1a	Carrick LA	B	B2	B2b
Barking and Dagenham LB	A	A2	A2a	Carrickfergus	E	E1	E1a
Barnet LB	D	D1	D1a	Castle Morpeth LA	B	B1	B1b
Barnsley LA	A	A1	A1a	Castle Point LA	B	B1	B1c
Barrow-in-Furness LA	A	A1	A1a	Castlereagh	B	B3	B3a
Basildon LA	B	B3	B3b	Ceredigion UA	A	A3	A3a
Basingstoke and Deane LA	C	C2	C2a	Charnwood LA	C	C1	C1a
Bassetlaw LA	B	B3	B3a	Chelmsford LA	C	C2	C2a
Bath and North East Somerset UA	C	C1	C1a	Cheltenham LA	C	C1	C1a
Bedford LA	C	C1	C1a	Cherwell LA	C	C2	C2a
Belfast	A	A2	A2a	Chester LA	C	C1	C1a
Berwick-upon-Tweed LA	B	B1	B1a	Chesterfield LA	A	A1	A1a
Bexley LB	B	B3	B3a	Chester-le-Street LA	A	A1	A1a
Birmingham LA	A	A2	A2c	Chichester LA	B	B1	B1b
Blaby LA	B	B1	B1c	Chiltern LA	C	C2	C2a
Blackburn with Darwen UA	A	A2	A2c	Chorley LA	B	B3	B3a
Blackpool UA	B	B2	B2a	Christchurch LA	B	B2	B2c
Blaenau Gwent UA	A	A1	A1a	City of London LB	D	D2	D2b
Blyth Valley LA	A	A1	A1a	Clackmannanshire UA	A	A2	A2d
Bolsover LA	A	A1	A1a	Colchester LA	C	C1	C1a
Bolton LA	A	A2	A2c	Coleraine	E	E1	E1b
Boston LA	B	B1	B1b	Congleton LA	B	B1	B1c
Bournemouth UA	B	B2	B2a	Conwy UA	B	B2	B2b
Bracknell Forest UA	C	C1	C1b	Cookstown	E	E1	E1b
Bradford LA	A	A2	A2c	Copeland LA	A	A1	A1a
Braintree LA	B	B1	B1c	Corby LA	B	B3	B3b
Breckland LA	B	B1	B1b	Cotswold LA	B	B1	B1b
Brent LB	D	D3	D3b	Coventry LA	A	A3	A3a
Brentwood LA	C	C2	C2a	Craigavon	E	E1	E1a
Bridgend UA	A	A1	A1a	Craven LA	B	B1	B1b
Bridgnorth LA	B	B1	B1c	Crawley LA	B	B3	B3b
Brighton and Hove UA	A	A3	A3b	Crewe and Nantwich LA	B	B3	B3a

Authority Name	*Family*	*Group*	*Class*	*Authority Name*	*Family*	*Group*	*Class*
Croydon LB	D	D1	D1a	Forest Heath LA	B	B1	B1c
Dacoru m LA	C	C2	C2a	Forest of Dean LA	B	B1	B1b
Darlington UA	A	A1	A1a	Fylde LA	B	B1	B1b
Dartford LA	B	B3	B3b	Gateshead LA	A	A2	A2a
Daventry LA	C	C2	C2a	Gedling LA	B	B3	B3a
Denbighshire UA	B	B2	B2b	Glasgow City UA	A	A2	A2b
Derby UA	A	A3	A3a	Gloucester LA	B	B3	B3b
Derbyshire Dales LA	B	B1	B1b	Gosport LA	B	B3	B3b
Derry	E	E1	E1b	Gravesham LA	B	B3	B3b
Derwentside LA	A	A1	A1a	Great Yarmouth LA	B	B2	B2b
Doncaster LA	A	A1	A1a	Greenwich LB	D	D1	D1a
Dover LA	B	B2	B2b	Guildford LA	C	C1	C1a
Down	E	E1	E1a	Gwynedd UA	B	B2	B2b
Dudley LA	B	B3	B3a	Hackney LB	D	D3	D3a
Dumfries and Galloway UA	B	B2	B2b	Halton UA	A	A1	A1a
Dundee City UA	A	A2	A2b	Hambleton LA	B	B1	B1c
Dungannon	E	E1	E1b	Hammersmith and Fulham LB	D	D2	D2a
Durham LA	A	A3	A3a	Harborough LA	C	C2	C2a
Ealing LB	D	D1	D1a	Haringey LB	D	D3	D3a
Easington LA	A	A1	A1a	Harlow LA	B	B3	B3b
East Ayrshire UA	A	A2	A2d	Harrogate LA	B	B1	B1c
East Cambridgeshire LA	B	B1	B1c	Harrow LB	D	D1	D1a
East Devon LA	B	B2	B2c	Hart LA	C	C2	C2a
East Dorset LA	B	B1	B1b	Hartlepool UA	A	A1	A1a
East Dunbartonshire UA	B	B3	B3a	Hastings LA	B	B2	B2a
East Hampshire LA	C	C2	C2a	Havant LA	B	B3	B3a
East Hertfordshire LA	C	C2	C2a	Havering LB	B	B3	B3a
East Lindsey LA	B	B2	B2b	Herefordshire, County of UA	B	B1	B1b
East Lothian UA	B	B3	B3b	Hertsmere LA	C	C2	C2a
East Northamptonshire LA	B	B1	B1c	High Peak LA	B	B3	B3a
East Renfrewshire UA	B	B3	B3a	Highland UA	B	B1	B1a
East Riding of Yorkshire UA	B	B1	B1b	Hillingdon LB	C	C1	C1b
East Staffordshire LA	B	B3	B3a	Hinckley and Bosworth LA	B	B3	B3a
Eastbourne LA	B	B2	B2a	Horsham LA	C	C2	C2a
Eastleigh LA	C	C2	C2a	Hounslow LB	D	D1	D1a
Eden LA	B	B1	B1a	Huntingdonshire LA	C	C2	C2a
Edinburgh, City of UA	A	A3	A3b	Hyndburn LA	A	A2	A2c
Eilean Siar UA	B	B2	B2b	Inverclyde UA	A	A2	A2d
Ellesmere Port and Neston LA	B	B3	B3a	Ipswich LA	A	A3	A3a
Elmbridge LA	C	C2	C2a	Isle of Anglesey UA	B	B2	B2b
Enfield LB	D	D1	D1a	Isle of Wight UA	B	B2	B2b
Epping Forest LA	C	C2	C2a	Isles of Scilly LA	B	B4	B4a
Epsom and Ewell LA	C	C2	C2a	Islington LB	D	D2	D2a
Erewash LA	B	B3	B3a	Kennet LA	B	B1	B1c
Exeter LA	A	A3	A3a	Kensington and Chelsea LB	D	D2	D2a
Falkirk UA	A	A2	A2d	Kerrier LA	B	B2	B2b
Fareham LA	B	B1	B1c	Kettering LA	B	B3	B3a
Fenland LA	B	B1	B1b	King's Lynn and West Norfolk LA	B	B1	B1b
Fermanagh	E	E1	E1b	Kingston upon Hull, City of UA	A	A2	A2a
Fife UA	A	A2	A2d	Kingston upon Thames LB	C	C1	C1b
Flintshire UA	B	B3	B3a	Kirklees LA	A	A2	A2c

Authority Name	*Family*	*Group*	*Class*	*Authority Name*	*Family*	*Group*	*Class*
Knowsley LA	A	A2	A2a	North East Derbyshire LA	B	B3	B3a
Lambeth LB	D	D3	D3a	North East Lincolnshire UA	A	A1	A1a
Lancaster LA	A	A3	A3a	North Hertfordshire LA	C	C2	C2a
Larne	E	E1	E1a	North Kesteven LA	B	B1	B1c
Leeds LA	A	A3	A3a	North Lanarkshire UA	A	A2	A2d
Leicester UA	A	A2	A2c	North Lincolnshire UA	B	B3	B3a
Lewes LA	B	B1	B1b	North Norfolk LA	B	B2	B2c
Lewisham LB	D	D3	D3a	North Shropshire LA	B	B1	B1b
Lichfield LA	B	B1	B1c	North Somerset UA	B	B1	B1c
Limavady	E	E1	E1b	North Tyneside LA	A	A1	A1a
Lincoln LA	A	A3	A3a	North Warwickshire LA	B	B3	B3a
Lisburn	E	E1	E1a	North West Leicestershire LA	B	B3	B3a
Liverpool LA	A	A2	A2a	North Wiltshire LA	C	C2	C2a
Luton UA	D	D1	D1a	Northampton LA	B	B3	B3b
Macclesfield LA	C	C2	C2a	Norwich LA	A	A2	A2b
Magherafelt	E	E1	E1b	Nottingham UA	A	A2	A2b
Maidstone LA	C	C2	C2a	Nuneaton and Bedworth LA	B	B3	B3a
Maldon LA	B	B1	B1c	Oadby and Wigston LA	C	C1	C1a
Malvern Hills LA	B	B1	B1b	Oldham LA	A	A2	A2c
Manchester LA	A	A2	A2b	Omagh	E	E1	E1b
Mansfield LA	A	A1	A1a	Orkney Islands UA	B	B1	B1a
Medway UA	B	B3	B3b	Oswestry LA	B	B1	B1b
Melton LA	B	B1	B1c	Oxford LA	A	A3	A3b
Mendip LA	B	B1	B1b	Pembrokeshire UA	B	B2	B2b
Merthyr Tydfil UA	A	A1	A1a	Pendle LA	A	A2	A2c
Merton LB	C	C1	C1b	Penwith LA	B	B2	B2b
Mid Bedfordshire LA	C	C2	C2a	Perth and Kinross UA	B	B1	B1a
Mid Devon LA	B	B1	B1b	Peterborough UA	B	B3	B3b
Mid Suffolk LA	B	B1	B1c	Plymouth UA	A	A3	A3a
Mid Sussex LA	C	C2	C2a	Poole UA	B	B1	B1c
Middlesbrough UA	A	A2	A2a	Portsmouth UA	A	A3	A3a
Midlothian UA	B	B3	B3b	Powys UA	B	B1	B1a
Milton Keynes UA	C	C1	C1b	Preston LA	A	A3	A3a
Mole Valley LA	C	C2	C2a	Purbeck LA	B	B1	B1b
Monmouthshire UA	B	B1	B1b	Reading UA	C	C1	C1b
Moray UA	B	B1	B1a	Redbridge LB	D	D1	D1a
Moyle	E	E1	E1b	Redcar and Cleveland UA	A	A1	A1a
Neath Port Talbot UA	A	A1	A1a	Redditch LA	B	B3	B3b
New Forest LA	B	B1	B1b	Reigate and Banstead LA	C	C2	C2a
Newark and Sherwood LA	B	B3	B3a	Renfrewshire UA	A	A2	A2d
Newcastle-under-Lyme LA	B	B3	B3a	Restormel LA	B	B2	B2b
Newcastle upon Tyne LA	A	A2	A2b	Rhondda, Cynon, Taff UA	A	A1	A1a
Newham LB	D	D3	D3b	Ribble Valley LA	B	B1	B1c
Newport UA	A	A1	A1a	Richmond upon Thames LB	C	C1	C1b
Newry and Mourne	E	E1	E1b	Richmondshire LA	B	B1	B1c
Newtownabby	E	E1	E1a	Rochdale LA	A	A2	A2c
North Ayrshire UA	A	A2	A2d	Rochford LA	B	B1	B1c
North Cornwall LA	B	B2	B2b	Rossendale LA	B	B3	B3b
North Devon LA	B	B2	B2b	Rother LA	B	B2	B2c
North Dorset LA	B	B1	B1b	Rotherham LA	A	A1	A1a
North Down	B	B3	B3a	Rugby LA	B	B3	B3a

Authority Name	*Family*	*Group*	*Class*	*Authority Name*	*Family*	*Group*	*Class*
Runnymede LA	C	C1	C1a	Stockport LA	B	B3	B3a
Rushcliffe LA	C	C2	C2a	Stockton-on-Tees UA	A	A1	A1a
Rushmoor LA	C	C1	C1b	Stoke-on-Trent UA	A	A2	A2a
Rutland UA	B	B1	B1c	Strabane	E	E1	E1b
Ryedale LA	B	B1	B1a	Stratford-upon-Avon LA	C	C2	C2a
Salford LA	A	A2	A2a	Stroud LA	B	B1	B1c
Salisbury LA	B	B1	B1c	Suffolk Coastal LA	B	B1	B1b
Sandwell LA	A	A2	A2a	Sunderland LA	A	A2	A2a
Scarborough LA	B	B2	B2b	Surrey Heath LA	C	C2	C2a
Scottish Borders, The UA	B	B1	B1a	Sutton LB	C	C1	C1b
Sedgefield LA	A	A1	A1a	Swale LA	B	B3	B3b
Sedgemoor LA	B	B1	B1b	Swansea UA	A	A1	A1a
Sefton LA	A	A1	A1a	Swindon UA	B	B3	B3b
Selby LA	B	B1	B1c	Tameside LA	A	A2	A2c
Sevenoaks LA	C	C2	C2a	Tamworth LA	B	B3	B3b
Sheffield LA	A	A3	A3a	Tandridge LA	C	C2	C2a
Shepway LA	B	B2	B2b	Taunton Deane LA	B	B1	B1b
Shetland Islands UA	B	B1	B1a	Teesdale LA	B	B1	B1a
Shrewsbury and Atcham LA	B	B1	B1b	Teignbridge LA	B	B1	B1b
Slough UA	D	D1	D1a	Telford and Wrekin UA	B	B3	B3b
Solihull LA	B	B3	B3a	Tendring LA	B	B2	B2c
South Ayrshire UA	A	A1	A1a	Test Valley LA	C	C2	C2a
South Bedfordshire LA	C	C2	C2a	Tewkesbury LA	B	B1	B1c
South Bucks LA	C	C2	C2a	Thanet LA	B	B2	B2a
South Cambridgeshire LA	C	C2	C2a	Three Rivers LA	C	C2	C2a
South Derbyshire LA	B	B1	B1c	Thurrock UA	B	B3	B3b
South Gloucestershire UA	C	C2	C2a	Tonbridge and Malling LA	C	C2	C2a
South Hams LA	B	B1	B1a	Torbay UA	B	B2	B2a
South Holland LA	B	B1	B1b	Torfaen UA	A	A1	A1a
South Kesteven LA	B	B1	B1c	Torridge LA	B	B2	B2b
South Lakeland LA	B	B1	B1a	Tower Hamlets LB	D	D3	D3b
South Lanarkshire UA	A	A2	A2d	Trafford LA	B	B3	B3a
South Norfolk LA	B	B1	B1c	Tunbridge Wells LA	B	B1	B1c
South Northamptonshire LA	C	C2	C2a	Tynedale LA	B	B1	B1b
South Oxfordshire LA	C	C2	C2a	Uttlesford LA	C	C2	C2a
South Ribble LA	B	B3	B3a	Vale of Glamorgan, The UA	B	B3	B3a
South Shropshire LA	B	B1	B1a	Vale of White Horse LA	C	C2	C2a
South Somerset LA	B	B1	B1b	Vale Royal LA	B	B3	B3a
South Staffordshire LA	B	B1	B1c	Wakefield LA	A	A1	A1a
South Tyneside LA	A	A2	A2a	Walsall LA	A	A2	A2a
Southampton UA	A	A3	A3a	Waltham Forest LB	D	D1	D1a
Southend-on-Sea UA	B	B2	B2a	Wandsworth LB	D	D2	D2a
Southwark LB	D	D3	D3a	Wansbeck LA	A	A1	A1a
Spelthorne LA	C	C2	C2a	Warrington UA	B	B3	B3a
St. Albans LA	C	C2	C2a	Warwick LA	C	C1	C1a
St. Edmundsbury LA	B	B1	B1c	Watford LA	C	C1	C1b
St. Helens LA	A	A1	A1a	Waveney LA	B	B2	B2b
Stafford LA	B	B3	B3a	Waverley LA	C	C2	C2a
Staffordshire Moorlands LA	B	B1	B1b	Wealden LA	B	B1	B1b
Stevenage LA	B	B3	B3b	Wear Valley LA	A	A1	A1a
Stirling UA	C	C1	C1a	Wellingborough LA	B	B3	B3b

Authority Name	*Family*	*Group*	*Class*	*Authority Name*	*Family*	*Group*	*Class*
Welwyn Hatfield LA	C	C1	C1a	Winchester LA	C	C2	C2a
West Berkshire UA	C	C2	C2a	Windsor and Maidenhead UA	C	C2	C2a
West Devon LA	B	B1	B1a	Wirral LA	A	A1	A1a
West Dorset LA	B	B2	B2c	Woking LA	C	C2	C2a
West Dunbartonshire UA	A	A2	A2d	Wokingham UA	C	C2	C2a
West Lancashire LA	B	B3	B3a	Wolverhampton LA	A	A2	A2a
West Lindsey LA	B	B1	B1b	Worcester LA	B	B3	B3b
West Lothian UA	B	B3	B3b	Worthing LA	B	B2	B2a
West Oxfordshire LA	C	C2	C2a	Wrexham UA	B	B3	B3a
West Somerset LA	B	B2	B2c	Wychavon LA	B	B1	B1c
West Wiltshire LA	B	B1	B1c	Wycombe LA	C	C2	C2a
Westminster LB	D	D2	D2a	Wyre Forest LA	B	B3	B3a
Weymouth and Portland LA	B	B2	B2b	Wyre LA	B	B2	B2b
Wigan LA	A	A1	A1a	York UA	C	C1	C1a

6.3 Pen Portraits

The naming of clusters is not the only use for the information that has been gathered as to which are the most extreme values in each cluster. This information can also be used to create *pen portraits*; these are short descriptions (or a simple list) as to what the characteristics of each cluster are. *Pen portraits* are referred to by the user of the classification system after they have established which cluster the area that they are interested in belongs. They can then read the *pen portrait* for the relevant cluster to get more information about the areas in that cluster.

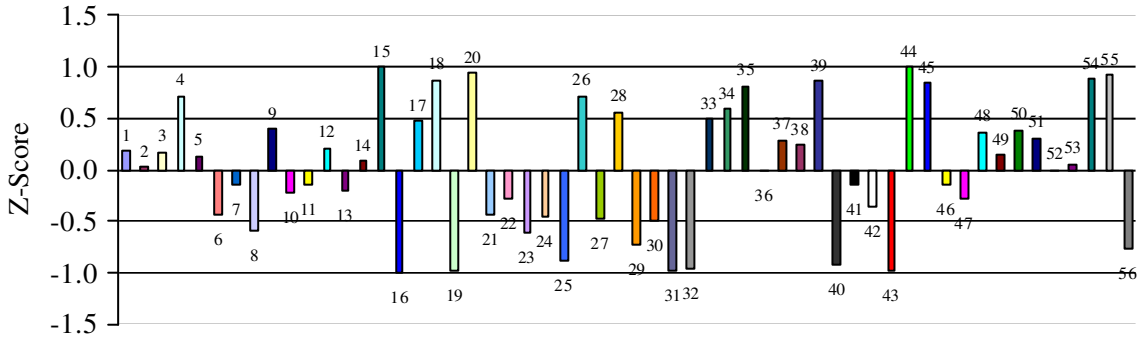
The numbers on each column on the graphs refer to the final list of 56 variables used in the classification and the various strengths of each variable with each cluster. Table 5 can be used as a key to relate the numbers to the variable names. Another point to note is that the scale of each graph varies between clusters so study them carefully.

The pen portraits, graphs and lists of LA members are provided for families, groups and classes where they are unique, to avoid unnecessary repetition. This might occur when a group has just one class. Refer back to Table 6 to see where this occurs.

6.3.1 Family A – Urban UK

103 Local Authorities containing 35.8% of the population are in this family

- This Family contains the UK's most urban Local Authorities (excluding London Boroughs). These Authorities can be found mainly in the English Midlands, North, North West and North East as well as South Wales and the urban corridor between Glasgow and Edinburgh.
- The Family is characterised by poor health (15, 16), high unemployment (18, 20), low economic activity (19), low car ownership (43, 44) and a negative population change (56).
- Refer to Figure 3 for a map of this cluster.



6.3.1.1 Group A1

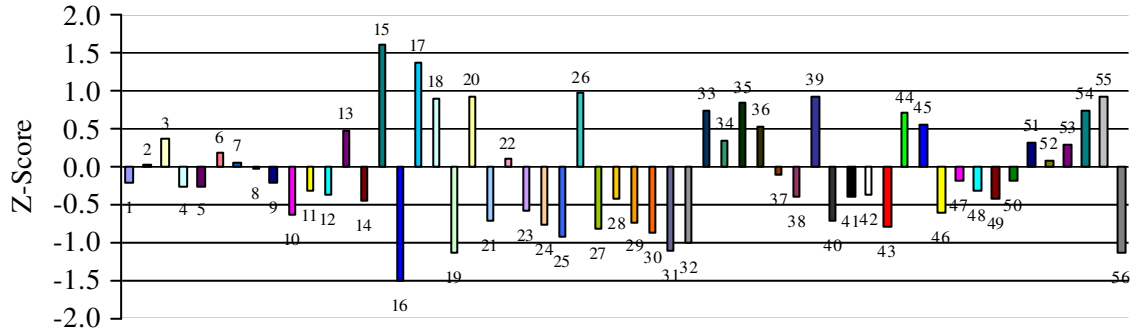
6.3.1.1.1 Class A1a– Industrial Legacy

38 Local Authorities containing 9.4% of the population are in this cluster

7 This class contains many of the areas that (before their decline) were known for their heavy industry especially coal mining. The local authorities in this group are mainly centred on old mining communities such as North East England, South Yorkshire and North Nottinghamshire, and South Wales.

7 The class is characterised by acute poor health (15, 16) and unemployment (18) especially among men (20), with a lack of qualifications (26) resulting from their industrial past. Many are employed in routine occupations (33) and live in terraced housing (39). These areas are also experiencing significant population loss (56).

7 Refer to Figure 8 for a map of this cluster.



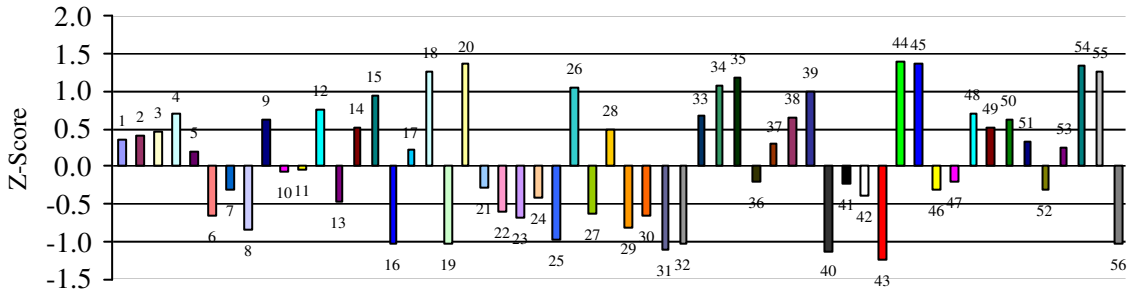
There are 38 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Ashfield LA
Barnsley LA
Barrow-in-Furness LA
Blaenau Gwent UA
Blyth Valley LA
Bolsover LA
Bridgend UA
Caerphilly UA
Chesterfield LA
Chester-le-Street LA
Copeland LA
Darlington UA
Derwentside LA
Doncaster LA
Easington LA
Halton UA
Hartlepool UA
Mansfield LA
Merthyr Tydfil UA
Neath Port Talbot UA
Newport UA
North East Lincolnshire UA
North Tyneside LA
Redcar and Cleveland UA
Rhondda, Cynon, Taff UA
Rotherham LA
Sedgefield LA
Sefton LA
South Ayrshire UA
St. Helens LA
Stockton-on-Tees UA
Swansea UA
Torfaen UA
Wakefield LA
Wansbeck LA
Wear Valley LA
Wigan LA
Wirral LA

6.3.1.2 Group A2 – Established Urban Centres

43 Local Authorities containing 17.7% of the population are in this cluster

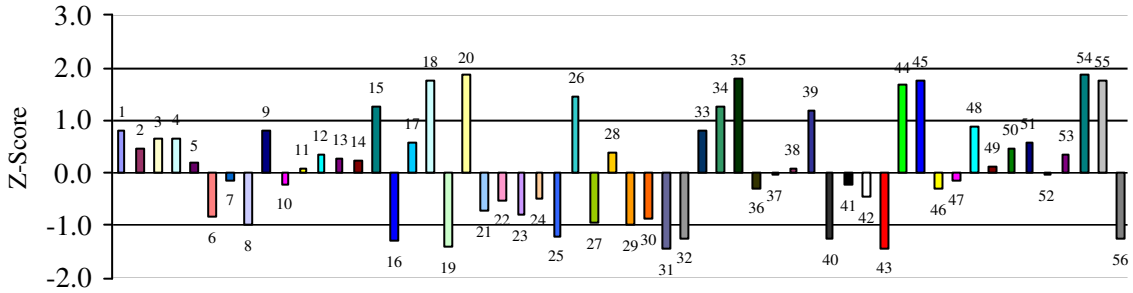
- This group contains the many of the UK's former northern industrial cities that have now diversified, many of which are currently going through a period of regeneration.
- This group is characterised by acute poor health (15, 16) and unemployment (18, 20), a lack of qualifications (26) and higher level employment (29, 30, 31). Car ownership is low (43, 44), however housing type is mixed however many homes are LA rented (45); lone parent families are also common (54). A population loss is also being experienced (56).
- Refer to Figure 4 for a map of this cluster.



6.3.1.2.1Class A2a – Struggling Urban manufacturing

14 Local Authorities containing 5.6% of the population are in this cluster

- This class contains old industrial areas many of which have seen their former industrial employment move into the manufacturing sector.
- This class is characterised by poor health (15, 16), high unemployment (18, 20), low levels of qualification (26), low car ownership (43, 44), high levels of both council renting (45), Terraced housing (39), and one parent families (54).
- Refer to Figure 8 for a map of this cluster.



There are 14 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Barking and Dagenham LB	Knowsley LA	Sandwell LA	Walsall LA
Belfast	Liverpool LA	South Tyneside LA	Wolverhampton LA
Gateshead LA	Middlesbrough UA	Stoke-on-Trent UA	
Kingston upon Hull, City of UA	Salford LA	**Sunderland LA**	

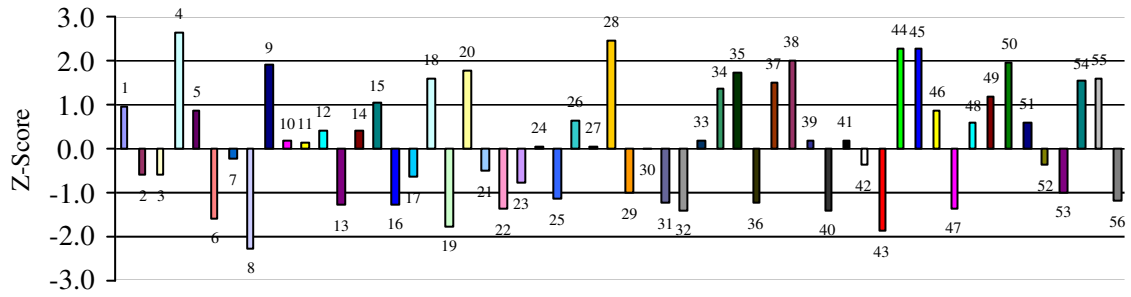
6.3.1.2.2 Class A2b– Regional Centres

6 Local Authorities containing 3.0% of the population are in this cluster

7 This class contains centres of regional importance (i.e. the biggest urban area within a region).

7 This class is characterised by a high number of people aged 18-24 (4), single people (9) and students (28). Comparatively low car ownership (43, 44), council housing (45), Flats (38) and single person households (50).

7 Refer to Figure 8 for a map of this cluster.



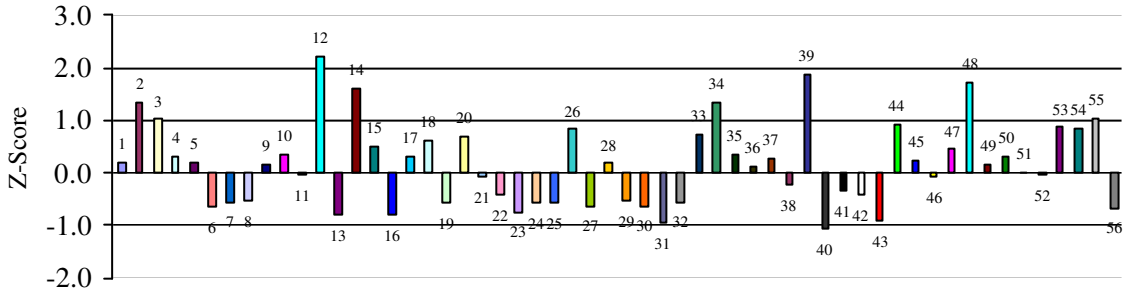
There are 6 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Dundee City UA	Manchester LA	Norwich LA
Gla***sgow City UA***	**Newcastle upon Tyne LA**	Nottingham UA

6.3.1.2.3 Class A2c – Multicultural England

13 Local Authorities containing 6.1% of the population are in this cluster

- This class contains Cities with a large Asian population
- This class is characterised by a large number of Indian, Pakistani and Bangladeshi people (12), a generally young population (2, 3), Terraced housing (39) and a comparative lack of central heating (48).
- Refer to Figure 8 for a map of this cluster.



There are 13 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Birmingham LA	Burnley LA	***Leicester UA***	Tameside LA
Blackburn with Darwen UA	Calderdale LA	Oldham LA	
Bolton LA	Hyndburn LA	Pendle LA	
Bradford LA	Kirklees LA	**Rochdale LA**	

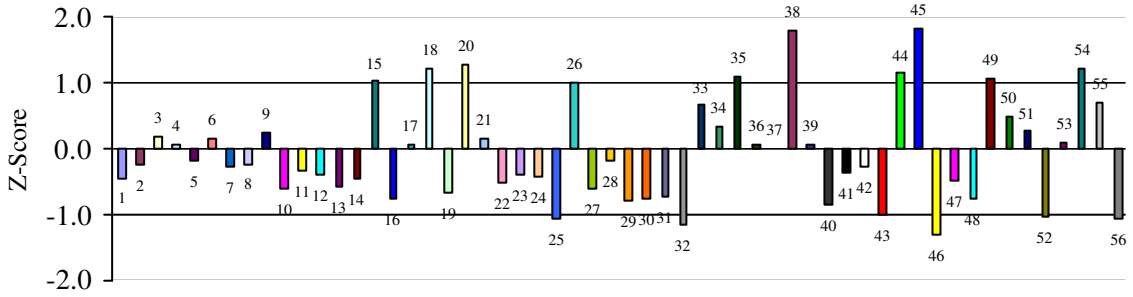
6.3.1.2.4 Class A2d – M8 Corridor

10 Local Authorities containing 3.0% of the population are in this cluster

7 This class contains LAs in the corridor along the M8, between Edinburgh and Glasgow and nearby

7 This class is characterised by comparatively poor health (15), low levels of qualification (26), high proportion of people living in flats (38) many of which are accounted for by the high level of council housing (45), rented from the local authority or other public body, low car ownership (43, 44), Single parent families (54) are also common.

7 Refer to Figure 8 for a map of this cluster.



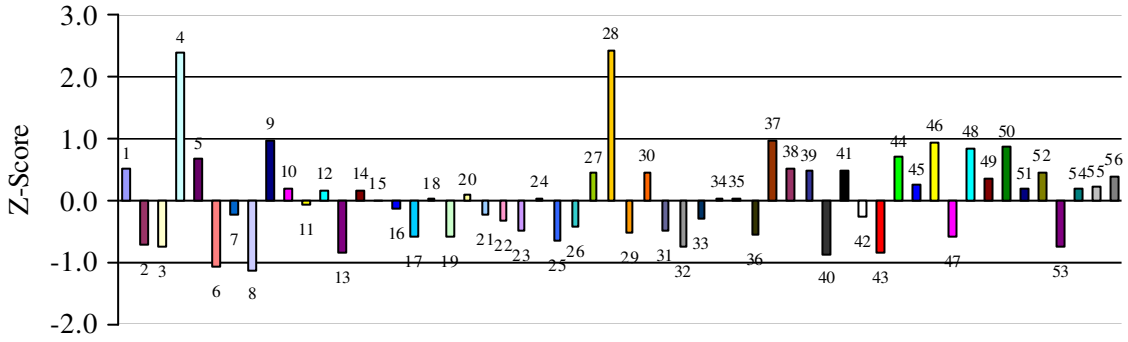
There are 10 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Clackmannanshire UA	Fife UA	North Lanarkshire UA	***West Dunbartonshire UA***
East Ayrshire UA	Inverclyde UA	Renfrewshire UA	
Falkirk UA	North Ayrshire UA	**South Lanarkshire UA**	

6.3.1.3 Group A3 – Young and Vibrant Cities

22 Local Authorities containing 8.7% of the population are in this cluster

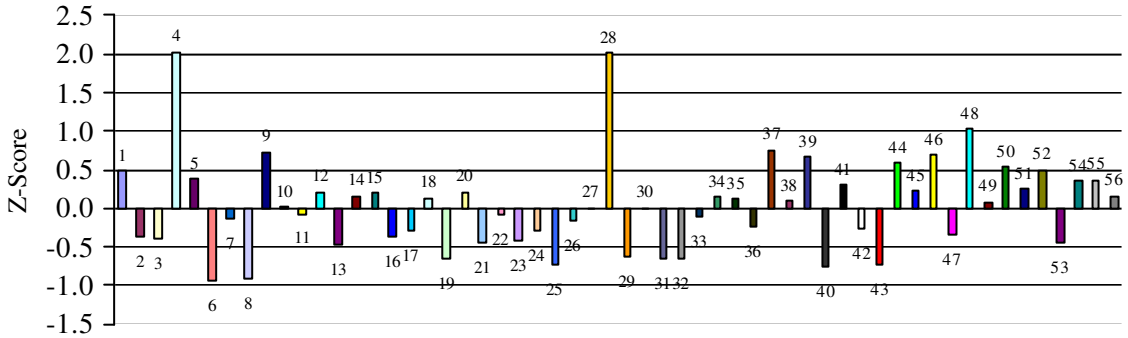
- This group contains urban areas which are generally dominated by a large student population. These areas are spread throughout the UK.
- This group is characterised by a large number of young adults (4) many of whom are students (28). A lack of extreme values for other variables makes this a cosmopolitan group of LAs, with a rich mix of people.
- Refer to Figure 4 for a map of this cluster.



6.3.1.3.1 Class A3a – Redeveloping Urban Centres

14 Local Authorities containing 6.7% of the population are in this cluster

- This class contains cities that have a comparatively young population and a strong student influence.
- This class is characterised by a large number of people between the ages of 18 – 24 (4) and a large number of full time students (28).
- Refer to Figure 8 for a map of this cluster.



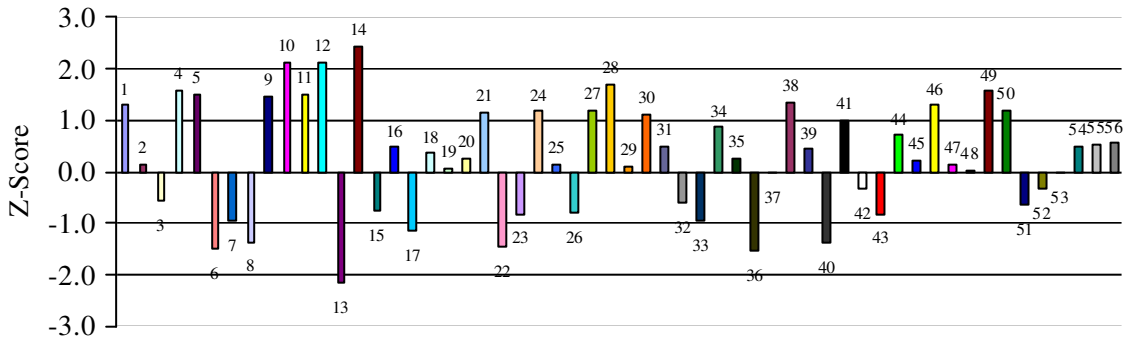
There are 14 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Bristol, City of UA	Derby UA	**Leeds LA**	Sheffield LA
Canterbury LA	Durham LA	Lincoln LA	Southampton UA
Cardiff UA	Exeter LA	Plymouth UA	
Ceredigion UA	Ipswich LA	Portsmouth UA	
Coventry LA	Lancaster LA	Preston LA	

6.3.1.3.2 Class A3b– Young Multicultural

5 Local Authorities containing 2.0% of the population are in this cluster

- This class contains cities which are internationally seen as educational centres.
- This class is characterised by an ethnically diverse population (11, 12, 13, 14), a comparatively high number of students (28), a comparatively high number of flats (38) and low number of detached homes (40). There is also comparative overcrowding (49) in some areas.
- Refer to Figure 8 for a map of this cluster.



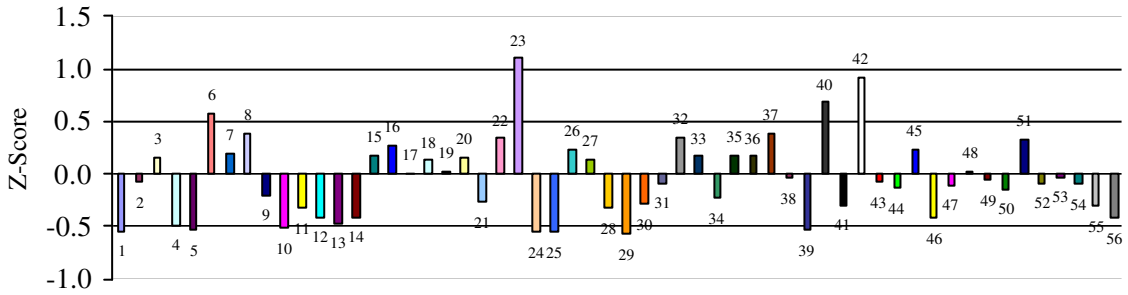
There are 5 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Aberdeen City UA	Cambridge LA	Oxford LA
Brighton and Hove UA	**Edinburgh, City of UA**	

6.3.2 Family B - Rural UK

205 Local Authorities containing 36.2% of the population are in this cluster

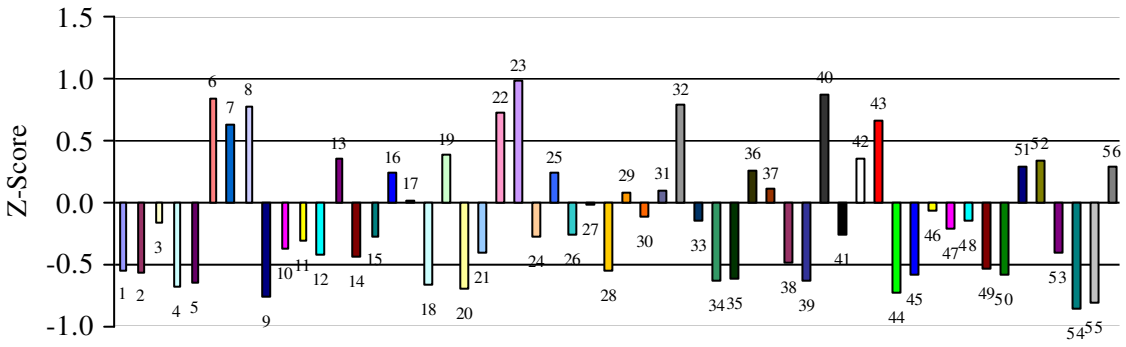
- This Family contains UK's most rural Local Authorities. They are spread throughout the country, are comparatively large in area and are located away from areas of high population.
- The Family is characterised by a low population density (1), a lot of employment in agriculture, hunting, forestry and fishing (23), detached housing (40) and second / holiday homes (42).
- Refer to Figure 3 for a map of this cluster.



6.3.2.1 Group B1 – Rural Britain

93 Local Authorities containing14.7% of the population are in this cluster

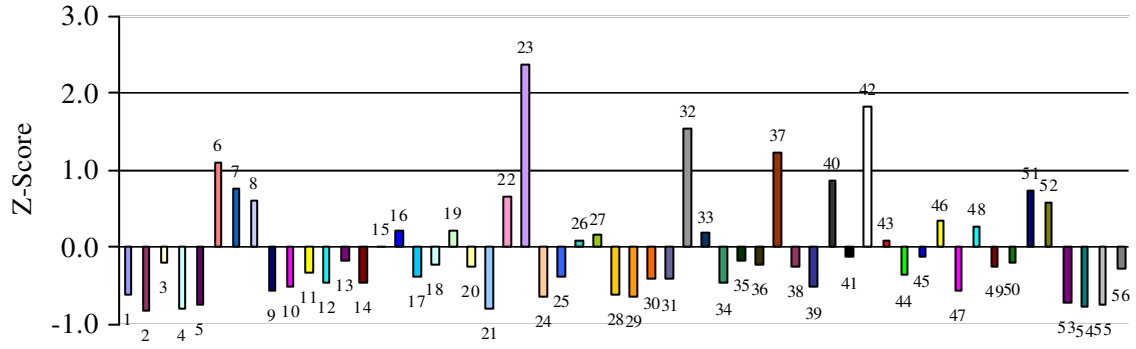
- This group contains the majority of the less densely populated LAs of Britain, these consist of area that are not major towns or cities and are not coastal resorts.
- This group is characterised by an old married population (6, 7, 8), with a high rate of agricultural employment (23) and a low level of unemployment (18, 20). Much of the housing is detached (40) and car ownership is fairly high (43, 44). A traditional family structure is still the norm will a relatively low number of single parents (54).
- Refer to Figure 5 for a map of this cluster.



6.3.2.1.1 Class B1a – Rural Extremes

24 Local Authorities containing 2.7% of the population are in this cluster

- This class contains the most rural parts of Britain
- This class is characterised by high average age (6, 7), agricultural employment (23), self employment (32), people who walk to work (37) and a high number of second/holiday homes (42).
- Refer to Figure 9 for a map of this cluster.



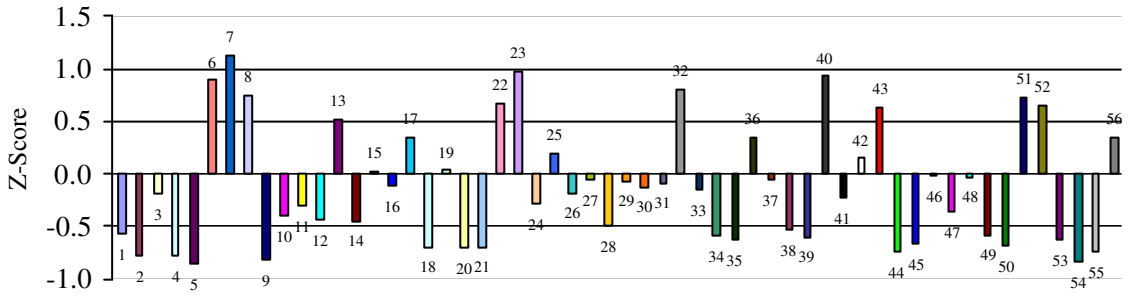
There are 24 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Aberdeenshire UA
Alnwick LA
Angus UA
Argyll and Bute UA
Berwick-upon-Tweed LA
Eden LA
Highland UA
Moray UA
Orkney Islands UA
Perth and Kinross UA
Powys UA
Ryedale LA
Scottish Borders, The UA
Shetland Islands UA
South Hams LA
South Lakeland LA
South Shropshire LA
Teesdale LA
West Devon LA

6.3.2.1.2 Class B1b – Agricultural Fringe

35 Local Authorities containing 5.8% of the population are in this cluster

- This class contains areas which are rural in but not in the extreme. Many contain large towns or are close to an area of larger population.
- This class is characterised by a relatively high average age (6, 7), some agricultural employment (23), relatively high car ownership (43, 44) and detached housing (40).
- Refer to Figure 9 for a map of this cluster.



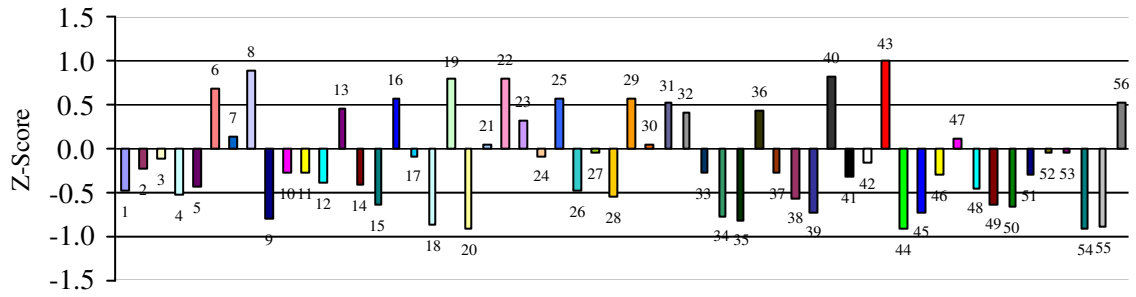
There are 35 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Boston LA	Fenland LA	Monmouthshire UA	South Somerset LA
Breckland LA	Forest of Dean LA	New Forest LA	Staffordshire Moorlands LA
Castle Morpeth LA	Fylde LA	North Dorset LA	Suffolk Coastal LA
Chichester LA	Herefordshire UA	North Shropshire LA	Taunton Deane LA
Cotswold LA	King's Lynn and West Norfolk LA	Oswestry LA	Teignbridge LA
Craven LA	Lewes LA	Purbeck LA	Tynedale LA
Derbyshire Dales LA	Malvern Hills LA	Sedgemoor LA	Wealden LA
East Dorset LA	Mendip LA	Shrewsbury and Atcham LA	West Lindsey LA
East Riding of Yorkshire UA	Mid Devon LA	South Holland LA	

6.3.2.1.3 Class B1c– Rural Fringe

39 Local Authorities containing 6.2 % of the population are in this cluster

- This class contains districts containing one or more small towns in a rural setting that is a centre for small district.
- This class is characterised by generally fairly average values but with significantly higher that average car ownership (43, 44), detached housing (40), people in good health (16) and a high number of married people (8). The employment in this cluster is mixed.
- Refer to Figure 9 for a map of this cluster.



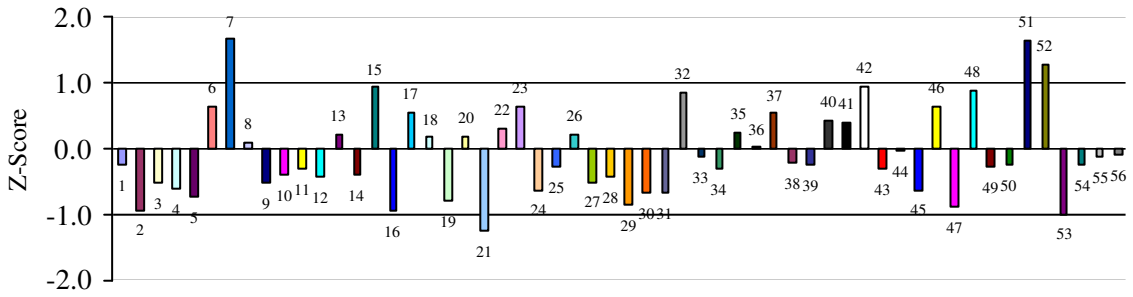
There are 39 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Ashford LA	East Northamptonshire LA	North Kesteven LA	South Kesteven LA
Babergh LA	Fareham LA	North Somerset UA	South Norfolk LA
Blaby LA	***Forest Heath LA***	Poole UA	South Staffordshire LA
Braintree LA	Hambleton LA	Ribble Valley LA	St. Edmundsbury LA
Bridgnorth LA	Harrogate LA	Richmondshire LA	Stroud LA
Broadland LA	Kennet LA	Rochford LA	Tewkesbury LA
Bromsgrove LA	Lichfield LA	Rutland UA	Tunbridge Wells LA
Castle Point LA	Maldon LA	Salisbury LA	West Wiltshire LA
Congleton LA	**Melton LA**	Selby LA	Wychavon LA
East Cambridgeshire LA	Mid Suffolk LA	South Derbyshire LA	

6.3.2.2 Group B2 – Coastal Britain

44 Local Authorities containing 7.6% of the population are in this cluster

- This group contains LAs that all have a coastline; they are well spread all round the coast of Britain.
- This group is characterised by a large number of retired people many of whom live alone (51), there are also many couples without children (52) making this group the domain of the older Britain. Women who work in this group mainly do so, on a part time basis (22). Housing is mixed, but with some is second homes/holiday accommodation (42). Health in these areas is well below average (15, 16) although this will be affected by the high age of the residents (7).
- Refer to Figure 5 for a map of this cluster.



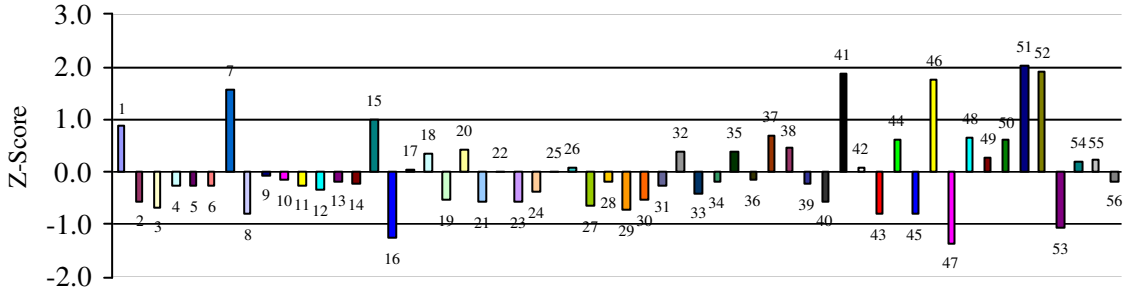
6.3.2.2.1 ClassB2a – Coastal Resorts

8 Local Authorities containing 1.7% of the population are in this cluster

7 This class contains coastal areas which contain large towns or cities that are holiday centres mostly beach resorts.

7 This class is characterised a high number of very old people (7). The level of health in the area is below average (15, 16) which can be linked to the large number of pensioners in the cluster, many of whom live alone (51). Bedsits (41) are a more common than average form of housing in this cluster. There are a significant number of homes with two adults and no children (52), which could explain why the average house size (47) in this cluster is below average.

7 Refer to Figure 9 for a map of this cluster.



There are 8 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Blackpool UA	Eastbourne LA	Southend-on-Sea UA	**Torbay UA**
Bournemouth UA	Hastings LA	Thanet LA	Worthing LA

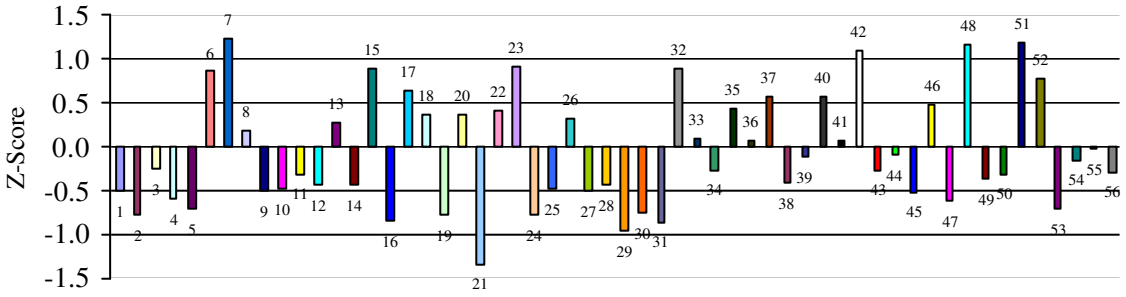
6.3.2.2.2 Class B2b – Aged Coastal Extremities

28 Local Authorities containing 4.6% of the population are in this cluster

7 This class contains LAs which are all on the coast but don't contain any urban areas of great size.

7 This class is characterised by an aged population (6, 7) with a below average level of health (15, 16). Few women in this cluster work full time (21); agriculture (23) employs a higher than average proportion of the workforce in these areas. A higher than expected numbers of homes are without central heating (48) and many of the pensioners in these areas live alone (51).

7 Refer to Figure 9 for a map of this cluster.



There are 28 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Adur LA
Allerdale LA
Caradon LA
Carlisle LA
Carmarthenshire UA
Carrick LA
Conwy UA
Denbighshire UA
Dover LA
Dumfries and Galloway UA
East Lindsey LA
Eilean Siar UA
Great Yarmouth LA
Gwynedd UA
Isle of Anglesey UA
Isle of Wight UA
Kerrier LA
North Cornwall LA
North Devon LA
Pembrokeshire UA
Penwith LA
Restormel LA
Scarborough LA
Shepway LA
Torridge LA
Waveney LA
Weymouth and Portland LA
Wyre LA

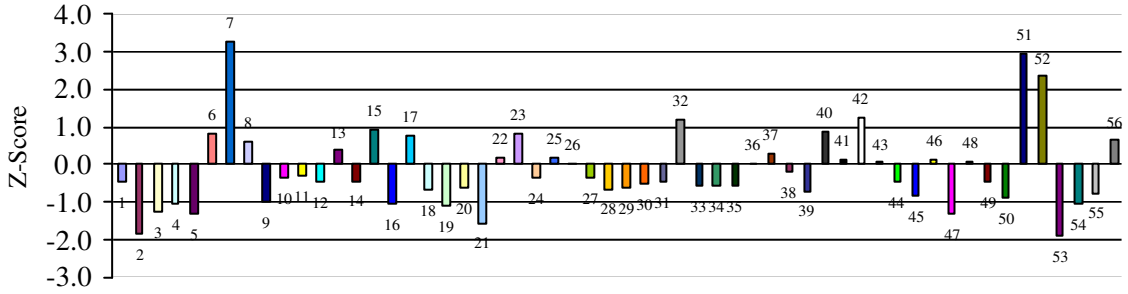
6.3.2.2.3 Class B2c – Aged Coastal Resorts

8 Local Authorities containing 3% of the population are in this Cluster

7 This class contains LAs which all have a coastal location containing several small towns but no major urban areas. Many areas in this cluster contain coastal resorts which are in decline.

7 This class is characterised by a very old population structure (7), with a high proportion of pensioners living alone (51), there are also many households with two adults and no children (52) and a low number of dependant children (53). There is low full time female employment (21) and a higher than expected number of people are self employed (32).

7 Refer to Figure 9 for a map of this cluster.



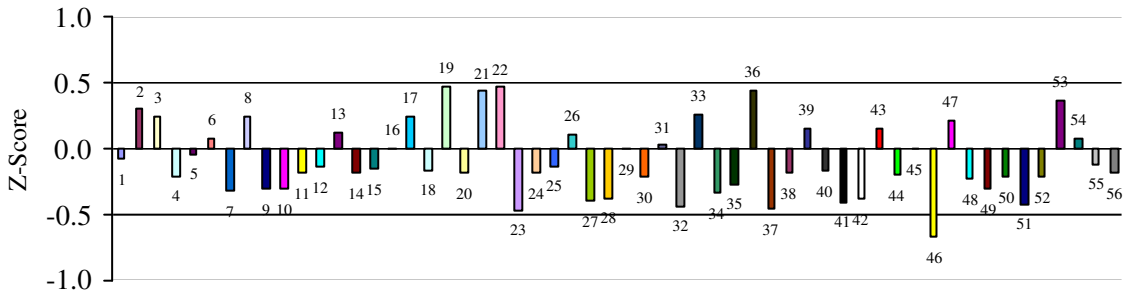
There are 8 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Arun LA	**East Devon LA**	Rother LA	West Dorset LA
Christchurch LA	North Norfolk LA	Tendring LA	***West Somerset LA***

6.3.2.3 Group B3 – Averageville

67 Local Authorities containing 14.0% of the population are in this cluster

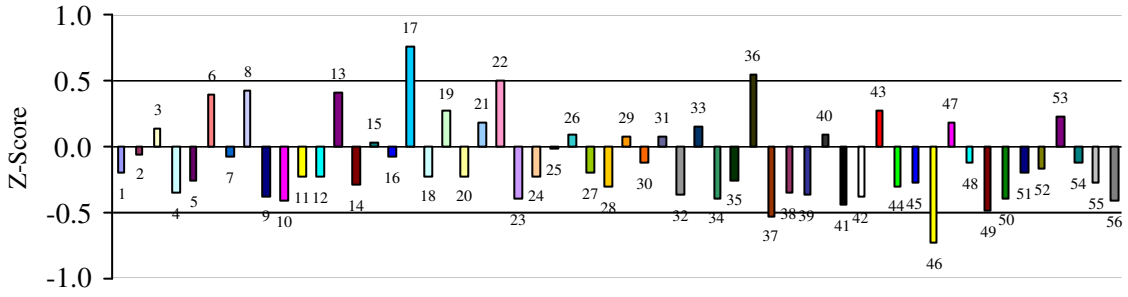
- This group contains LAs that are neither totally urban nor completely rural. They appear in three main groups one to the south east of London, one in the south of Scotland, and a large group in the midlands and south Lancashire and Yorkshire.
- This group is characterised by the fact that they are the most average collection of LAs in the UK. The scale of the graph is much smaller than for all the other clusters.
- Refer to Figure 5 for a map of this cluster.



6.3.2.3.1 Class B3a – Mixed Urban

41 Local Authorities containing 8.8% of the population are in this cluster

- This class mainly contains suburban areas on the outskirts of large urban areas.
- This class is characterised by very little; there are no extreme values. However, the age structure is old rather than young, and the cluster seems to be wealthier than average.
- Refer to Figure 9 for a map of this cluster.



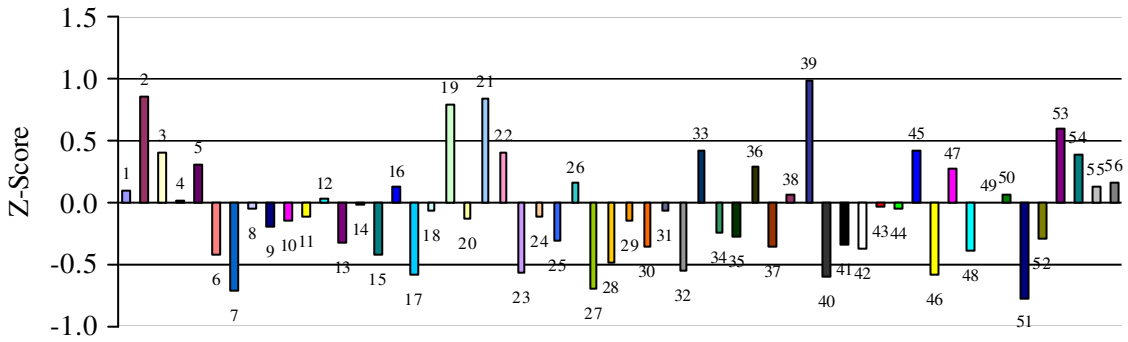
There are 41 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Amber Valley LA
Bassetlaw LA
Bexley LB
Broxtowe LA
Cannock Chase LA
Castlereagh
Chorley LA
Crewe and Nantwich LA
Dudley LA
East Dunbartonshire UA
East Renfrewshire UA
East Staffordshire LA
Ellesmere Port and Neston LA
Erewash LA
Flintshire UA
Gedling LA
Havant LA
Havering LB
High Peak LA
Hinckley and Bosworth LA
Kettering LA
Newark and Sherwood LA
Newcastle-under-Lyme LA
North Down
North East Derbyshire LA
North Lincolnshire UA
North Warwickshire LA
North West Leicestershire LA
Nuneaton and Bedworth LA
Rugby LA
Solihull LA
South Ribble LA
Stafford LA
Stockport LA
Trafford LA
Vale of Glamorgan, The UA
Vale Royal LA
Warrington UA
West Lancashire LA
Wrexham UA
Wyre Forest LA

6.3.2.3.2 Class B3b – Typical Towns

26 Local Authorities containing 5.2% of the population are in this cluster

- This class contains small cities/ large towns or suburban areas close to larger urban areas.
- This class is characterised by little mainly average values however a generally young age structure, with a fairly high proportion of women working full time (21). Much of the housing is terraced (39).
- Refer to Figure 9 for a map of this cluster.



There are 26 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

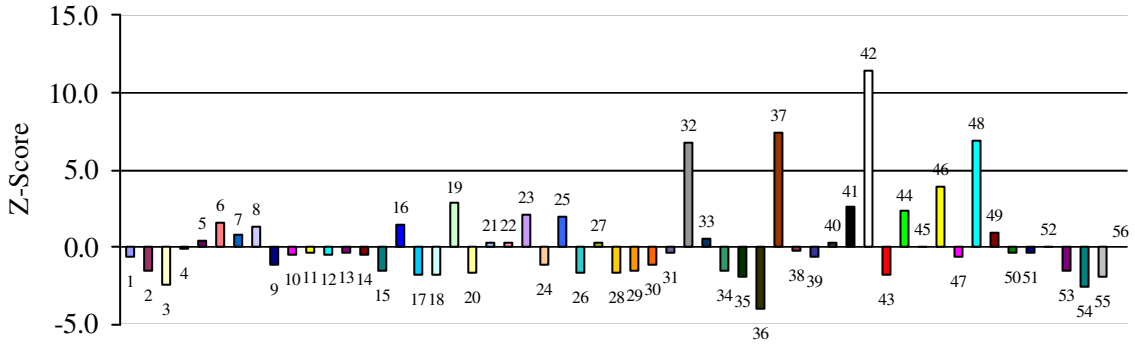
Basildon LA	Gloucester LA	Peterborough UA	Telford and Wrekin UA
Broxbourne LA	Gosport LA	Redditch LA	Thurrock UA
Bury LA	Gravesham LA	Rossendale LA	Wellingborough LA
Corby LA	Harlow LA	Stevenage LA	West Lothian UA
Crawley LA	Medway UA	Swale LA	Worcester LA
Dartford LA	Midlothian UA	Swindon UA	
East Lothian UA	Northampton LA	Tamworth LA	

6.3.2.4 Group B4 - Isles of Scilly

6.3.2.4.1 ClassB4a - Isles of Scilly

1 Local Authority containing 0.0037% of the population are in this cluster

- This class contains the Isles of Scilly only.
- This class is characterised by a high number of self employed people (32), a large number of people who walk to work (37) few who go by car (36). The area contains an extremely large proportion of holiday/second homes (42) and large proportion of homes which don't have central heating (48). It is unique within the UK due to its small size in a rural setting. However a lot of the extreme values are due to the small population size.
- Refer to Figure 9 for a map of this cluster.



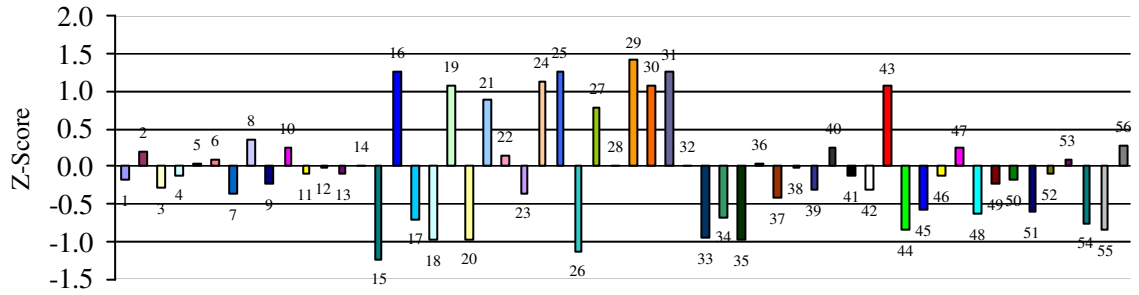
There is 1 Local Authority in this Class. It is:

Isles of Scilly LA

6.3.3 Family C – Prosperous Britain

77 Local Authorities containing 16.3% of the population are in this cluster

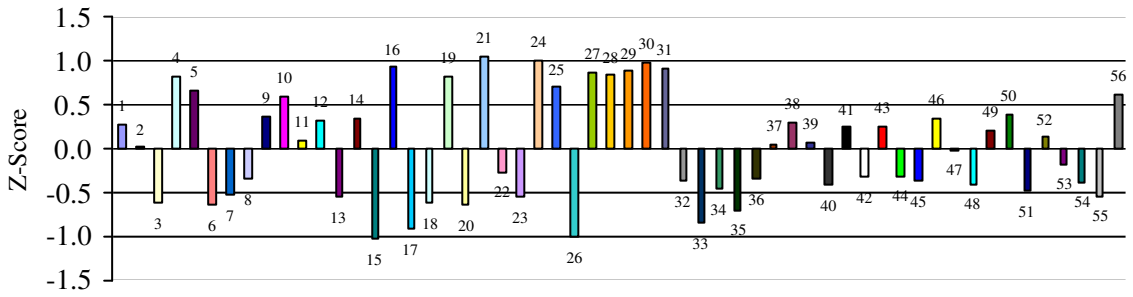
- This Family contains Britain's most prosperous Local Authorities. Typical local authorities in this family include the commuter zone around London and some other large cities, plus some of the Britain's smaller historic cities.
- The Family is characterised by Good health (15, 16), Low unemployment (18, 20), an economically active community (19), highly qualified (27) mobile people, high car ownership (43, 44) and traditional family values (54).
- Refer to Figure 3 for a map of this cluster.



6.3.3.1 Group C1 – Prosperous Urbanites

23 Local Authorities containing 5.4% of the population are in this cluster

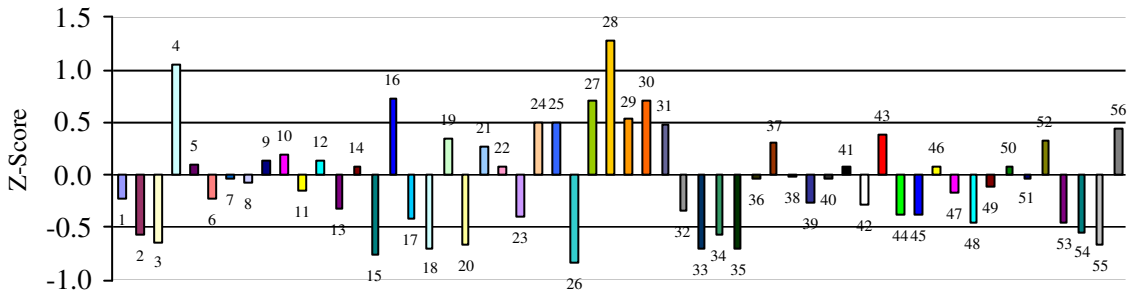
- This group contains a collection of non industrial medium sized urban centres and London Boroughs.
- This group is characterised by good health (15, 16) and high levels of employment, especially in managerial positions (29, 30, 31). Housing is very mixed as is the social structure.
- Refer to Figure 6 for a map of this cluster.



6.3.3.1.1 Class C1a - Historic Cities

13 local Authorities containing 2.7% of the population are in this cluster

- This class contains small cities many of which have a historic legacy generally in a rural setting therefore acting as a regional centre.
- This class is characterised by a large number of residents between 18 -24 (4) many of who are students (28). People living in this cluster are generally in good health (15, 16).
- Refer to Figure 10 for a map of this cluster.



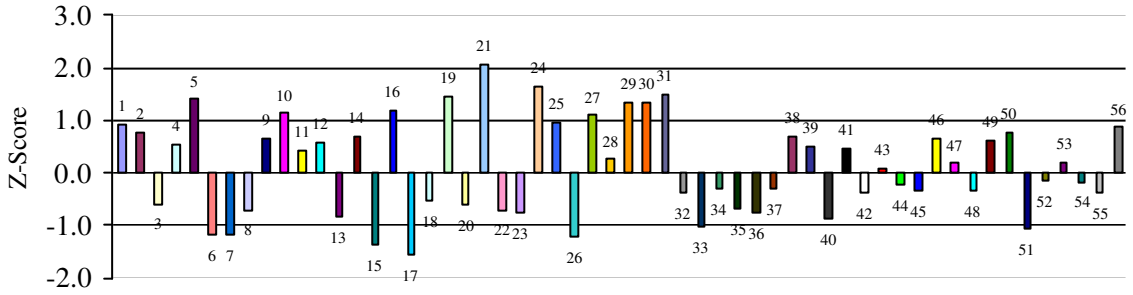
There are 13 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Bath and North East Somerset UA	Chester LA	Runnymede LA	York UA
Bedford LA	**Colchester LA**	Stirling UA	
Charnwood LA	Guildford LA	Warwick LA	
Cheltenham LA	***Oadby and Wigston LA***	Welwyn Hatfield LA	

6.3.3.1.2 Class C1b - Thriving Outer London

10 Local Authorities containing 2.7% of the population are in this cluster

- This class contains rich London suburbs and large towns in the vicinity of London.
- This class is characterised by a young demographic profile with a below average rate of married persons (8), managerial employment is higher than average (29, 30, 31) and a very mixed urban structure.
- Refer to Figure 10 for a map of this cluster.



There are 10 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

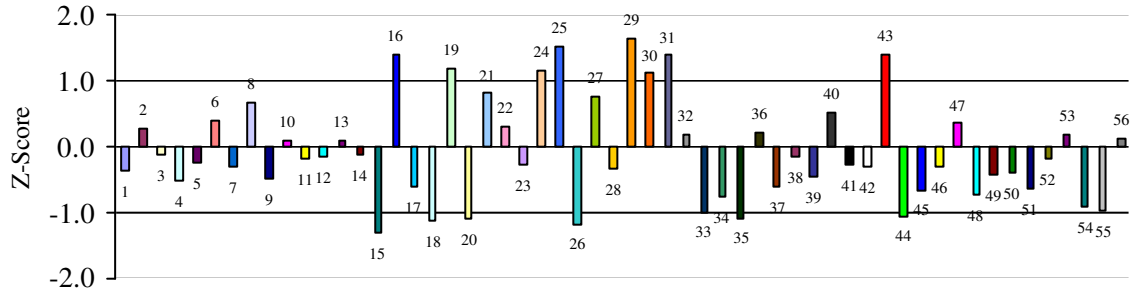
Bracknell Forest UA	Merton LB	***Richmond upon Thames LB***	**Watford LA**
Hillingdon LB	Milton Keynes UA	Rushmoor LA	
Kingston upon Thames LB	Reading UA	Sutton LB	

6.3.3.2 Group C2- Commuter Belt

6.3.3.2.1 Class C2a - Commuter Belt

54 Local Authorities containing 10.9% of the population are in this cluster

- This group contains a belt of middle class housing around London creating a commuter zone, plus a few other areas elsewhere in the country.
- This group is characterised by good health (15, 16), low unemployment (18, 20), and high levels of managerial employment (29, 30, 31). Car ownership is high (43, 44); housing is mixed but mainly detached (40).
- Refer to Figure 10 for a map of this cluster.



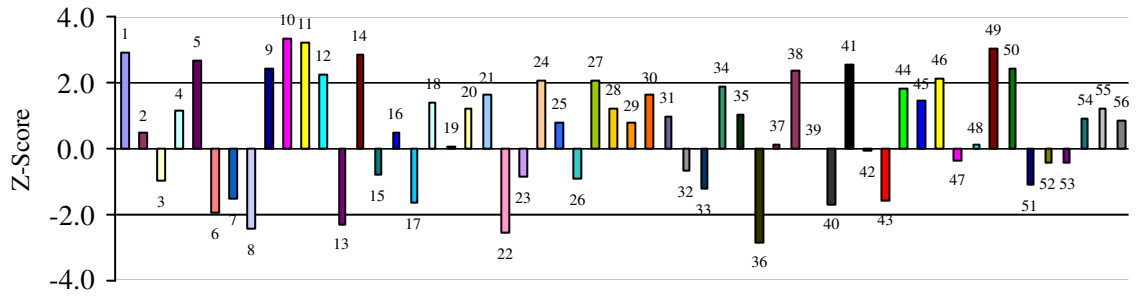
There are 54 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Aylesbury Vale LA
Basingstoke and Deane LA
Brentwood LA
Bromley LB
Chelmsford LA
Cherwell LA
Chiltern LA
Dacorum LA
Daventry LA
East Hampshire LA
East Hertfordshire LA
Eastleigh LA
Elmbridge LA
Epping Forest LA
Epsom and Ewell LA
Harborough LA
Hart LA
Hertsmere LA
Horsham LA
Huntingdonshire LA
Macclesfield LA
Maidstone LA
Mid Bedfordshire LA
Mid Sussex LA
Mole Valley LA
North Hertfordshire LA
North Wiltshire LA
Reigate and Banstead LA
Rushcliffe LA
Sevenoaks LA
South Bedfordshire LA
South Bucks LA
South Cambridgeshire LA
South Gloucestershire UA
South Northamptonshire LA
South Oxfordshire LA
St. Albans LA
Stratford-upon-Avon LA
Surrey Heath LA
Tandridge LA
Test Valley LA
Three Rivers LA
Tonbridge and Malling LA
Uttlesford LA
Vale of White Horse LA
Waverley LA
West Berkshire UA
West Oxfordshire LA
Winchester LA
Windsor and Maidenhead UA
Woking LA
Wokingham UA
Wycombe LA

6.3.4 Family D – Urban London

26 Local Authorities containing 9.6% of the population are in this cluster

- This Family contains the densely populated area of London and some of their satellite towns. No local authorities in this family area outside the area immediately around London.
- The Family is characterised by extreme values for a large number of variables. Trends include high population density (1) and overcrowding (49), a young single population (9), ethnic and religious diversity (11, 12, 14) and low car ownership (43, 44).
- Refer to Figure 3 for a map of this cluster.

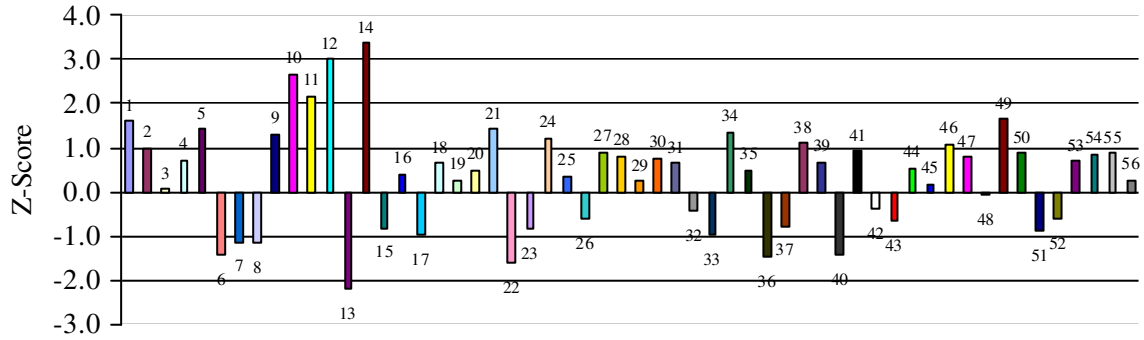


6.3.4.1 Group D1 Multicultural Outer London

6.3.4.1.1 *Class D1a – Multicultural Outer London*

11 Local Authorities containing 4.4% of the population are in this cluster

- 7 This class contains London suburbs and large towns in the London vicinity which have a significant ethnic presence.
- 7 This class is characterised by a young age structure, a very high proportion of people from black minority ethnic groups (11) and the Indian subcontinent (12). A proportion of homes suffer from overcrowding (49). The housing structure has a higher than average number of flats (38) and a below average number of detached homes (40).
- 7 Refer to Figure 11 for a map of this cluster.



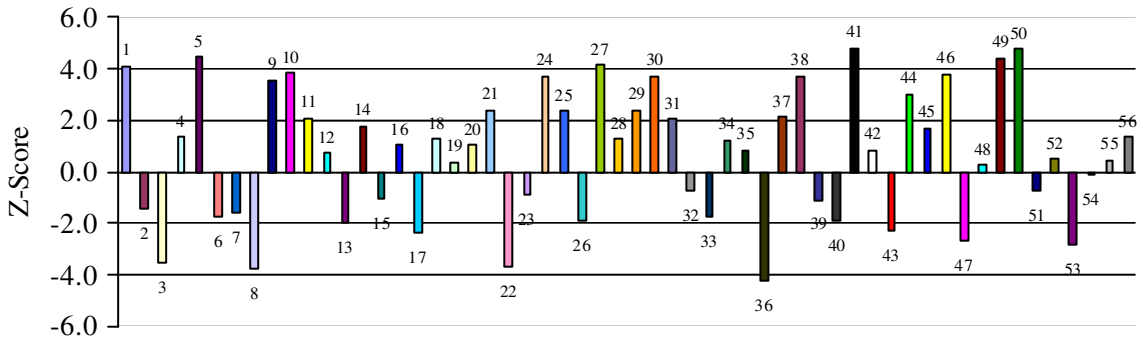
There are 11 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Barnet LB	Enfield LB	**Hounslow LB**	Slough UA
Croydon LB	***Greenwich LB***	Luton UA	Waltham Forest LB
Ealing LB	Harrow LB	Redbridge LB	

6.3.4.2 Group D2 – Mercantile Inner London

7 Local Authorities containing 2.0% of the population are in this cluster

- 7 This group contains wealthy and business areas of inner London.
- 7 This group is characterised by extreme values for many variables especially evident are high population density (1), a lot of people in their late 20's (5), a large number of women working full time (21), a highly qualified (27) population involved in business activities also a high number of one person households (50) and a number of homes which are overcrowded (49).
- 7 Refer to Figure 7 for a map of this cluster.



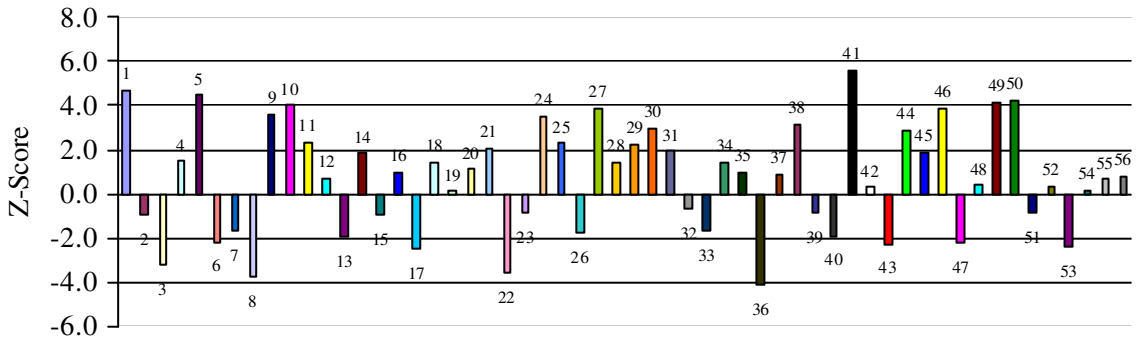
6.3.4.2.1 Class D2a – Central London

6 Local Authorities containing 1.9% of the population are in this cluster

7 This class contains wealthy areas of Inner London.

7 This group is characterised by extreme values for many variables especially evident are high population density (1), a lot of people in their late 20's (5), a large number of women working full time (21), a highly qualified (27) population involved in business activities also a high number of one person households (50) and a number of homes which are overcrowded (49).

7 Refer to Figure 11 for a map of this cluster.



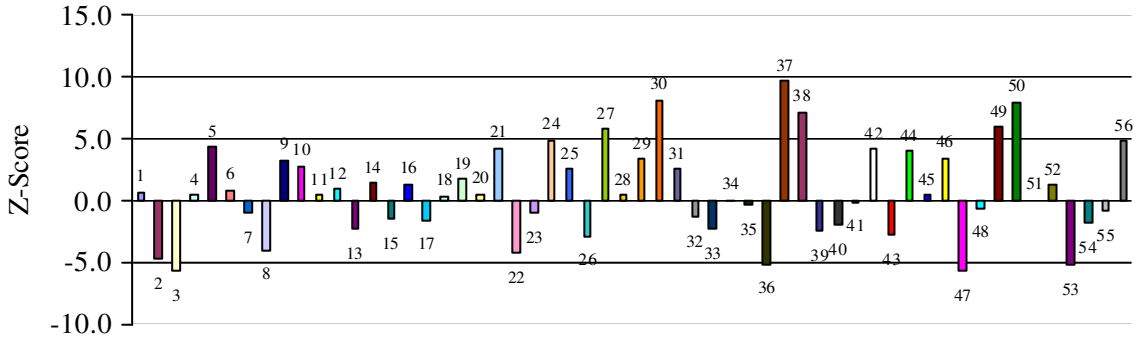
There are 6 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Camden LB	Islington LB	***Wandsworth LB***
Hammersmith and Fulham LB	Kensington and Chelsea LB	Westminster LB

6.3.4.2.2 Class D2b - The City of London

1 Local Authority containing 0.01% of the population are in this cluster

- This class contains the City of London only.
- This class is characterised by extreme values all over the place due to its small area and small population unique within the UK Age structure dominated by middle aged people, high levels of managerial employment (30), low car ownership (43, 44). Most people walk to work (37). Housing is mainly made up of small flats (38) containing only one resident (50). The LA has experienced a large population increase (56). However a lot of the extreme values are due to the small population size.
- Refer to Figure 11 for a map of this cluster.



There is 1 Local Authority in this Class. It is:

City of London LB

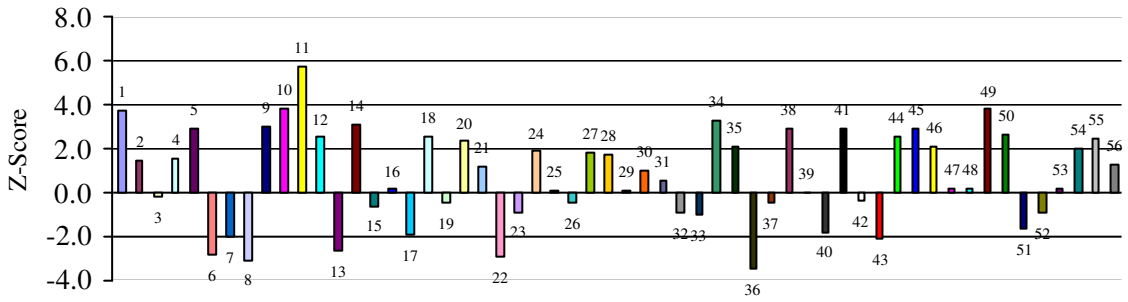
6.3.4.3 Group D3 – Cosmopolitan Inner London

8 Local Authorities containing 3.2% of the population are in this cluster

7 This group contains the traditionally poorer former industrial areas of inner London.

7 This group is characterised by a single (9), ethnically diverse (10, 11, 12) population with an especially large black population (11). Unemployment is high (18, 20) as is overcrowding (49) with a large proportion of the population living in flats (38) and Bedsits (41).

7 Refer to Figure 7 for a map of this cluster.



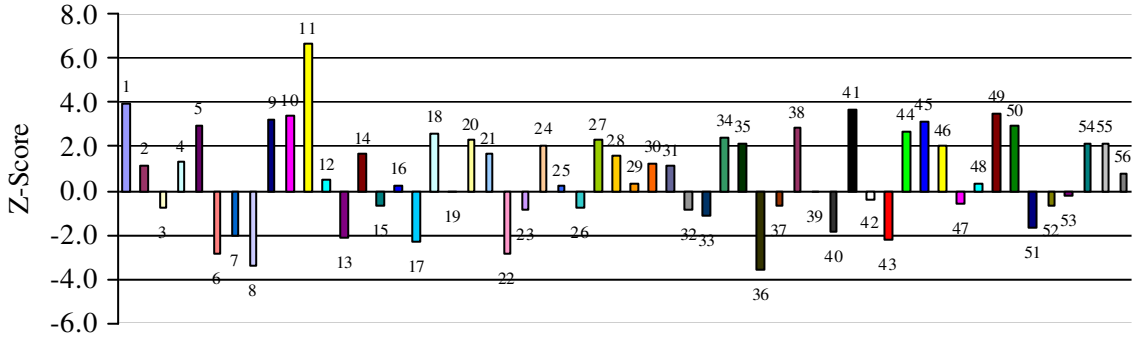
6.3.4.3.1 Class D3a - Afro-Caribbean Ethnic Boroughs

5 Local Authorities containing 2.0% of the population are in this cluster

7 This class contains the LAs of inner London which are dominated by black minority ethnic groups.

7 This class is characterised by a lot of extreme values, a young population structure. A very high proportion of people from black minority ethnic groups (11), but few from the Indian sub continent (12). Housing contains a lot of flats (38) and Bedsits (41); car ownership (43, 44) is low. Unemployment (18, 20) is high those of those who are employed are highly qualified (27). High employment in the real estate sector (24) suggests a very active housing market.

7 Refer to Figure 11 for a map of this cluster.



There are 5 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Hackney LB	Lambeth LB	**Southwark LB**
Haringey LB	Lewisham LB	

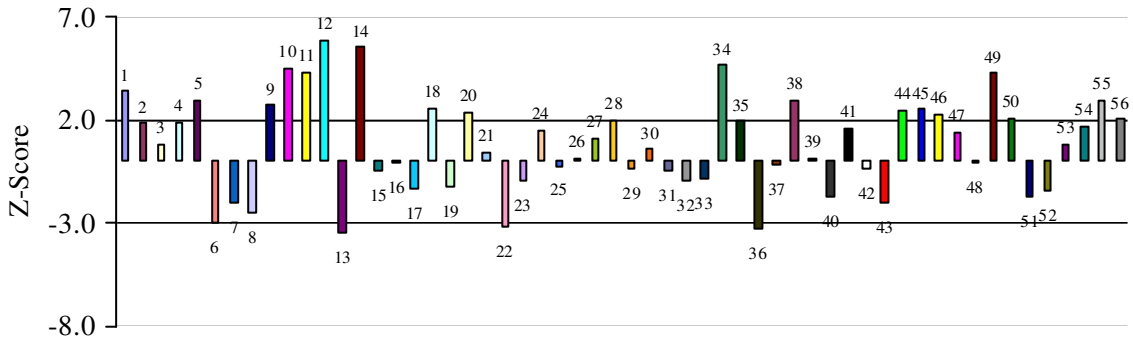
6.3.4.3.2 *Class D3b – Multicultural Inner London*

3 Local Authorities containing 1.2% of the population are in this cluster

7 This class contains areas of inner London with high ethnicity.

7 This class is characterised by a young age structure, a high proportion of people from black minority ethnic groups and the Indian sub continent (11, 12), unemployment (18, 20) is high with a significant proportion of people of working age who have never worked (34). Car ownership is low (43, 44), housing is characterised by a significantly above average number of flats (38) and Bedsits (41).

7 Refer to Figure 11 for a map of this cluster.



There are 3 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Brent LB **Newham LB** ***Tower Hamlets LB***

6.3.5 Family E – Northern Irish Heartlands

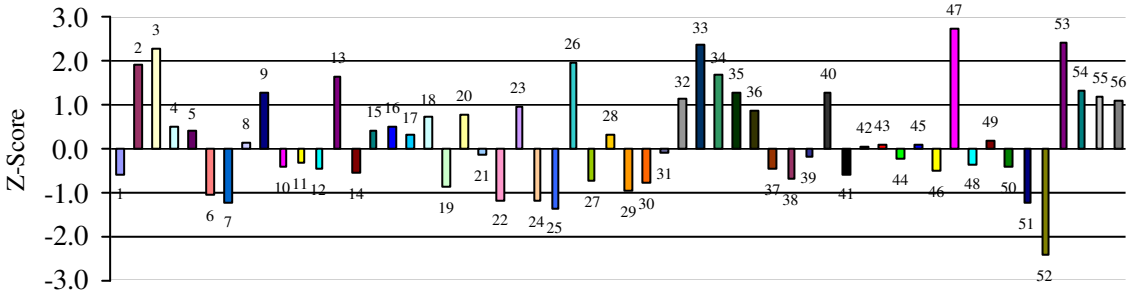
6.3.5.1 Group E1– Northern Irish Heartlands

23 Local Authorities containing 2.2% of the population are in this cluster

7 This Family contains all the Local Authorities in Northern Ireland except Belfast, Castlereagh and North Down.

7 The Family is characterised by extreme values for many variables, a very young (2, 3) growing population (56) with a large number of dependant children (53). Little ethnic and religious diversity (10, 11, 12). Significant numbers of people with no qualifications (26) who have routine occupations (33). Catholic/Protestant divide cannot be seen because the data was not available for the whole UK so could not be used. If variables that only appeared in Northern Ireland census were used more variation would be seen within this cluster.

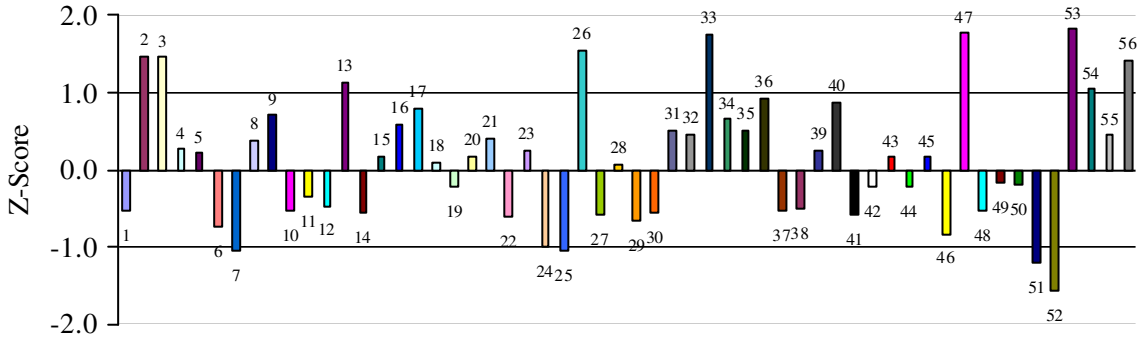
7 Refer to Figure 3 for a map of this cluster.



6.3.5.1 Class E1a – Northern Irish Urban Growth

10 Local Authorities containing 1.1% of the population are in this cluster

- This class contains a collection of LAs which surround Belfast.
- This class is characterised by a young population profile (2, 3), a high number of people of Christian religion (13). The population generally has few qualifications (26) and a high proportion of employment is in routine occupations (33). Most housing is detached (40) and the household size (47) is larger than average. There are a high number of households with dependant children (53). There has also been significant population growth in this cluster since 1991 (56).
- Refer to Figure 12 for a map of this cluster.



There are 10 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Antrim	***Banbridge***	Down	Newtownabby
Ards	Carrickfergus	Larne	
Ballymena	Craigavon	**Lisburn**	

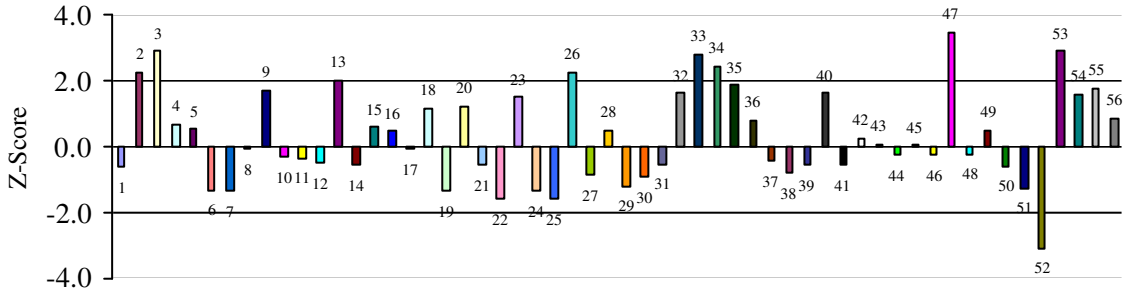
6.3.5.1.2 Class E1b – Rural Northern Ireland

13 Local Authorities containing 1.1% of the population are in this cluster

7 This class contains LAs in central and western, Northern Ireland.

7 This class is characterised by a generally young age structure (2, 3), and a large single population (9). There are a high number of people of Christian religion (13). The population generally has few qualifications (26) and a high proportion of employment is in routine occupations (33) or agriculture and fishing. Most housing is detached (40) and the household size is larger than average (47). There are a high number of households with dependant children (53), but few couples without children (52).

7 Refer to Figure 12 for a map of this cluster.



There are 13 Local Authorities in this Class (most typical is Underlined, least typical is in *Italics*). They are:

Armagh	***Derry***	Magherafelt	Strabane
Ballymoney	Dungannon	Moyle	
Coleraine	Fermanagh	Newry and Mourne	
Cookstown	Limavady	**Omagh**	

6.4 The Clusters with the highest and lowest values

Along with knowing what are the extreme variables for each cluster are it could also be useful to have the data the other way round, for example you may what to no where has the highest or lowest rate of unemployment. Table 8 enables this to be done listing the class which shows the most extreme positive and negative values for each variable.

Table 8 The Classes with that have the highest positive and negative values for each variable.

	Variable	*Class with the highest Value*	
		Positive	*Negative*
1	Population Density	D2a	B1a
2	People aged: 0 - 9	E1b	D2b
3	People aged: 10 - 17	E1b	D2b
4	People aged: 18 - 24	A2b	B2c
5	People aged: 25 - 29	D2a	B2c
6	People aged: 45 - 64	B4a	D3b
7	People aged: 65+	B2c	D3b
8	Married	B4a	D2b
9	Single (Never Married)	D2a	B4a
10	Born outside UK	D3b	A1a
11	Black minority ethnic groups	D3a	B4a
12	Indian, Pakistani or Bangladeshi	D3b	B4a
13	Christian	E1b	D3b
14	Other Religion	D3b	E1b
15	Limiting long-term illness	A1a	B4a
16	Residents whose health is good	B4a	A1a
17	Residents who provide unpaid care	A1a	D2a
18	Unemployment	D3a	B4a
19	Economically active residents 16+	B4a	A2b
20	Male Unemployment	D3b	B4a
21	Women who work Full-time	D2b	B2c
22	Women who work Part-time	B1c	D2b
23	Agriculture; hunting; forestry and fishing employment	B1a	D2b
24	Real estate; renting and business activities employment	D2b	E1b
25	Managers and senior officials employment	D2b	E1b
26	No qualifications	E1b	D2b
27	Highest qualification attained degree level or above	D2b	A2a
28	Full time Students	A2b	B4a
29	Large employers and higher managerial occupations employment	D2b	B4a
30	Higher professional occupations employment	D2b	B4a
31	Lower managerial and professional occupations employment	D2b	A2a
32	Small employers and own account workers employment	B4a	A2b
33	Routine occupations employment	E1b	D2b
34	Never worked	D3b	B4a
35	Long-term unemployed	D3a	B4a
36	Car to work	E1a	D2b
37	Walk to work	D2b	D1a
38	purpose-built flats	D2b	E1b
39	Terraced houses	A2c	D2b

40	Detached housing	E1b	D2b
41	Bedsits	D2a	E1a
42	Households With no residents: Second residence / holiday home	B4a	A2a
43	Households with 2+ cars	C2a	D2b
44	No car households	D2b	C2a
45	LA Rented	D3a	B2c
46	Private Rented	B4a	A2d
47	Household size	E1b	D2b
48	No central heating	B4a	A2d
49	Households: with an occupancy rating of -1 or less (overcrowding)	D2b	B1c
50	One-person no-pensioner households	D2b	B2c
51	Single pensioner households	B2c	D3b
52	2 adults no children	B2c	E1b
53	Households with dependent children	E1b	D2b
54	Lone Parent Families	D3a	B4a
55	Households: No adults in employment :with dependent children	D3b	B4a
56	Population change 1991 - 2001	D2b	A2a

6.5. Similarities of the LAs

Just because two LAs are in the same cluster it does not mean that they are the most similar of all the LAs. This is because an object on the edge of a cluster can be closer to an object on the edge of another cluster rather an object within it's own. Appendix c lists each LA and the five LAs that are most like them.

6.6. Mapping out the Clusters

As the local authorities in general are large areas it is possible to pick most of them out at a national scale. Therefore maps of the UK showing the distribution of each cluster type are very useful as they enable any geographic patterns within the clusters to be seen and interpreted easily. Figures 3 – 12 display maps of all families, groups and classes throughout the UK.

Figure 3 Map of the five families

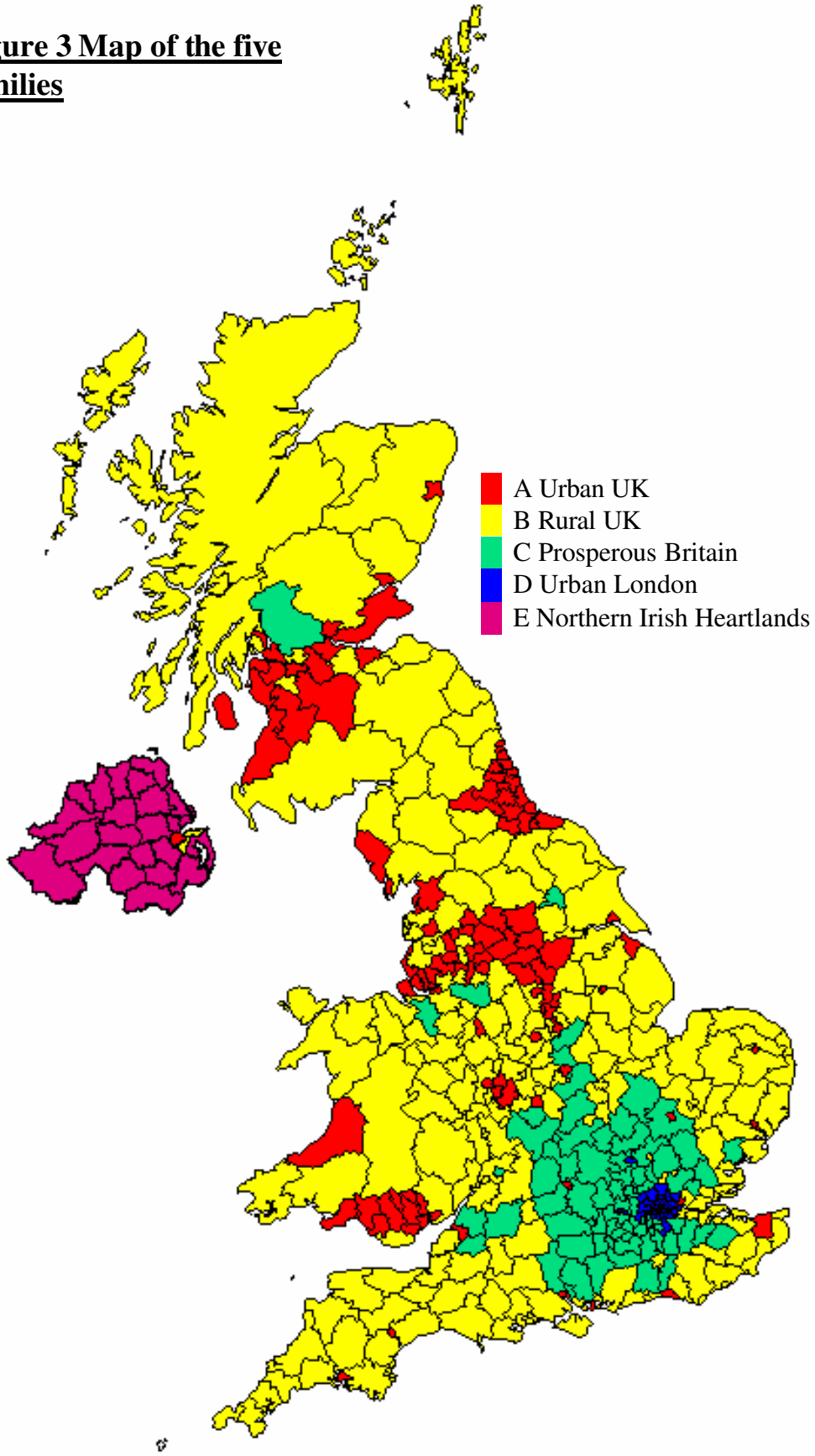


Figure 4 Map of the three groups within the family A Urban UK

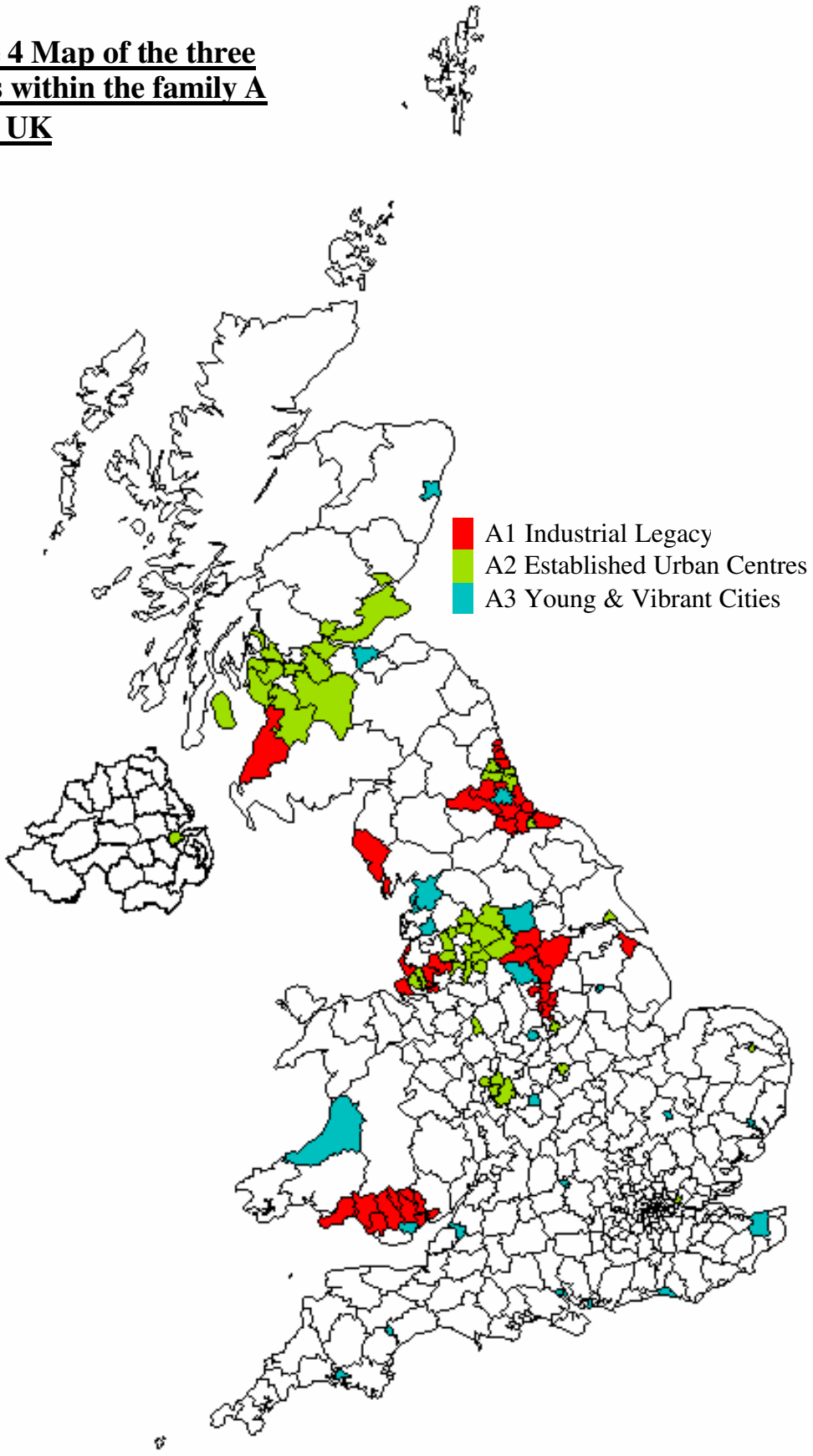


Figure 5 Map of the four groups within the family B Rural UK

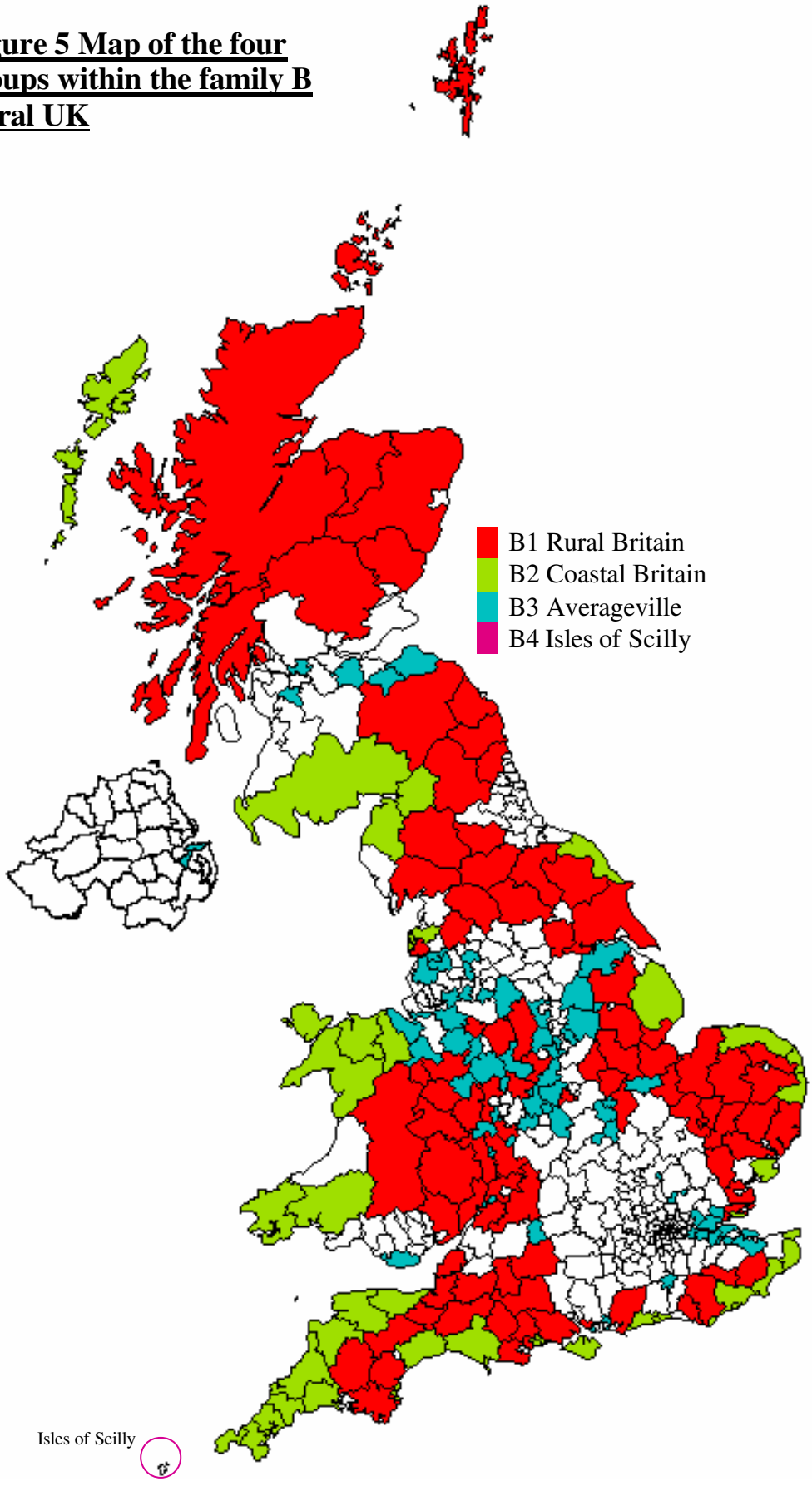


Figure 6 Map of the two groups within the family C Prosperous Britain

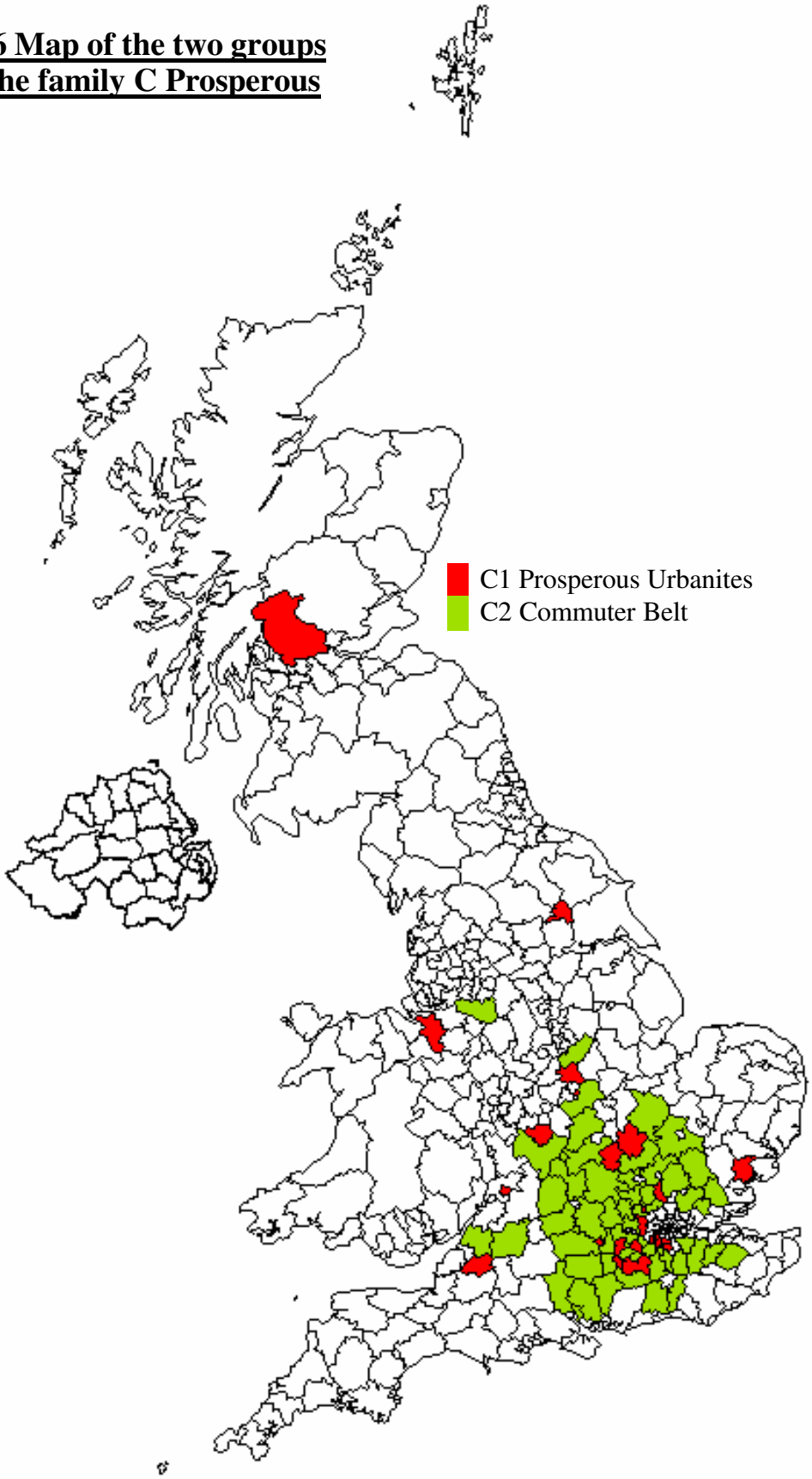


Figure 7 Map of the three groups within the family D Urban London

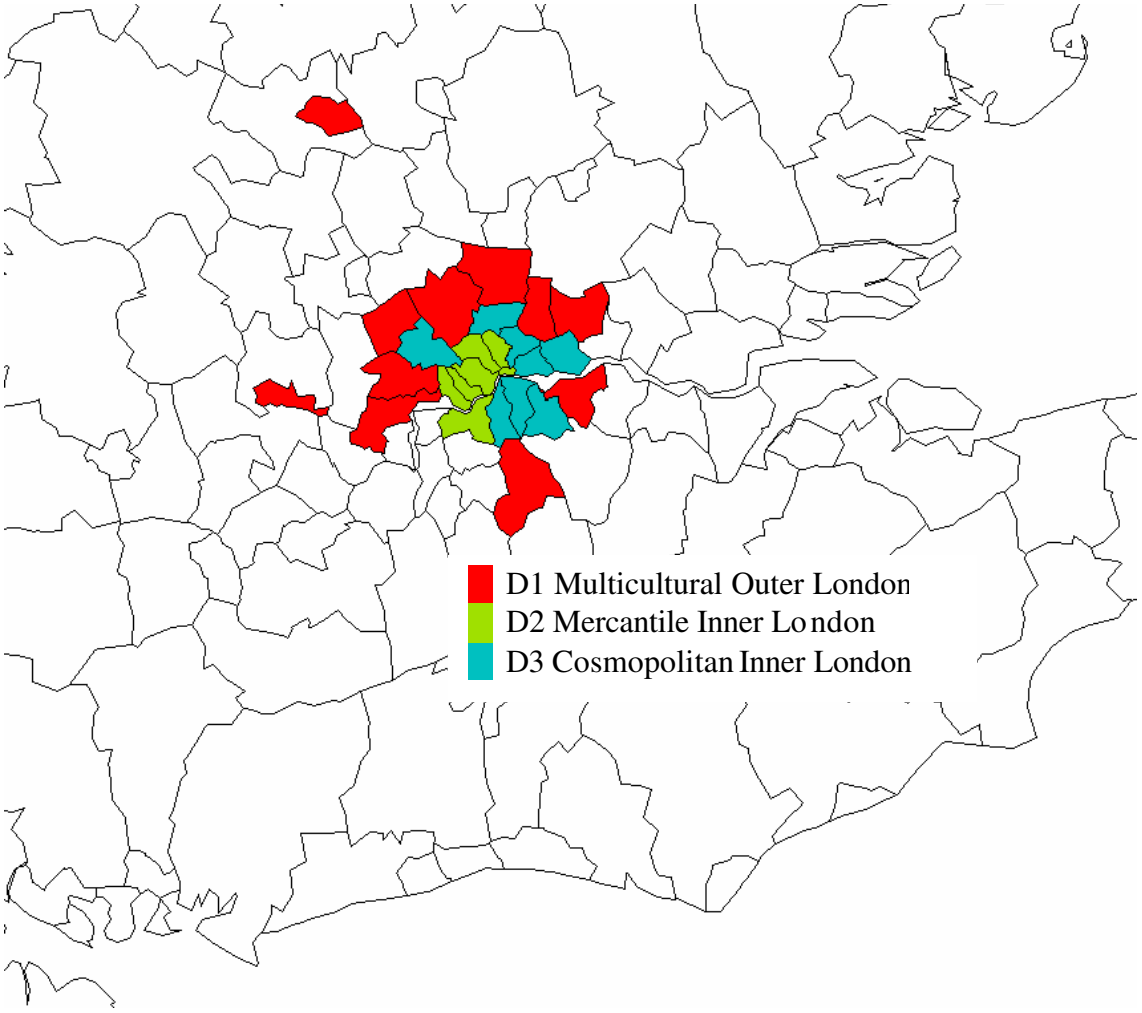


Figure 8 Map of the seven classes within family A Urban UK

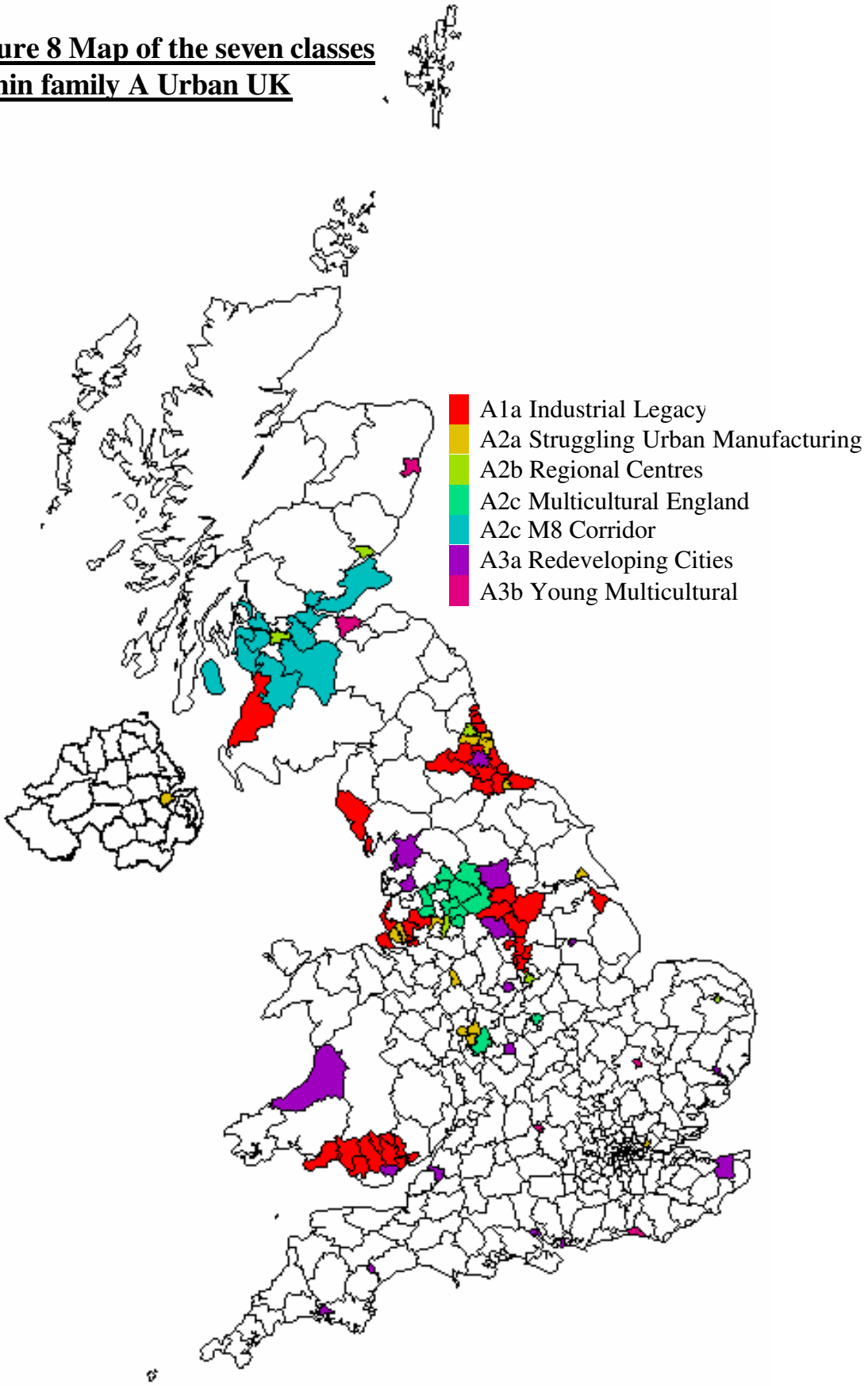


Figure 9 Map of the nine classes within family B Rural UK

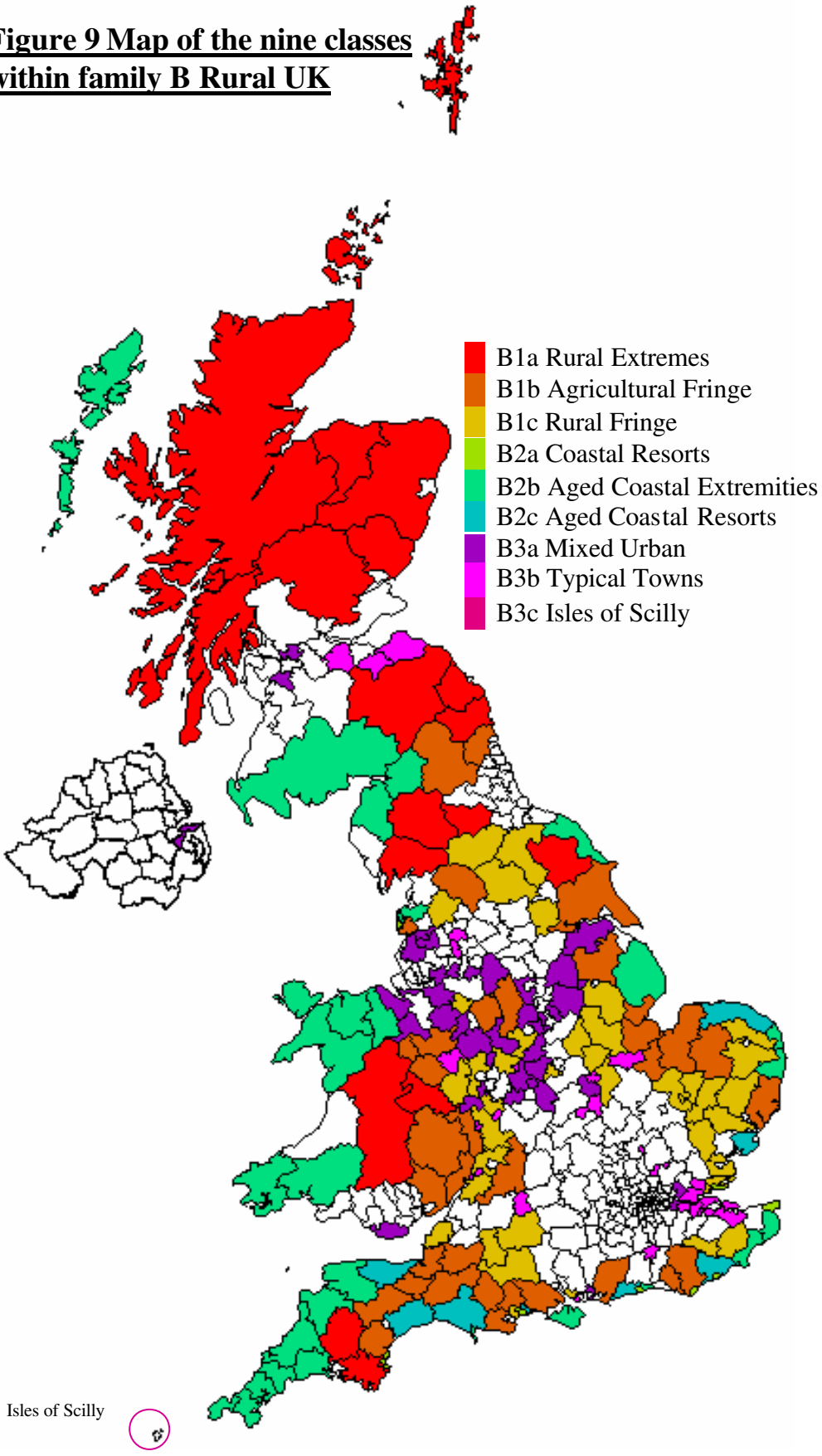


Figure 10 Map of the three classes within family C Prosperous Britain

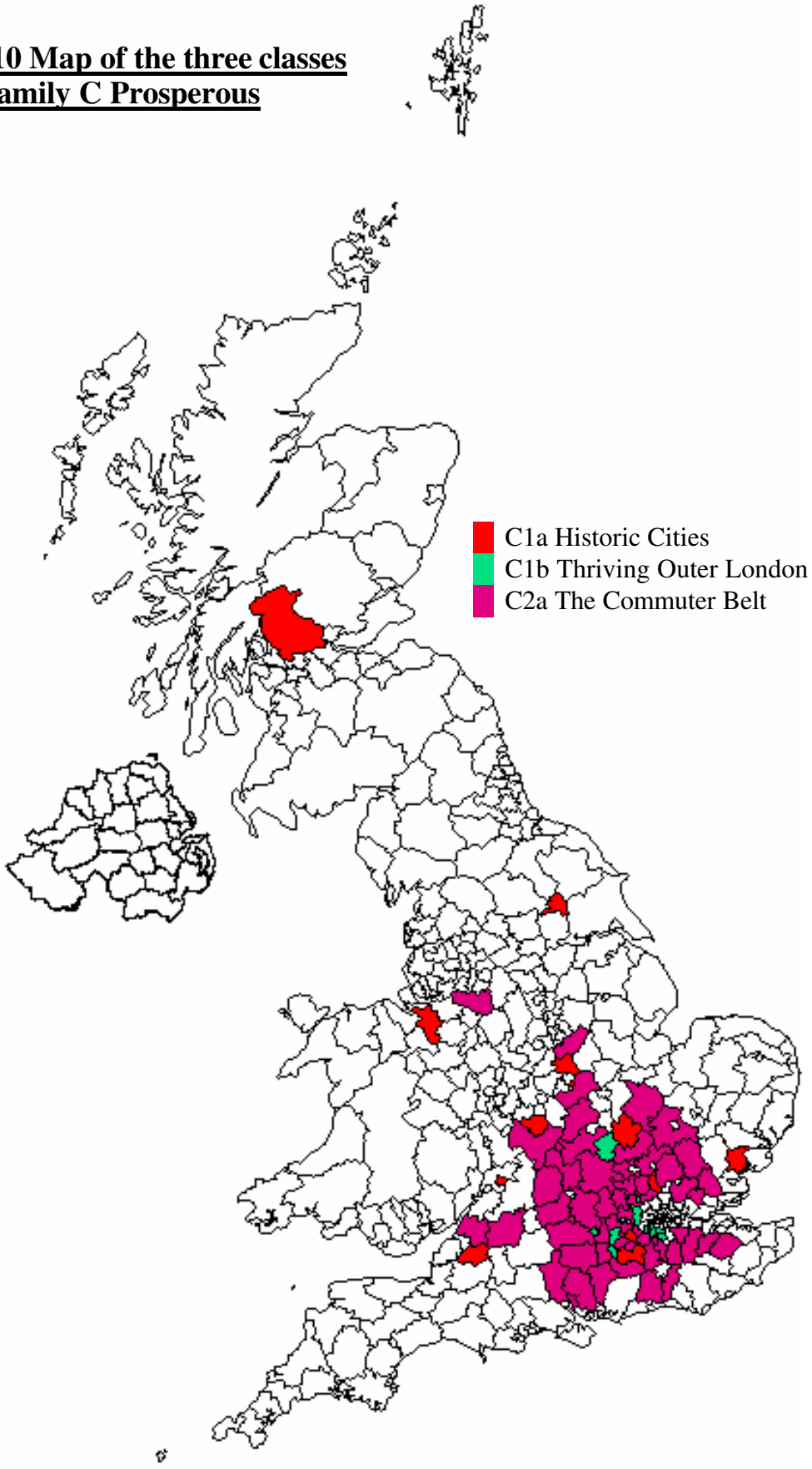


Figure 11 Map of the five classes within family D Urban London

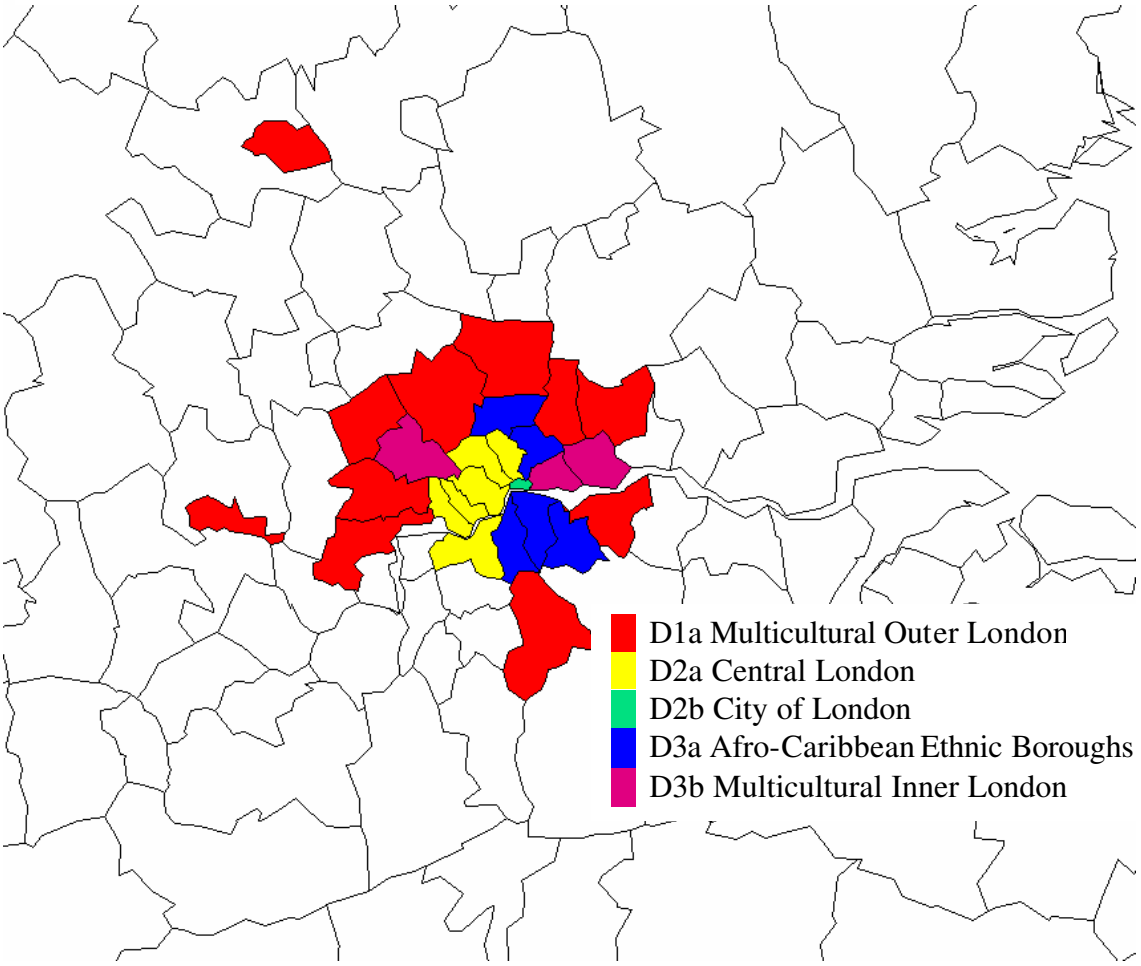
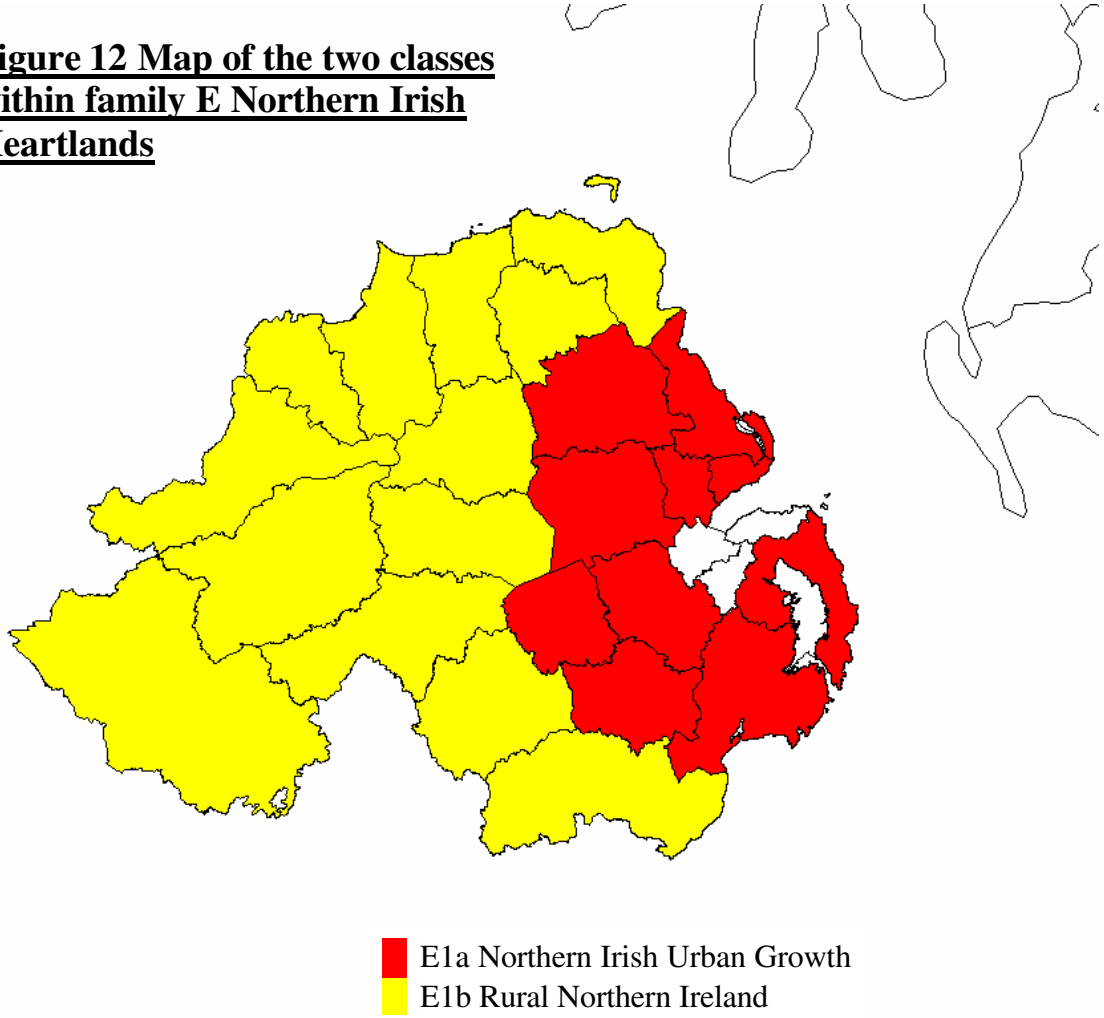


Figure 12 Map of the two classes within family E Northern Irish Heartlands



References

Bailey, S. Charlton, J. Dollamore, G. & Fitzpatrick, J. (1999). The ONS classification of local and health authorities of Great Britain: Revised for authorities in 1999. London, Office for National Statistics.

Blake, M. & Openshaw, S., (1995), Selecting Variables for Small Area Classifications of 1991 UK Census Data, 14th October 2002, http://www.geog.leeds.ac.uk/papers/95-2/.

Bryson, B. (1995). Notes from a small island. London, Doubleday.

Everitt, B. S. (1993). Cluster Analysis. London, Edward Arnold.

Moser, C. A. & Scott, W. (1961). British Towns: A statistical study of their social and economic differences. Edinburgh, Oliver and Boyd Ltd.

SPSS (1999). Chapter 28: Hierarchical Cluster Analysis. SPSS Base 9.0 User's Guide. Inc., S. London, SPSS**:** 325-332.

Ward, J. H. (1963). "Hierarchical grouping to optimize an objective function." Journal of the American Statistical Association **58**(30): 236 - 244.

Webber, R. & Craig, J. (1976). "Which local authorities are alike." Population Trends **5**: 13-19.

Webber, R. & Craig, J. (1978). A socio economic classification of local authorities in Great Britain. london, HMSO.

Appendix A - List of variables showing inclusion, rejection or merger

	Variable	*Domain*	*Reason for Inclusion, Rejection or Merger*
1	Population Density	Demographic	**Included** – As it is unlike any other variable giving a good in indication of the rural/urban variation of the country. It also has a very large variance.
2	Male	Demographic	**Rejected** – No variation across the dataset
3	Female	Demographic	**Rejected** – No variation across the dataset
4	Communal Establishments	Demographic	**Rejected** – There location is sporadic and not indicative of the population of the area.
5	People aged: 0 – 4	Demographic	**Merged** - With 6&7 due to high positive correlation
6	People aged: 5 – 7	Demographic	**Merged** - With 5&7 due to high positive correlation
7	People aged: 8 – 9	Demographic	**Merged** - With 5&6 due to high positive correlation
8	People aged: 10 – 14	Demographic	**Merged** - With 9&10 due to high positive correlation
9	People aged: 15	Demographic	**Merged** - With 8&10 due to high positive correlation
10	People aged: 16 – 17	Demographic	**Merged** - With 8&10 due to high positive correlation
11	People aged: 18 – 19	Demographic	**Merged** - With 12 due to high positive correlation
12	People aged: 20 – 24	Demographic	**Merged** - With 11 due to high positive correlation
13	People aged: 25 – 29	Demographic	**Included** – A good indicative group, representing first time buyers.
14	People aged: 30 – 44	Demographic	**Rejected** – Little variation across the dataset. However, pseudo included as the rest of the variance in the age category is included
15	People aged: 45 – 59	Demographic	**Merged** - With 16 due to high positive correlation
16	People aged: 60 – 64	Demographic	**Merged** - With 15 due to high positive correlation
17	People aged: 65 – 74	Demographic	**Merged** - With 18,19&20 due to high positive correlation
18	People aged: 75 – 84	Demographic	**Merged** - With 17,19&20 due to high positive correlation
19	People aged: 85 – 89	Demographic	**Merged** - With 17,18&20 due to high positive correlation
20	People aged: 90 & over	Demographic	**Merged** - With 17,18&19 due to high positive correlation
21	Married (Living in Couple)	Demographic	**Merged** - With 24
22	Cohabiting	Demographic	**Rejected** – Indicates little, small variance across areas
23	Single (Never Married)	Demographic	**Included** – Indicative of a mobile population
24	Married (Not living in Couple)	Demographic	**Merged** - With 21
25	Separated	Demographic	**Rejected** – Indicates little, small variance across areas
26	Divorced	Demographic	**Rejected** – Indicates little, small variance across areas
27	Widowed	Demographic	**Rejected** – Indicates little, small variance across areas
28	Born in: England	Ethnicity & Religion	**Rejected** – Does little except split countries of the UK

29	Born in: Scotland	Ethnicity & Religion	**Rejected** – Does little except split countries of the UK
30	Born in: Wales	Ethnicity & Religion	**Rejected** – Does little except split countries of the UK
31	Born in: Northern Ireland	Ethnicity & Religion	**Rejected** – Does little except split countries of the UK
32	Born in: Republic of Ireland	Ethnicity & Religion	**Merged** - With 33&34
33	Born in: Other EU Countries	Ethnicity & Religion	**Merged** - With 32&34
34	Born Rest of the World (Outside EU)	Ethnicity & Religion	**Merged** - With 32&33
35	Black minority ethnic groups	Ethnicity & Religion	**Included** – High variance, strong distinction in numbers between rural and urban areas
36	Indian, Pakistani or Bangladeshi	Ethnicity & Religion	**Included** – High variance, strong distinction in numbers between rural and urban areas
37	Chinese	Ethnicity & Religion	**Rejected** – Little variation across the dataset
38	White	Ethnicity & Religion	**Rejected** – Pseudo Included as the rest of the variance in the ethnicity category is included
39	Christian	Ethnicity & Religion	**Included** – Considered important to include as it is the first time the religion question was asked in the census. Also shows some significant regional differences.
40	Other Religion	Ethnicity & Religion	**Included** – Considered important to include as it is the first time the religion question was asked in the census. Also shows some significant regional differences.
41	Not Stated or No Religion	Ethnicity & Religion	**Rejected** – Pseudo Included as the rest of the variance in the religion category is included
42	Limiting long-term illness	Health	**Included** – Considered important as a measure of the health of the nation
43	Residents whose health is good	Health	**Included** – Considered important as a measure of the health of the nation. Also the other extreme to LlTI giving a fuller picture of the health of the nation.
44	Residents whose health is fairly good	Health	**Rejected** – Vague in its nature, however pseudo included as the extremes of the variance in the health category is included.
45	Residents whose health is not good	Health	**Rejected** – Vague in its nature, however pseudo included as the extremes of the variance in the health category is included.
46	Residents who provide unpaid care	Health	**Included** – An alternative measure of the nations health
47	Unemployment	Employment	**Included** – An important measure in the employment domain
48	Self-employed	Employment	**Rejected** – Vary Similar to 84
49	Economically active residents 16+	Employment	**Included** – A good indication of the size of the workforce n an area taking into account all factors.
50	Male Unemployment	Employment	**Included** – Indicative of a more extreme problem than total unemployment as men are more likely to be the sole or main wage earner in a household.
51	Working Women ft	Employment	**Included** – An indication of the changing employment structure of the UK as more women continue to join the workforce.
52	Women who work part-time	Employment	**Included** – An indication of the changing employment structure of the UK as more women continue to join the workforce.

53	Agriculture; hunting; forestry and fishing employment	Employment	**Included** – High distinction between rural and urban areas
54	Mining, quarrying and construction employment	Employment	**Rejected** – Too specific
55	Manufacturing employment	Employment	**Rejected** – Too specific
56	Electricity; gas and water supply employment	Employment	**Rejected** – Too specific
57	Wholesale & retail trade; repair of motor vehicles employment	Employment	**Rejected** – Too specific
58	Hotels and catering employment	Employment	**Rejected** – Too specific
59	Transport, storage and communication employment	Employment	**Rejected** – Too specific
60	Financial intermediation employment	Employment	**Rejected** – Too specific
61	Real estate; renting and business activities employment	Employment	**Included** – Indicative of areas of business ad a buoyant housing market.
62	Public administration and defence employment	Employment	**Rejected** – Too specific
63	Education employment	Employment	**Rejected** – Too specific
64	Health and social work employment	Employment	**Rejected** – Too specific
65	Managers and senior officials employment	Employment	**Included** – Indicative of the wealthiest people within society
66	Professional occupations employment	Employment	**Rejected** – Too specific
67	Associate professional and technical occupations employment	Employment	**Rejected** – Too specific
68	Administrative and secretarial occupations employment	Employment	**Rejected** – Too specific
69	Skilled trades occupations employment	Employment	**Rejected** – Too specific
70	Personal service occupations employment	Employment	**Rejected** – Too specific
71	Sales and customer service occupations employment	Employment	**Rejected** – Too specific
72	Process; plant and machine operatives employment	Employment	**Rejected** – Too specific
73	Elementary occupations employment	Employment	**Rejected** – Too specific
74	No qualifications	Employment	**Included** – Indicative of poorer areas, and people with a poor education
75	Highest qualification attained level 1	Employment	**Rejected** – Indicates little, However Pseudo Included as the extremes of the variance in the education category is included.
76	Highest qualification attained level 2	Employment	**Rejected** – Indicates little, However Pseudo Included as the extremes of the variance in the education category is included.
77	Highest qualification attained level 3	Employment	**Rejected** – Indicates little, However Pseudo Included as the extremes of the variance in the education category is included.

78	Highest qualification attained level 4/5	Employment	**Included** – Indicative of the richest areas, and people with a very good education
79	Full time Students	Employment	**Included** – A large and important group within the modern society
80	Large employers and higher managerial occupations employment	Employment	**Included** – Indicative of the top end of the employment ladder.
81	Higher professional occupations employment	Employment	**Included** – Indicative of the top end of the employment ladder.
82	Lower managerial and professional occupations employment	Employment	**Included** – Indicative of the top end of the employment ladder.
83	Intermediate occupations employment	Employment	**Rejected** – The middle rung on the employment ladder, little variance and indicates little.
84	Small employers and own account workers employment	Employment	**Included** – Self employed a significant proportion of the workforce as yet not included.
85	Lower supervisory and technical occupations employment	Employment	**Rejected** – The lower middle rung on the employment ladder, little variance and indicates little.
86	Semi-routine occupations employment	Employment	**Rejected** – The lower middle rung on the employment ladder, little variance and indicates little.
87	Routine occupations employment	Employment	**Included** – Indicative of the bottom end of the employment ladder.
88	Never worked	Employment	**Included** – Indicative of a more serious unemployment problem, picks out deprived areas with a significant lack of employment.
89	Long-term unemployed	Employment	**Included** – Indicative of a more serious unemployment problem, picks out deprived areas with a significant lack of employment.
90	Train to work	Socio-Economic	**Rejected** – Small numbers in some areas
91	Bus, Mini Bus or Coach to work	Socio-Economic	**Rejected** – Small numbers in some areas
92	Car to work	Socio-Economic	**Included** – Indicative of the commuter, high variance
93	Motorcycle, Scooter or Moped to work	Socio-Economic	**Rejected** – Small numbers in some areas, little variation
94	Walk to work	Socio-Economic	**Included** – A contrast to 92
95	Bike to work	Socio-Economic	**Rejected** – Small numbers in some areas
96	Work mainly from home	Socio-Economic	**Rejected** – Small numbers in some areas
97	Purpose-built flats	Housing	**Included** – Housing type is indicative of the type and standing of people who live in an area
98	Terraced houses	Housing	**Included** – Housing type is indicative of the type and standing of people who live in an area
99	Detached housing	Housing	**Included** – Housing type is indicative of the type and standing of people who live in an area
100	Semi-detached Housing	Housing	**Rejected** – Pseudo Included as the rest of the variance in the housing category is included
101	Bedsits	Housing	**Included** – Housing type is indicative of the type and standing of people who live in an area
102	Households With no residents: Vacant	Housing	**Rejected** – Very small numbers in some areas
103	Households With no residents: Second residence / holiday home	Housing	**Included** – Indicative of areas where tourism is an important industry. An industry which is of increasing importance to the UK economy.

104	Caravan or other mobile or temporary structure	Housing	**Rejected** – Little variance across areas.
105	Households with 3+ cars	Socio-Economic	**Merged** - With 106, Indicative of wealth
106	Households with 2 cars	Socio-Economic	**Merged** - With 105, Indicative of wealth
107	Households with 1 car	Socio-Economic	**Rejected** – Pseudo Included as the rest of the variance in the car category is included
108	No car households	Socio-Economic	**Included** – Indicative of deprivation
109	Average number of cars per household	Socio-Economic	**Rejected** – Covered by previous variables, highly correlated with 105 – 108.
110	LA Rented	Housing	**Included** – Shows areas with a large amount of council renting, indicative of the poorer end of society.
111	Owner occupiers	Housing	**Rejected** – Little variance, Pseudo Included as if it is not rented it must be owner occupied
112	Private Rented	Housing	**Included** – Indicative of a young mobile population
113	Mortgaged	Housing	**Rejected** – Little variance
114	Household size	Housing	**Included** – Gives a good
115	Rooms per household	Housing	**Rejected** – Covers the information in 119 plus a bit more
116	No central heating	Housing	**Included** – Variation between regions especially urban/rural
117	Lacking bath, shower and toilet	Housing	**Rejected** – Small numbers, little variance.
118	Households: with an occupancy rating of -1 or less (Overcrowding)	Household Composition	**Included** – An indication of poverty
119	One-person no-pensioner households	Household Composition	**Rejected** – Covered to a large extent by 119
120	Single pensioner households	Household Composition	**Included** – Shows areas with a lot of elderly residents, especially coastal resorts.
121	Wholly student households	Household Composition	**Rejected** – Highly correlated with 79
122	2 adults no children	Household Composition	**Included** – The opposite to single parent families an indicator of wealth.
123	Only Pensioner households	Household Composition	**Rejected** – Highly correlated with 120 and age groups
124	Households with dependent children	Household Composition	**Included** – Gives a distinction between the number of children in an area. An indication as to the make up of the population structure of an area.
125	Lone Parent Families	Household Composition	**Included** – An indication of lower levels of wealth and a changing family structure.
126	Households: With one or more person with a limiting long-term illness	Household Composition	**Rejected** – Highly correlated with 42
127	Households: No adults in employment :with dependent children	Household Composition	**Included** – Indicative of poverty, especially within children.
128	Male lone parents	Household Composition	**Rejected** – Too Specific
129	Population change 1991 – 2001	Demographic	**Included** – An indication of the growth of an area. Also highly correlated with migration, Information that as yet is unavailable for the whole of the UK

Appendix B - Calculation of the 56 variables from Key Statistics National Report tables

	Title	Table	England and Wales	Scotland	Northern Ireland
1	Population Density	KS01	e/k	e/k	b/g
2	The percentage of all residents who are between the ages of 0 and 9	KS02	c+d+e	c+d+e	c+d+e
3	The percentage of all residents who are between the ages of 10 and 17	KS02	f+g+h	f+g+h	f+g+h
4	The percentage of all residents who are between the ages of 18 and 24	KS02	i+j	i+j	i+j
5	The percentage of all residents who are between the ages of 25 and 29	KS02	k/b	k	k
6	The percentage of all residents who are between the ages of 45 and 64	KS02	m+n	m+n	m+n
7	The percentage of all residents who are between the ages of 65 or over	KS02	o+p+q+r	o+p+q+r	o+p+q+r
8	The percentage of all residents over 16 who are Married	KS03	c+f	c+f	c+f
9	The percentage of all residents over 16 who have never been married	KS03	e	e	e
10	The percentage of all residents who were born outside UK	KS05	g+h+i	g+h+i	g+h+i
11	The percentage of all residents who are Black	KS06	n+o+p	l+m+n	j+k+l
12	The percentage of all residents who are Indian, Pakistani or Bangladeshi	KS06	j+k+l	g+h+i	f+g+h
13	Percentage of all residents who are Christian	KS07	c	c+d+e	c+d+e+f+g
14	Percentage of all residents who are of a religion other to Christian	KS07	d+e+f+g+h+i	f+g+h+i+j+k	h
15	The percentage of all residents who have Limiting long-term illness	KS08	c	c	c
16	The percentage of all residents whose health is good	KS08	e	e	e
17	The percentage of all residents who provide unpaid care	KS08	h	h	h
18	The percentage of all residents who are 16 and over and are seeking employment	KS09a	f	f	f
19	Residents who are economically active residents, as a percentage of residents who are 16+	KS09a	c+d+e+f+g	c+d+e+f+g	c+d+e+f+g
20	The percentage of working age males who are unemployed	KS09b	f	f	f
21	The percentage of working age females who work full time	KS9c	d	d	d
22	The percentage of working age females who work part time	KS9c	c	c	c
23	The percentage of working age residents who are employed who are employed in Agriculture; hunting; forestry and fishing	KS11a	c+d	c+d	c
24	The percentage of working age who are employed who are employed in Real estate; renting and business activities	KS11a	m	m	k
25	The percentage of working age who are employed who are employed as Managers and senior officials	KS12a	c	c	c

26	The percentage of residents age 16 - 74 with no qualifications	KS13	c	c	c
27	The percentage people of working age with First degree; Higher degree; NVQ levels 4 and 5; HNC; HND; Qualified Teacher Status; Qualified Medical Doctor; Qualified Dentist; Qualified Nurse; Midwife; Health Visitor	KS13	g	g	g+h
28	The percentage of all residents who are 16 and over and in full time education	KS14a	m	m	m
29	The percentage of working age who are employed who are employed in Large employers and higher managerial occupations	KS14a	c	c	c
30	The percentage of working age who are employed who are employed in Higher professional occupations	KS14a	d	d	d
31	The percentage of working age who are employed who are employed in Lower managerial and professional occupations	KS14a	e	e	e
32	The percentage of working age who are employed who are employed in Small employers and own account workers	KS14a	g	g	g
33	The percentage of working age who are employed who are employed in Routine occupations	KS14a	j	j	j
34	The percentage of working age who are employed who have never worked	KS14a	k	k	k
35	The percentage of working age who are Long-term unemployed (year last worked is 1999 or earlier)	KS14a	l	l	l
36	Residents who travel to work by car as a percentage of residents who are in employment	KS15	h+i+j	h+i+j	g+h+i+j
37	Residents who travel to work by foot as a percentage of residents who are in employment	KS15	l	l	l
38	All household spaces which are of accommodation type: Flat; maisonette or apartment: Purpose Built block of flats or tenement as a percentage of all households	KS16	h	l	l
39	All household spaces which are of accommodation type: Whole house or bungalow: Terraced (including end terrace)as a percentage of all households	KS16	g	k	k
40	All household spaces which are of accommodation type: Whole house or bungalow: Detached as a percentage of all households	KS16	e	i	i
41	Households which are Bedsits as a percentage of all households	KS16	i	m	m
42	Households which contain no residents: Second residence / holiday accommodation a percentage of all households	KS16	d	g	h
43	Households with 2+ cars as a percentage of all Households	KS17	e+f+g	e+f+g	e+f+g
44	Households with no cars as a percentage of all Households	KS17	c	c	c
45	Households which are local authority rented or housing association as a percentage of all households	KS18	f+g	f+g	f+g
46	Households which are privately Rented as a percentage of all households	KS18	h	h+i	h
47	The Average Number of people per household	KS19	c	c	c

48	Households which have no central heating as a percentage of all households	KS19	g+h	g+h	h+i
49	The percentage of all Households: with an occupancy rating of -1 or less (The occupancy rating provides a measure of under-occupancy and overcrowding. For example; a value of -1 implies that there is one room too few and that there is overcrowding in the household. The occupancy rating assumes that every household; including one person households, requires a minimum of two common rooms (excluding bathrooms))	KS19	e	e	e
50	Households containing only one permanent resident who is not a pensioner as a percentage of all households	KS20	d	d	d
51	Households containing only one permanent resident who is a pensioner as a percentage of all households	KS20	c	c	c
52	Households which contain 2 adults no children as a percentage of all households (Households comprising: One family and no others: Married/cohabiting couple households: No children)	KS20	f+i	f+i	f+i
53	Households which contain dependent children as a percentage of all households	KS20	g+j+l+n	g+j+l+n	g+j+l+n
54	The percentage of one parent households as a percentage of all households which contain children	KS20	l+m	l+m	l+m
55	The percentage of all Households: No adults in employment :with dependent children (A dependent child is a person in a household aged 0 -15 (whether or not in a family) or a person aged 16 - 18 who is a full-time student in a family with parent(s))	KS21	c	c	c
56	The percentage Population change 1991 - 2001	KS01	e-b	e-b	b-(1991 data not in KS01 was obtained from Casweb (column C in NI.xls

Appendix C - List of similarity between LAs

The distance between the LAs is measured by the sum of the squared Euclidian distance between each variable. A list of five is given for each LA however they are of varying distances apart and their listing does not suggest that they are very similar to the LA just that they are the five most similar.

The following will indication of how to appreciate if the distances between the LAs:

- The two most similar LAs are Rochdale & Oldham at a distance of 1.243
- The average distance between all the LAs is 9.603
- The two least similar LAs are City of London & Strabane at a distance of 35.381

As a very loose guide the values could be described as in the table below:

Similar	Under 4
Fairly Similar	4 -7
Averagely Similar/Dissimilar	7 - 11
Dissimilar	11 - 16
Very Dissimilar	Above 16

We will be happy to supply the entire proximity matrix or a custom proximity values for individual LAs by request.

	1	2	3	4	5
Aberdeen City	Edinburgh, City of 4.104	Norwich LA 6.237	Bristol, City of UA 6.33	Southampton UA 6.568	Cheltenham LA 6.772
Aberdeenshire	Moray 3.904	Selby LA 4.39	Kennet LA 4.448	Mendip LA 4.451	Melton LA 4.477
Adur LA	Lewes LA 3.1	Wyre LA 3.58	Poole UA 3.583	Taunton Deane LA 3.744	Arun LA 3.9
Allerdale LA	Carlisle LA 3.057	Copeland LA 3.28	Dover LA 3.438	Alnwick LA 3.697	Bassetlaw LA 3.738
Alnwick LA	Teesdale LA 3.325	North Devon LA 3.569	Tynedale LA 3.59	Allerdale LA 3.697	Herefordshire, County of UA 4.068
Amber Valley LA	Wyre Forest LA 2.091	Erewash LA 2.164	Newark and Sherwood LA 2.278	North West Leicestershire LA 2.494	North Warwickshire LA 2.761
Angus	Scottish Borders 3.062	Moray 3.111	South Ayrshire 3.271	Perth & Kinross 3.334	Fife 3.62
Antrim	Lisburn 3.144	Ballymena 3.685	Down 4.173	Banbridge 4.228	Carrickfergus 4.286

Ards	Carrickfergus 3.208	Newtownabbey 3.228	Larne 3.379	Ballymena 4.027	Flintshire UA 4.311
Argyll & Bute	Highland 4.476	Alnwick LA 5.874	Perth & Kinross 5.892	Berwick-upon-Tweed LA 6.115	Scarborough LA 6.12
Armagh	Dungannon 2.192	Down 3.012	Magherafelt 3.056	Cookstown 3.094	Omagh 3.115
Arun LA	East Devon LA 3.017	Christchurch LA 3.065	Rother LA 3.106	Lewes LA 3.215	Tendring LA 3.52
Ashfield LA	Mansfield LA 2.141	Wakefield LA 2.43	Doncaster LA 2.557	Bolsover LA 2.717	Rotherham LA 2.797
Ashford LA	Braintree LA 1.684	West Wiltshire LA 2.049	South Kesteven LA 2.171	East Northamptonshire 2.577	Tonbridge and Malling LA 2.592
Aylesbury Vale LA	Mid Bedfordshire 1.936	East Hertfordshire 2.164	Huntingdonshire 2.39	West Berkshire UA 2.428	North Wiltshire LA 2.451
Babergh LA	Stroud LA 1.754	Wychavon LA 2.362	South Norfolk LA 2.368	Tewkesbury LA 2.371	Monmouthshire UA 2.512
Ballymena	Larne 3.223	Antrim 3.685	Newtownabbey 4.018	Ards 4.027	Ballymoney 4.309
Ballymoney	Armagh 3.344	Dungannon 3.871	Magherafelt 4.039	Fermanagh 4.079	Down 4.285
Banbridge	Down 4.109	Antrim 4.228	Ards 4.457	Ballymoney 4.46	Ballymena 4.515
Barking and Dagenham LB	Rochdale LA 6.312	Oldham LA 6.336	Coventry LA 6.363	Greenwich LB 6.509	Sandwell LA 6.53
Barnet LB	Ealing LB 4.949	Hounslow LB 4.954	Harrow LB 5.093	Redbridge LB 5.537	Merton LB 5.779
Barnsley LA	Mansfield LA 1.801	Bolsover LA 2.113	Doncaster LA 2.142	Rotherham LA 2.507	Wakefield LA 2.607
Barrow-in-Furness LA	Burnley LA 5.327	St. Helens LA 5.44	North East Lincolnshire UA 5.487	Hyndburn LA 5.631	Great Yarmouth LA 5.656
Basildon LA	Dartford LA 2.977	Thurrock UA 3.082	Gravesham LA 3.261	Broxbourne LA 3.271	Peterborough UA 3.307
Basingstoke and Deane LA	West Berkshire UA 2.27	Huntingdonshire 2.654	Mid Bedfordshire 2.671	East Hertfordshire 2.739	Aylesbury Vale LA 2.748
Bassetlaw LA	North Lincolnshire UA 2.121	Newark and Sherwood LA 2.379	Doncaster LA 2.765	Rotherham LA 2.916	Ashfield LA 3.009
Bath and North East Somerset UA	York UA 2.966	Cheltenham LA 3.09	Chester LA 3.359	Warwick LA 3.451	Colchester LA 3.988
Bedford LA	Colchester LA 3.262	Northampton LA 3.609	Hillingdon LB 3.751	Peterborough UA 3.865	Dartford LA 3.902
Belfast	Middlesborough 6.653	Liverpool LA 7.359	Sunderland LA 7.853	Knowsley LA 7.965	Hartlepool UA 7.967
Berwick-upon-Tweed LA	Scarborough LA 4.416	Alnwick LA 4.595	Dumfries & Galloway 5.054	North Devon LA 5.076	Teesdale LA 5.211
Bexley LB	Havering LB 2.381	Stockport LA 3.546	Bury LA 3.57	Basildon LA 3.572	Dartford LA 3.576
Birmingham LA	Bradford LA 5.046	Wolverhampton LA 5.317	Sandwell LA 5.537	Blackburn with Darwen UA 5.924	Leicester UA 6.034
Blaby LA	Hinckley and Bosworth LA 2.783	South Derbyshire LA 3.01	South Gloucestershire UA 3.089	Eastleigh LA 3.105	Selby LA 3.309
Blackburn with Darwen UA	Bradford LA 3.462	Oldham LA 4.551	Pendle LA 4.621	Rochdale LA 4.809	Burnley LA 5.718
Blackpool UA	Torbay UA 4.549	Thanet LA 4.616	Hastings LA 4.802	Scarborough LA 5.824	Great Yarmouth LA 5.9
Blaenau Gwent UA	Merthyr Tydfil UA 2.455	Easington LA 3.454	Rhondda, Cynon, Taff UA 3.824	Caerphilly UA 4.277	Hartlepool UA 4.55

Blyth Valley LA	Wakefield LA 2.832	Wigan LA 2.889	Rotherham LA 3.029	Chester-le-Street 3.032	Stockton-on-Tees 3.172
Bolsover LA	Barnsley LA 2.113	Mansfield LA 2.376	Ashfield LA 2.717	Doncaster LA 2.972	Rotherham LA 3.194
Bolton LA	Rochdale LA 2.293	Tameside LA 2.617	Oldham LA 2.642	Derby UA 3.018	Calderdale LA 3.08
Boston LA	Fenland LA 2.974	King's Lynn and West Norfolk LA 3.033	Breckland LA 3.372	South Holland LA 3.67	Newark and Sherwood LA 4.026
Bournemouth UA	Southend-on-Sea 5.118	Eastbourne LA 5.258	Worthing LA 5.551	Cheltenham LA 5.633	Canterbury LA 5.697
Bracknell Forest UA	Basingstoke and Deane LA 3.247	Aylesbury Vale LA 3.696	East Hertfordshire LA 3.934	West Berkshire UA 4.085	Rushmoor LA 4.134
Bradford LA	Blackburn with Darwen UA 3.462	Kirklees LA 4.151	Pendle LA 4.511	Preston LA 4.773	Birmingham LA 5.046
Braintree LA	Ashford LA 1.684	East Northamptonshire 2.247	West Wiltshire LA 2.254	Tonbridge and Malling LA 2.42	St. Edmundsbury LA 2.474
Breckland LA	Fenland LA 2.091	Sedgemoor LA 2.841	Forest of Dean LA 2.981	Herefordshire, County of UA 3.007	East Riding of Yorkshire UA 3.112
Brent LB	Ealing LB 5.727	Waltham Forest LB 6.965	Haringey LB 7.44	Hounslow LB 7.778	Redbridge LB 8.639
Brentwood LA	Sevenoaks LA 2.356	Epsom and Ewell 2.679	Macclesfield LA 2.707	Mid Sussex LA 2.858	Mole Valley LA 2.968
Bridgend UA	Torfaen UA 2.7	Caerphilly UA 2.747	Mansfield LA 2.946	Rotherham LA 3.206	Doncaster LA 3.225
Bridgnorth LA	Hambleton LA 3.118	North Shropshire 3.159	Melton LA 3.183	Babergh LA 3.387	Derbyshire Dales 3.403
Brighton and Hove	Bournemouth UA 6.002	Bristol, City of UA 6.31	Cheltenham LA 6.635	Edinburgh, City of 7.398	Exeter LA 7.446
Bristol, City of UA	Cardiff UA 3.998	Portsmouth UA 4.023	Southampton UA 4.69	Cheltenham LA 4.824	Leeds LA 4.849
Broadland LA	South Norfolk LA 2.063	North Kesteven LA 2.818	Mid Suffolk LA 2.885	Babergh LA 3.135	New Forest LA 3.172
Bromley LB	Sutton LB 3.393	Trafford LA 3.554	Epping Forest LA 3.743	Epsom and Ewell 3.836	Spelthorne LA 3.866
Bromsgrove LA	Congleton LA 2.065	Lichfield LA 2.096	South Staffordshire 2.509	Wychavon LA 2.744	Fareham LA 2.812
Broxbourne LA	Dartford LA 2.497	South Bedfordshire 2.868	Braintree LA 2.961	Maidstone LA 3.237	Basildon LA 3.271
Broxtowe LA	Gedling LA 2.098	Stafford LA 2.64	Stockport LA 3.035	Rugby LA 3.036	Shrewsbury and Atcham LA 3.167
Burnley LA	Hyndburn LA 2.136	Pendle LA 3.412	Bolton LA 3.56	Tameside LA 3.632	Rochdale LA 3.742
Bury LA	Rossendale LA 2.675	Stockport LA 2.978	Gravesham LA 3.137	Bolton LA 3.2	Peterborough UA 3.242
Caerphilly UA	Torfaen UA 2.214	Rhondda, Cynon, Taff UA 2.55	Bridgend UA 2.747	Barnsley LA 3.639	Sedgefield LA 3.694
Calderdale LA	Kirklees LA 3.013	Bolton LA 3.08	Rossendale LA 3.767	Tameside LA 3.839	East Staffordshire 3.926
Cambridge LA	Oxford LA 2.903	Southampton UA 8.784	Reading UA 9.247	Edinburgh, City of 9.576	Exeter LA 9.99
Camden LB	Hammersmith and Fulham LB 5.977	Islington LB 6.027	Westminster LB 6.205	Kensington and Chelsea LB 7.224	Lambeth LB 9.091
Cannock Chase LA	Flintshire UA 2.515	Nuneaton and Bedworth LA 2.589	North Warwickshire LA 3.065	Erewash LA 3.069	Ellesmere Port and Neston LA 3.229

Canterbury LA	Lancaster LA 3.468	York UA 3.747	Bath and North East Somerset UA 4.059	Stirling 4.329	Charnwood LA 4.786
Caradon LA	North Devon LA 2.815	West Devon LA 2.849	Kerrier LA 3.061	Teignbridge LA 3.103	Carrick LA 3.112
Cardiff UA	Bristol, City of UA 3.998	Preston LA 4.224	Coventry LA 4.405	Leeds LA 4.591	Sheffield LA 5.025
Carlisle LA	Dover LA 2.957	Allerdale LA 3.057	Darlington UA 3.221	Weymouth and Portland LA 3.299	Angus 3.813
Carmarthenshire UA	Denbighshire UA 3.36	Pembrokeshire UA 4.219	Wyre LA 4.287	Kerrier LA 4.297	Bridgend UA 4.299
Carrick LA	Isle of Wight UA 2.817	Teignbridge LA 3.085	Caradon LA 3.112	Conwy UA 3.113	Kerrier LA 3.183
Carrickfergus	Newtownabbey 2.162	Ards 3.208	Telford and Wrekin 3.451	Lisburn 3.638	Larne 3.948
Castle Morpeth LA	Monmouthshire UA 3.264	Tynedale LA 3.643	Stafford LA 3.776	Malvern Hills LA 3.932	East Riding of Yorkshire UA 4.165
Castle Point LA	Rochford LA 2.677	Forest of Dean LA 3.405	Gedling LA 3.446	Hinckley and Bosworth LA 3.572	Staffordshire Moorlands LA 3.643
Castlereagh	North Down 3.557	Newtownabbey 3.679	Carrickfergus 4.43	Ards 4.74	Warrington UA 4.871
Ceredigion UA	Canterbury LA 6.206	Lancaster LA 6.455	Carrick LA 6.946	Gwynedd UA 7.206	Torridge LA 7.385
Charnwood LA	Colchester LA 3.405	Oadby and Wigston 3.719	Bedford LA 4.159	Broxtowe LA 4.175	Stirling 4.464
Chelmsford LA	Maidstone LA 2.123	Mid Sussex LA 2.64	South Bedfordshire 2.769	North Hertfordshire 2.787	Eastleigh LA 2.874
Cheltenham LA	Bath and North East Somerset UA 3.09	York UA 3.473	Warwick LA 4.015	Chester LA 4.523	Worcester LA 4.715
Cherwell LA	Huntingdonshire LA 2.428	North Wiltshire LA 2.473	Mid Bedfordshire LA 2.672	Aylesbury Vale LA 2.72	South Gloucestershire UA 2.859
Chester LA	Stafford LA 3.195	Shrewsbury and Atcham LA 3.258	Stockport LA 3.28	Warwick LA 3.298	Bath and North East Somerset UA 3.359
Chesterfield LA	Mansfield LA 3.128	North Tyneside LA 3.243	Rotherham LA 3.26	Wakefield LA 3.309	Doncaster LA 3.369
Chester-le-Street LA	Wigan LA 2.939	Blyth Valley LA 3.032	Ellesmere Port and Neston LA 3.111	Nuneaton and Bedworth LA 3.673	Wakefield LA 3.706
Chichester LA	Lewes LA 2.845	Cotswold LA 2.866	New Forest LA 3.169	Suffolk Coastal LA 3.233	West Dorset LA 3.234
Chiltern LA	South Bucks LA 1.804	Waverley LA 2.945	Uttlesford LA 3.379	Surrey Heath LA 3.456	Mole Valley LA 3.512
Chorley LA	Warrington UA 2.052	South Ribble LA 2.139	Vale Royal LA 2.39	North Warwickshire 2.398	Rugby LA 2.635
Christchurch LA	Rother LA 3.025	Arun LA 3.065	East Devon LA 3.7	Tendring LA 3.878	North Norfolk LA 4.993
City of London LB	Westminster LB 15.231	Kensington and Chelsea LB 17.846	Camden LB 18.101	Hammersmith and Fulham LB 18.916	Wandsworth LB 19.436
Clackmannanshire	Falkirk 2.314	Fife 2.742	South Lanarkshire 3.03	East Ayrshire 3.365	North Ayrshire 3.704
Colchester LA	Maidstone LA 3.153	Bedford LA 3.262	Ashford LA 3.27	Chelmsford LA 3.271	Braintree LA 3.339
Coleraine	Down 4.866	Larne 4.936	Moyle 5.322	Ballymena 5.322	Craigavon 5.608
Congleton LA	Bromsgrove LA 2.065	Wychavon LA 2.457	Tewkesbury LA 2.484	Lichfield LA 2.601	Stafford LA 2.669
Conwy UA	Denbighshire UA 2.529	Isle of Wight UA 2.669	Carrick LA 3.113	Torbay UA 3.529	Shepway LA 3.569

Cookstown	Dungannon 1.653	Magherafelt 3.023	Armagh 3.094	Omagh 3.357	Newry and Mourne 3.491
Copeland LA	Redcar and Cleveland UA 3.069	Doncaster LA 3.15	Allerdale LA 3.28	Darlington UA 3.387	Stockton-on-Tees UA 3.492
Corby LA	West Lothian 4.64	Blyth Valley LA 4.674	Tameside LA 4.681	Clackmannanshire 4.727	Wakefield LA 4.773
Cotswold LA	Stratford-upon-Avon LA 2.856	Chichester LA 2.866	Harrogate LA 3.206	Salisbury LA 3.367	Wealden LA 3.377
Coventry LA	Preston LA 2.79	Derby UA 3.873	Bolton LA 4.356	Cardiff UA 4.405	Leeds LA 4.502
Craigavon	Lisburn 4.019	Larne 4.153	Down 4.494	Ballymena 4.67	Antrim 4.696
Craven LA	South Lakeland LA 3.433	South Somerset LA 3.671	Tynedale LA 3.712	West Devon LA 3.713	Mid Devon LA 3.735
Crawley LA	Dartford LA 3.49	Stevenage LA 3.52	Swindon UA 3.811	Northampton LA 3.844	Thurrock UA 4.241
Crewe and Nantwich LA	East Staffordshire LA 1.984	Vale Royal LA 2.684	Sedgemoor LA 2.749	Shrewsbury and Atcham LA 2.755	East Riding of Yorkshire UA 2.84
Croydon LB	Enfield LB 3.596	Waltham Forest LB 5.334	Hillingdon LB 5.537	Merton LB 5.657	Sutton LB 5.86
Dacorum LA	North Hertfordshire LA 1.888	South Bedfordshire LA 2.744	Chelmsford LA 2.924	Three Rivers LA 2.952	Basingstoke and Deane LA 3.079
Darlington UA	Dover LA 2.653	North Tyneside LA 2.972	Carlisle LA 3.221	Doncaster LA 3.373	Copeland LA 3.387
Dartford LA	Broxbourne LA 2.497	Swindon UA 2.502	Thurrock UA 2.588	Basildon LA 2.977	Northampton LA 2.982
Daventry LA	South Northamptonshire 2.152	North Wiltshire LA 2.314	Huntingdonshire LA 2.366	Mid Bedfordshire LA 2.404	Test Valley LA 2.453
Denbighshire UA	Conwy UA 2.529	Shepway LA 3.164	Wyre LA 3.326	Kerrier LA 3.344	Carmarthenshire 3.36
Derby UA	Preston LA 2.943	Bolton LA 3.018	Sheffield LA 3.47	Ipswich LA 3.66	Leeds LA 3.741
Derbyshire Dales	Malvern Hills LA 2.677	Suffolk Coastal LA 2.781	Babergh LA 2.83	Tynedale LA 2.957	Monmouthshire UA 3.035
Derry	Strabane 6.588	Newry and Mourne 6.851	Limavady 7.089	Omagh 7.801	Craigavon 8.446
Derwentside LA	Sedgefield LA 1.892	Wear Valley LA 2.279	Wansbeck LA 2.353	Torfaen UA 3.365	Barnsley LA 3.532
Doncaster LA	Mansfield LA 1.719	Rotherham LA 1.885	Wakefield LA 2.122	Barnsley LA 2.142	Ashfield LA 2.557
Dover LA	Shepway LA 2.341	Weymouth and Portland LA 2.614	Darlington UA 2.653	Carlisle LA 2.957	Allerdale LA 3.438
Down	Armagh 3.012	Lisburn 3.725	Banbridge 4.109	Antrim 4.173	Dungannon 4.228
Dudley LA	Erewash LA 3.409	Wrexham UA 3.526	Nuneaton and Bedworth LA 3.537	Wakefield LA 3.601	Rotherham LA 3.648
Dumfries & Galloway	Scottish Borders 3.773	Angus 3.856	Allerdale LA 3.96	Alnwick LA 4.074	Highland 4.392
Dundee City	Glasgow City 5.949	Inverclyde 6.448	Newcastle upon Tyne LA 6.497	West Dunbartonshire 6.599	Norwich LA 7.085
Dungannon	Cookstown 1.653	Armagh 2.192	Omagh 2.869	Magherafelt 2.97	Newry and Mourne 3.084
Durham LA	Canterbury LA 5.068	Lancaster LA 5.649	Charnwood LA 5.664	Newcastle-under-Lyme LA 5.679	York UA 5.777
Ealing LB	Hounslow LB 3.472	Barnet LB 4.949	Brent LB 5.727	Redbridge LB 5.858	Merton LB 5.998
Easington LA	Merthyr Tydfil UA 3.204	Blaenau Gwent UA 3.454	Neath Port Talbot 4.029	Sedgefield LA 4.154	Barnsley LA 4.367

East Ayrshire	North Ayrshire 2.428	Clackmannanshire 3.365	Fife 3.835	Falkirk 4.022	South Lanarkshire 4.055
East Cambridgeshire	Mid Suffolk LA 3.111	Wychavon LA 3.164	South Kesteven LA 3.323	Maldon LA 3.406	Harborough LA 3.495
East Devon LA	West Dorset LA 2.257	Rother LA 2.921	Arun LA 3.017	North Norfolk LA 3.19	West Somerset LA 3.679
East Dorset LA	New Forest LA 2.915	Wealden LA 3.284	Malvern Hills LA 3.848	South Norfolk LA 3.977	Broadland LA 4.284
East Dunbartonshire	East Renfrewshire 2.312	Solihull LA 3.557	Vale of Glamorgan, The UA 4.362	Stockport LA 4.524	Chelmsford LA 4.558
East Hampshire LA	Uttlesford LA 1.336	Horsham LA 1.994	Mid Sussex LA 2.052	Test Valley LA 2.14	Vale of White Horse LA 2.263
East Hertfordshire LA	West Berkshire UA 2.047	Mid Bedfordshire LA 2.068	Aylesbury Vale LA 2.164	South Oxfordshire LA 2.168	Vale of White Horse LA 2.56
East Lindsey LA	King's Lynn and West Norfolk LA 3.705	North Norfolk LA 3.971	Torridge LA 4.209	Restormel LA 4.388	South Holland LA 4.483
East Lothian	Midlothian 3.029	Angus 3.951	Basildon LA 4.13	Fife 4.17	Perth & Kinross 4.205
East Northamptonshire	Braintree LA 2.247	South Kesteven LA 2.514	Kettering LA 2.573	Ashford LA 2.577	Daventry LA 2.6
East Renfrewshire	East Dunbartonshire 2.312	Solihull LA 3.868	Three Rivers LA 4.133	Hertsmere LA 4.308	Chelmsford LA 4.577
East Riding of Yorkshire UA	Sedgemoor LA 1.964	West Lindsey LA 2.273	Forest of Dean LA 2.432	South Somerset LA 2.555	Newark and Sherwood LA 2.588
East Staffordshire LA	Crewe and Nantwich LA 1.984	Swale LA 2.93	Erewash LA 3.008	Kettering LA 3.101	Oswestry LA 3.393
Eastbourne LA	Worthing LA 3.919	Torbay UA 4.605	Arun LA 4.638	Thanet LA 5.018	Shepway LA 5.04
Eastleigh LA	South Gloucestershire UA 1.765	Test Valley LA 2.192	Tonbridge and Malling LA 2.551	North Wiltshire LA 2.644	Fareham LA 2.66
Eden LA	Ryedale LA 2.528	South Shropshire 3.662	Mid Devon LA 3.778	West Devon LA 3.843	Powys UA 3.962
Edinburgh, City of	Aberdeen City 4.104	Reading UA 7.146	Bristol, City of UA 7.183	Cheltenham LA 7.225	Brighton and Hove 7.398
Eilean Siar	Highland 6.154	Isle of Anglesey UA 6.514	Dumfries & Galloway 6.741	Allerdale LA 6.848	Pembrokeshire UA 6.873
Ellesmere Port and Neston LA	Flintshire UA 2.456	Nuneaton and Bedworth LA 2.783	West Lancashire LA 2.948	Warrington UA 3.031	Newark and Sherwood LA 3.079
Elmbridge LA	St. Albans LA 3.03	Windsor and Maidenhead UA 3.181	South Bucks LA 3.423	Woking LA 3.679	Chiltern LA 3.913
Enfield LB	Croydon LB 3.596	Hillingdon LB 5.03	Waltham Forest LB 5.26	Greenwich LB 5.457	Redbridge LB 5.47
Epping Forest LA	Maidstone LA 3.052	Sevenoaks LA 3.206	Three Rivers LA 3.331	Spelthorne LA 3.345	Hertsmere LA 3.353
Epsom and Ewell LA	Reigate and Banstead LA 2.524	Brentwood LA 2.679	Three Rivers LA 2.833	Mid Sussex LA 2.936	Tandridge LA 3.029
Erewash LA	Amber Valley LA 2.164	Nuneaton and Bedworth LA 2.516	Wyre Forest LA 2.784	Flintshire UA 2.896	Crewe and Nantwich LA 2.91
Exeter LA	Portsmouth UA 4.216	Southampton UA 4.569	York UA 4.743	Lancaster LA 4.884	Bristol, City of UA 5.141
Falkirk	Clackmannanshire 2.314	South Lanarkshire 2.382	Fife 2.636	Renfrewshire 3.023	Blyth Valley LA 3.352
Fareham LA	Eastleigh LA 2.66	Test Valley LA 2.667	Congleton LA 2.698	Tewkesbury LA 2.722	Bromsgrove LA 2.812

Fenland LA	Breckland LA 2.091	Boston LA 2.974	Sedgemoor LA 3.051	King's Lynn and West Norfolk LA 3.309	South Holland LA 3.456
Fermanagh	Armagh 3.409	Omagh 3.527	Dungannon 3.793	Newry and Mourne 4.038	Ballymoney 4.079
Fife	Falkirk 2.636	Clackmannanshire 2.742	South Lanarkshire 3.149	South Ayrshire 3.298	Angus 3.62
Flintshire UA	Ellesmere Port and Neston LA 2.456	Cannock Chase LA 2.515	North Warwickshire LA 2.679	South Ribble LA 2.853	Crewe and Nantwich LA 2.885
Forest Heath LA	St. Edmundsbury 4.675	Cherwell LA 4.753	Swindon UA 4.773	Kettering LA 4.965	Kennet LA 5.004
Forest of Dean LA	West Lindsey LA 2.385	Newark and Sherwood LA 2.394	East Riding of Yorkshire UA 2.432	Sedgemoor LA 2.456	Babergh LA 2.689
Fylde LA	Lewes LA 3.33	Chichester LA 3.783	North Somerset UA 3.791	Wyre LA 3.915	Arun LA 3.952
Gateshead LA	Sunderland LA 2.865	North Tyneside LA 3.07	Wansbeck LA 3.442	Salford LA 3.52	Barnsley LA 3.899
Gedling LA	Broxtowe LA 2.098	Wyre Forest LA 2.687	Stafford LA 2.709	Amber Valley LA 2.883	Erewash LA 2.918
Glasgow City	Dundee City 5.949	West Dunbartonshire 7.921	Inverclyde 8.432	Manchester LA 9.189	Newcastle upon Tyne LA 9.238
Gloucester LA	Worcester LA 3.3	Northampton LA 3.418	Medway UA 3.463	Dartford LA 3.464	East Staffordshire 3.532
Gosport LA	Dartford LA 3.563	Gloucester LA 3.577	Basildon LA 3.713	Medway UA 3.757	Swindon UA 3.793
Gravesham LA	Swale LA 2.851	Medway UA 2.988	Bury LA 3.137	Peterborough UA 3.138	Wellingborough LA 3.178
Great Yarmouth	Waveney LA 2.836	Thanet LA 3.869	Copeland LA 4.168	Allerdale LA 4.194	Doncaster LA 4.311
Greenwich LB	Waltham Forest LB 4.679	Enfield LB 5.457	Lewisham LB 5.73	Croydon LB 6.074	Barking and Dagenham LB 6.509
Guildford LA	Runnymede LA 3.066	Warwick LA 3.185	Winchester LA 3.235	Reigate and Banstead LA 3.711	Waverley LA 3.88
Gwynedd UA	Isle of Anglesey UA 4.375	Pembrokeshire UA 4.807	Carrick LA 4.87	Kerrier LA 4.958	Penwith LA 4.986
Hackney LB	Southwark LB 5.918	Haringey LB 6.539	Islington LB 7.85	Lewisham LB 7.892	Lambeth LB 7.907
Halton UA	St. Helens LA 2.771	Stockton-on-Tees 3.695	Newport UA 3.79	Sunderland LA 3.949	Wigan LA 4.019
Hambleton LA	Wychavon LA 2.95	Babergh LA 2.971	Mid Suffolk LA 2.974	Melton LA 2.99	Ribble Valley LA 3
Hammersmith and Fulham LB	Wandsworth LB 5.214	Camden LB 5.977	Islington LB 6.536	Kensington and Chelsea LB 6.889	Lambeth LB 7.026
Harborough LA	South Northamptonshire 2.128	Horsham LA 2.433	Test Valley LA 2.458	Uttlesford LA 2.491	East Hampshire LA 2.589
Haringey LB	Lewisham LB 5.472	Lambeth LB 5.956	Hackney LB 6.539	Waltham Forest LB 6.934	Southwark LB 7.167
Harlow LA	Stevenage LA 2.461	Basildon LA 3.618	Thurrock UA 3.921	West Lothian 3.929	Northampton LA 4.152
Harrogate LA	Salisbury LA 2.275	Tunbridge Wells 2.646	Tewkesbury LA 3.001	Kennet LA 3.148	Cotswold LA 3.206
Harrow LB	Redbridge LB 4.227	Barnet LB 5.093	Hounslow LB 5.232	Ealing LB 6.321	Slough UA 6.465
Hart LA	Surrey Heath LA 1.626	Wokingham UA 2.188	West Berkshire UA 3.364	South Oxfordshire LA 3.528	South Cambridgeshire LA 3.667
Hartlepool UA	Redcar and Cleveland UA 2.665	Sunderland LA 3.186	Middlesborough UA 3.59	South Tyneside LA 3.906	Doncaster LA 3.932

Hastings LA	Southend-on-Sea 3.839	Thanet LA 3.881	Torbay UA 4.73	Shepway LA 4.776	Blackpool UA 4.802
Havant LA	Ellesmere Port and Neston LA 3.361	Wyre Forest LA 3.376	Stockport LA 3.584	Crewe and Nantwich LA 3.601	Sedgemoor LA 3.679
Havering LB	Bexley LB 2.381	Stockport LA 3.326	Basildon LA 3.49	Havant LA 3.774	Bury LA 3.792
Herefordshire, County of UA	Mid Devon LA 2.149	North Shropshire LA 2.215	South Somerset LA 2.64	East Riding of Yorkshire UA 2.647	Oswestry LA 2.653
Hertsmere LA	Three Rivers LA 2.7	North Hertfordshire 3.268	Epping Forest LA 3.353	Dacorum LA 3.362	Wycombe LA 3.71
High Peak LA	Rugby LA 2.403	Chorley LA 2.809	Kettering LA 2.864	Shrewsbury and Atcham LA 2.882	West Wiltshire LA 2.975
Highland	Angus 3.722	Moray 3.987	Perth & Kinross 4.011	Scottish Borders 4.28	Dumfries & Galloway 4.392
Hillingdon LB	Bedford LA 3.751	Watford LA 3.994	Sutton LB 4.298	Hertsmere LA 4.494	Crawley LA 4.684
Hinckley and Bosworth LA	North West Leicestershire LA 1.782	North Warwickshire LA 2.373	Stafford LA 2.549	Wyre Forest LA 2.636	Melton LA 2.644
Horsham LA	East Hampshire LA 1.994	Uttlesford LA 2.051	Mid Sussex LA 2.074	Tandridge LA 2.083	Test Valley LA 2.3
Hounslow LB	Ealing LB 3.472	Slough UA 4.677	Redbridge LB 4.899	Barnet LB 4.954	Harrow LB 5.232
Huntingdonshire	Mid Bedfordshire 1.745	North Wiltshire LA 2.039	Test Valley LA 2.31	Daventry LA 2.366	Aylesbury Vale LA 2.39
Hyndburn LA	Burnley LA 2.136	Pendle LA 3.073	Bolton LA 3.467	Oldham LA 3.85	Tameside LA 3.941
Inverclyde	West Dunbartonshire 3.154	Renfrewshire 4.034	North Lanarkshire 4.14	North Ayrshire 4.689	South Lanarkshire 4.779
Ipswich LA	Plymouth UA 3.615	Gloucester LA 3.655	Derby UA 3.66	Gosport LA 4.06	Calderdale LA 4.113
Isle of Anglesey UA	Kerrier LA 3.804	Pembrokeshire UA 3.818	Gwynedd UA 4.375	Denbighshire UA 4.381	Allerdale LA 4.524
Isle of Wight UA	Conwy UA 2.669	Carrick LA 2.817	Scarborough LA 2.821	Torbay UA 3.254	Restormel LA 3.406
Isles of Scilly LA	Argyll & Bute 15.403	South Hams LA 16.191	South Lakeland LA 16.272	Eden LA 16.353	North Cornwall LA 16.636
Islington LB	Camden LB 6.027	Lambeth LB 6.394	Hammersmith and Fulham LB 6.536	Southwark LB 7.24	Haringey LB 7.445
Kennet LA	Salisbury LA 2.249	West Oxfordshire 2.455	North Wiltshire LA 2.585	Test Valley LA 2.712	Melton LA 2.742
Kensington and Chelsea LB	Westminster LB 6.219	Hammersmith and Fulham LB 6.889	Camden LB 7.224	Wandsworth LB 9.897	Islington LB 9.985
Kerrier LA	Restormel LA 2.108	Caradon LA 3.061	Carrick LA 3.183	Denbighshire UA 3.344	Waveney LA 3.354
Kettering LA	Rugby LA 2.056	West Wiltshire LA 2.311	St. Edmundsbury LA 2.484	East Northamptonshire 2.573	Braintree LA 2.676
King's Lynn and West Norfolk LA	Boston LA 3.033	Breckland LA 3.255	Sedgemoor LA 3.283	Fenland LA 3.309	Purbeck LA 3.506
Kingston upon Hull, City of UA	Middlesborough UA 5.195	Hartlepool UA 5.648	Liverpool LA 5.8	North East Lincolnshire UA 5.961	Sandwell LA 6.249
Kingston upon Thames LB	Reading UA 4.636	Merton LB 4.698	Richmond upon Thames LB 5.079	Watford LA 5.306	Sutton LB 5.49
Kirklees LA	Calderdale LA 3.013	Bolton LA 3.104	Preston LA 3.546	Derby UA 3.968	Leeds LA 4.045

Knowsley LA	Middlesborough UA 5.285	Hartlepool UA 6.058	Liverpool LA 6.107	Halton UA 6.171	Kingston upon Hull, City of UA 6.425
Lambeth LB	Southwark LB 5.819	Haringey LB 5.956	Islington LB 6.394	Lewisham LB 6.619	Hammersmith and Fulham LB 7.026
Lancaster LA	Canterbury LA 3.468	Plymouth UA 4.432	Lincoln LA 4.548	York UA 4.774	Exeter LA 4.884
Larne	Ballymena 3.223	Ards 3.379	Newtownabbey 3.488	Carrickfergus 3.948	Craigavon 4.153
Leeds LA	Preston LA 3.215	Derby UA 3.741	Sheffield LA 4.028	Kirklees LA 4.045	Plymouth UA 4.117
Leicester UA	Birmingham LA 6.034	Luton UA 6.653	Blackburn with Darwen UA 6.925	Bradford LA 7.143	Coventry LA 7.24
Lewes LA	Chichester LA 2.845	New Forest LA 2.887	Adur LA 3.1	Arun LA 3.215	Poole UA 3.25
Lewisham LB	Waltham Forest LB 5.438	Haringey LB 5.472	Greenwich LB 5.73	Southwark LB 5.835	Lambeth LB 6.619
Lichfield LA	South Staffordshire LA 1.776	Bromsgrove LA 2.096	Stafford LA 2.567	Congleton LA 2.601	Hinckley and Bosworth LA 2.664
Limavady	Newry and Mourne 3.831	Omagh 3.923	Armagh 4.33	Magherafelt 4.547	Dungannon 4.586
Lincoln LA	Plymouth UA 3.498	Sheffield LA 3.833	Ipswich LA 4.126	Derby UA 4.207	Salford LA 4.419
Lisburn	Antrim 3.144	Carrickfergus 3.638	Newtownabbey 3.692	Down 3.725	Craigavon 4.019
Liverpool LA	Kingston upon Hull, City of UA 5.8	Knowsley LA 6.107	Middlesborough UA 6.668	Manchester LA 7.309	Belfast 7.359
Luton UA	Slough UA 5.197	Hillingdon LB 5.489	Enfield LB 5.565	Coventry LA 5.786	Redbridge LB 6.013
Macclesfield LA	Brentwood LA 2.707	Stratford-upon-Avon LA 2.707	Mole Valley LA 2.83	Sevenoaks LA 2.921	Waverley LA 2.964
Magherafelt	Dungannon 2.97	Cookstown 3.023	Armagh 3.056	Omagh 4.023	Ballymoney 4.039
Maidstone LA	Chelmsford LA 2.123	Rugby LA 2.291	Tonbridge and Malling LA 2.371	South Bedfordshire LA 2.534	Braintree LA 2.534
Maldon LA	Wychavon LA 2.508	Mid Suffolk LA 2.527	Ashford LA 2.876	Braintree LA 2.991	Stroud LA 3.002
Malvern Hills LA	Derbyshire Dales 2.677	Wealden LA 2.813	Suffolk Coastal LA 2.999	New Forest LA 3.009	Monmouthshire UA 3.054
Manchester LA	Nottingham UA 3.658	Newcastle upon Tyne LA 5.976	Greenwich LB 7.18	Liverpool LA 7.309	Birmingham LA 7.412
Mansfield LA	Doncaster LA 1.719	Barnsley LA 1.801	Rotherham LA 2.109	Ashfield LA 2.141	Bolsover LA 2.376
Medway UA	Gravesham LA 2.988	Dartford LA 3.042	Swale LA 3.068	Thurrock UA 3.097	Gloucester LA 3.463
Melton LA	Selby LA 2.411	Mid Suffolk LA 2.526	Stroud LA 2.535	South Kesteven LA 2.539	West Wiltshire LA 2.543
Mendip LA	Shrewsbury and Atcham LA 2.323	West Wiltshire LA 2.605	South Somerset LA 2.609	Babergh LA 2.694	Oswestry LA 2.706
Merthyr Tydfil UA	Blaenau Gwent UA 2.455	Rhondda, Cynon, Taff UA 3.142	Easington LA 3.204	Caerphilly UA 3.83	Neath Port Talbot UA 4.204
Merton LB	Kingston upon Thames LB 4.698	Reading UA 5.548	Croydon LB 5.657	Barnet LB 5.779	Ealing LB 5.998
Mid Bedfordshire LA	Huntingdonshire 1.745	North Wiltshire LA 1.908	Aylesbury Vale LA 1.936	East Hertfordshire 2.068	Test Valley LA 2.089

Mid Devon LA	Herefordshire, County of UA 2.149	West Devon LA 2.699	North Shropshire LA 2.771	South Somerset LA 2.913	Ryedale LA 3.074
Mid Suffolk LA	South Norfolk LA 2.28	Wychavon LA 2.335	Melton LA 2.526	Maldon LA 2.527	Babergh LA 2.595
Mid Sussex LA	East Hampshire LA 2.052	Tandridge LA 2.069	Horsham LA 2.074	Uttlesford LA 2.333	Reigate and Banstead LA 2.48
Middlesborough UA	Hartlepool UA 3.59	Sunderland LA 4.497	South Tyneside LA 4.594	Redcar and Cleveland UA 5.007	Kingston upon Hull, City of UA 5.195
Midlothian	East Lothian 3.029	West Lothian 3.556	Falkirk 3.79	Basildon LA 3.812	Wellingborough LA 3.982
Milton Keynes UA	Bracknell Forest UA 4.192	Rushmoor LA 4.421	Crawley LA 4.447	Basingstoke and Deane LA 4.528	Cherwell LA 4.621
Mole Valley LA	Waverley LA 1.842	Tandridge LA 2.559	Macclesfield LA 2.83	Brentwood LA 2.968	Mid Sussex LA 3.193
Monmouthshire UA	Stroud LA 2.463	Babergh LA 2.512	Forest of Dean LA 2.736	East Riding of Yorkshire UA 2.78	Tynedale LA 2.869
Moray	Angus 3.111	Scottish Borders 3.809	Aberdeenshire 3.904	Highland 3.987	Perth & Kinross 4.02
Moyle	Fermanagh 4.144	Coleraine 5.322	Omagh 5.787	Dungannon 5.903	Newry and Mourne 5.944
Neath Port Talbot UA	Barnsley LA 3.558	Bridgend UA 3.689	Bolsover LA 3.732	Caerphilly UA 3.896	Torfaen UA 3.924
New Forest LA	Suffolk Coastal LA 2.387	Wealden LA 2.443	Lewes LA 2.887	East Dorset LA 2.915	South Norfolk LA 2.919
Newark and Sherwood LA	Amber Valley LA 2.278	Bassetlaw LA 2.379	Forest of Dean LA 2.394	North Lincolnshire 2.486	Wyre Forest LA 2.586
Newcastle-under-Lyme LA	Wrexham UA 2.653	Amber Valley LA 3.245	Newark and Sherwood LA 3.359	Wyre Forest LA 3.48	Ellesmere Port and Neston LA 3.482
Newcastle upon Tyne LA	Sheffield LA 3.983	Nottingham UA 4.608	Salford LA 4.733	Lincoln LA 5.418	Norwich LA 5.502
Newham LB	Brent LB 9.342	Hackney LB 9.776	Waltham Forest LB 10.449	Tower Hamlets LB 10.661	Haringey LB 11.285
Newport UA	Stockton-on-Tees 3.151	Rochdale LA 3.237	Doncaster LA 3.461	Bridgend UA 3.513	Rotherham LA 3.518
Newry and Mourne	Omagh 2.425	Dungannon 3.084	Cookstown 3.491	Armagh 3.751	Limavady 3.831
Newtownabbey	Carrickfergus 2.162	Ards 3.228	Larne 3.488	Telford and Wrekin 3.569	Castlereagh 3.679
North Ayrshire	East Ayrshire 2.428	Clackmannanshire 3.704	Fife 3.811	North Lanarkshire 3.957	South Lanarkshire 3.974
North Cornwall LA	Torridge LA 3.161	North Devon LA 3.31	Caradon LA 3.884	Restormel LA 4.019	South Shropshire 4.021
North Devon LA	Caradon LA 2.815	North Cornwall LA 3.31	Restormel LA 3.365	Torridge LA 3.371	Herefordshire, County of UA 3.498
North Dorset LA	South Somerset LA 3.441	Herefordshire, County of UA 3.678	Mendip LA 3.811	Taunton Deane LA 3.825	Breckland LA 3.963
North Down	Castlereagh 3.557	Vale of Glamorgan, The UA 3.879	Stafford LA 4.159	Gedling LA 4.358	Monmouthshire UA 4.435
North East Derbyshire LA	Newark and Sherwood LA 3.134	Bassetlaw LA 3.256	Amber Valley LA 3.261	Wyre Forest LA 3.693	Staffordshire Moorlands LA 3.747
North East Lincolnshire UA	Copeland LA 3.855	Doncaster LA 3.907	Hartlepool UA 4.06	Redcar and Cleveland UA 4.177	Stockton-on-Tees UA 4.192
North Hertfordshire LA	Dacorum LA 1.888	Chelmsford LA 2.787	Reigate and Banstead LA 2.819	Three Rivers LA 2.928	Maidstone LA 3.085

North Kesteven LA	Broadland LA 2.818	South Kesteven LA 2.856	Mid Suffolk LA 2.906	South Norfolk LA 3.081	Breckland LA 3.199
North Lanarkshire	South Lanarkshire 3.274	West Dunbartonshire 3.731	North Ayrshire 3.957	Clackmannanshire 4.033	East Ayrshire 4.086
North Lincolnshire UA	Bassetlaw LA 2.121	Newark and Sherwood LA 2.486	Amber Valley LA 3.14	Nuneaton and Bedworth LA 3.156	Ashfield LA 3.157
North Norfolk LA	East Devon LA 3.19	West Dorset LA 3.603	West Somerset LA 3.695	King's Lynn and West Norfolk LA 3.905	East Lindsey LA 3.971
North Shropshire LA	Herefordshire, County of UA 2.215	Mid Devon LA 2.771	West Lindsey LA 2.815	Forest of Dean LA 2.972	East Riding of Yorkshire UA 2.976
North Somerset UA	Stroud LA 2.68	Tewkesbury LA 2.752	Poole UA 2.756	Babergh LA 2.853	New Forest LA 2.972
North Tyneside LA	Darlington UA 2.972	Gateshead LA 3.07	Chesterfield LA 3.243	Blyth Valley LA 3.597	Sefton LA 3.78
North Warwickshire LA	North West Leicestershire LA 2.095	Wyre Forest LA 2.344	Hinckley and Bosworth LA 2.373	Chorley LA 2.398	Flintshire UA 2.679
North West Leicestershire LA	Hinckley and Bosworth LA 1.782	North Warwickshire LA 2.095	South Derbyshire LA 2.287	Wyre Forest LA 2.407	Amber Valley LA 2.494
North Wiltshire LA	Test Valley LA 1.527	Mid Bedfordshire 1.908	Huntingdonshire 2.039	West Oxfordshire 2.12	Daventry LA 2.314
Northampton LA	Dartford LA 2.982	Swindon UA 2.985	Peterborough UA 3.088	Worcester LA 3.291	Gloucester LA 3.418
Norwich LA	Lincoln LA 5.115	Bristol, City of UA 5.372	Newcastle upon Tyne LA 5.502	Sheffield LA 5.794	Southampton UA 5.928
Nottingham UA	Manchester LA 3.658	Newcastle upon Tyne LA 4.608	Norwich LA 6.428	Southampton UA 6.722	Lincoln LA 6.809
Nuneaton and Bedworth LA	Erewash LA 2.516	Cannock Chase LA 2.589	Wigan LA 2.71	Ellesmere Port and Neston LA 2.783	Flintshire UA 2.994
Oadby and Wigston LA	Charnwood LA 3.719	Broxtowe LA 4.622	Rugby LA 4.71	Bedford LA 4.761	Blaby LA 4.956
Oldham LA	Rochdale LA 1.243	Bolton LA 2.642	Tameside LA 3.402	Walsall LA 3.655	Burnley LA 3.784
Omagh	Newry and Mourne 2.425	Dungannon 2.869	Armagh 3.115	Cookstown 3.357	Fermanagh 3.527
Orkney Islands	Eden LA 5.639	Powys UA 5.666	Scottish Borders 5.952	Dumfries & Galloway 5.978	Highland 6.083
Oswestry LA	Sedgemoor LA 2.607	Herefordshire, County of UA 2.653	East Riding of Yorkshire UA 2.656	Mendip LA 2.706	Shrewsbury and Atcham LA 2.81
Oxford LA	Cambridge LA 2.903	Southampton UA 7.54	Reading UA 8.672	Exeter LA 9.132	Edinburgh, City of 9.501
Pembrokeshire UA	Kerrier LA 3.593	Isle of Anglesey UA 3.818	North Cornwall LA 4.027	Carmarthenshire 4.219	North Devon LA 4.463
Pendle LA	Hyndburn LA 3.073	Burnley LA 3.412	Kirklees LA 4.051	Bolton LA 4.447	Oldham LA 4.468
Penwith LA	Scarborough LA 4.133	Isle of Wight UA 4.407	Carrick LA 4.52	Kerrier LA 4.891	North Cornwall LA 4.919
Perth & Kinross	Scottish Borders 3.103	Angus 3.334	Taunton Deane LA 3.83	Shrewsbury and Atcham LA 3.996	Highland 4.011
Peterborough UA	Northampton LA 3.088	Wellingborough LA 3.106	Gravesham LA 3.138	Bury LA 3.242	Basildon LA 3.307
Plymouth UA	Lincoln LA 3.498	Ipswich LA 3.615	Leeds LA 4.117	Derby UA 4.371	Tameside LA 4.376
Poole UA	North Somerset UA 2.756	New Forest LA 3.035	Gedling LA 3.148	Shrewsbury and Atcham LA 3.24	Lewes LA 3.25

Portsmouth UA	Bristol, City of UA 4.023	Exeter LA 4.216	Leeds LA 4.423	Plymouth UA 4.749	Lincoln LA 4.925
Powys UA	South Shropshire LA 2.785	West Devon LA 3.329	Ryedale LA 3.347	Herefordshire, County of UA 3.359	Mid Devon LA 3.558
Preston LA	Coventry LA 2.79	Derby UA 2.943	Leeds LA 3.215	Bolton LA 3.448	Kirklees LA 3.546
Purbeck LA	Suffolk Coastal LA 2.367	West Dorset LA 2.963	New Forest LA 3.009	Teignbridge LA 3.091	South Lakeland LA 3.097
Reading UA	Kingston upon Thames LB 4.636	Watford LA 4.855	Bristol, City of UA 5.169	Merton LB 5.548	Sutton LB 6.053
Redbridge LB	Harrow LB 4.227	Hounslow LB 4.899	Enfield LB 5.47	Barnet LB 5.537	Slough UA 5.618
Redcar and Cleveland UA	Hartlepool UA 2.665	Doncaster LA 2.674	Copeland LA 3.069	Mansfield LA 3.114	Barnsley LA 3.244
Redditch LA	Tamworth LA 2.746	Wellingborough LA 3.392	Warrington UA 3.48	Telford and Wrekin 3.522	South Bedfordshire 3.624
Reigate and Banstead LA	Tandridge LA 2.381	Mid Sussex LA 2.48	Epsom and Ewell 2.524	Three Rivers LA 2.63	South Oxfordshire 2.652
Renfrewshire	South Lanarkshire 2.411	Falkirk 3.023	Fife 3.859	Inverclyde 4.034	Clackmannanshire 4.125
Restormel LA	Kerrier LA 2.108	Carrick LA 3.204	Caradon LA 3.26	North Devon LA 3.365	Isle of Wight UA 3.406
Rhondda, Cynon, Taff UA	Caerphilly UA 2.55	Merthyr Tydfil UA 3.142	Torfaen UA 3.202	Bridgend UA 3.786	Blaenau Gwent UA 3.824
Ribble Valley LA	Hambleton LA 3.000	Babergh LA 3.052	Stroud LA 3.131	Tewkesbury LA 3.132	Harrogate LA 3.292
Richmond upon Thames LB	Kingston upon Thames LB 5.079	Merton LB 6.576	St. Albans LA 6.878	Elmbridge LA 7.041	Windsor and Maidenhead UA 7.197
Richmondshire LA	Kennet LA 3.872	Salisbury LA 4.532	Hambleton LA 4.625	St. Edmundsbury 4.89	Melton LA 4.921
Rochdale LA	Oldham LA 1.243	Bolton LA 2.293	Tameside LA 3.171	Newport UA 3.237	Walsall LA 3.415
Rochford LA	Castle Point LA 2.677	Maldon LA 3.023	Tewkesbury LA 3.033	Babergh LA 3.114	Stroud LA 3.134
Rossendale LA	Bury LA 2.675	Tameside LA 3.324	Bolton LA 3.336	Nuneaton and Bedworth LA 3.455	Wigan LA 3.597
Rother LA	East Devon LA 2.921	Christchurch LA 3.025	Arun LA 3.106	Tendring LA 3.702	West Dorset LA 4.301
Rotherham LA	Doncaster LA 1.885	Wakefield LA 2.045	Mansfield LA 2.109	Barnsley LA 2.507	Ashfield LA 2.797
Rugby LA	Kettering LA 2.056	Maidstone LA 2.291	West Wiltshire LA 2.345	High Peak LA 2.403	St. Edmundsbury 2.576
Runnymede LA	Guildford LA 3.066	Warwick LA 3.493	Winchester LA 4.233	Reigate and Banstead LA 4.412	Welwyn Hatfield LA 4.61
Rushcliffe LA	Reigate and Banstead LA 3.16	Vale of White Horse LA 3.185	Mid Sussex LA 3.208	South Cambridgeshire LA 3.22	South Oxfordshire LA 3.253
Rushmoor LA	Cherwell LA 3.661	Basingstoke and Deane LA 4.002	Swindon UA 4.066	Bracknell Forest UA 4.134	Watford LA 4.227
Rutland UA	Harrogate LA 3.309	Kennet LA 3.377	East Hampshire LA 3.38	Hambleton LA 3.477	Congleton LA 3.571
Ryedale LA	Eden LA 2.528	South Shropshire LA 2.697	West Devon LA 2.816	Mid Devon LA 3.074	Herefordshire, County of UA 3.159
Salford LA	Gateshead LA 3.52	Sheffield LA 3.959	North Tyneside LA 4.09	Tameside LA 4.153	Stoke-on-Trent UA 4.181
Salisbury LA	Kennet LA 2.249	Harrogate LA 2.275	West Wiltshire LA 2.474	St. Edmundsbury 2.716	Tewkesbury LA 2.773
Sandwell LA	Wolverhampton LA 2.574	Walsall LA 3.553	Rochdale LA 5.229	Oldham LA 5.242	Stoke-on-Trent UA 5.379

Scarborough LA	Isle of Wight UA 2.821	Torbay UA 3.698	Carrick LA 3.872	Conwy UA 3.901	North Devon LA 3.997
Scottish Borders	Angus 3.062	Perth & Kinross 3.103	Dumfries & Galloway 3.773	Moray 3.809	Alnwick LA 4.18
Sedgefield LA	Derwentside LA 1.892	Wansbeck LA 2.648	Wear Valley LA 2.735	Torfaen UA 3.024	Barnsley LA 3.084
Sedgemoor LA	East Riding of Yorkshire UA 1.964	South Somerset LA 2.112	Forest of Dean LA 2.456	Newark and Sherwood LA 2.592	Oswestry LA 2.607
Sefton LA	Wirral LA 1.865	Darlington UA 3.5	North Tyneside LA 3.78	Dover LA 3.797	St. Helens LA 3.909
Selby LA	South Kesteven LA 2.377	Melton LA 2.411	South Derbyshire LA 2.521	Ashford LA 2.622	Hinckley and Bosworth LA 2.769
Sevenoaks LA	Brentwood LA 2.356	Tandridge LA 2.483	East Hampshire LA 2.64	Mid Sussex LA 2.655	Uttlesford LA 2.796
Sheffield LA	Derby UA 3.47	Lincoln LA 3.833	Salford LA 3.959	Newcastle upon Tyne LA 3.983	Leeds LA 4.028
Shepway LA	Dover LA 2.341	Weymouth and Portland LA 2.684	Denbighshire UA 3.164	Thanet LA 3.564	Conwy UA 3.569
Shetland Islands	Aberdeenshire 4.803	Moray 5.515	Highland 5.676	Orkney Islands 6.13	Perth & Kinross 6.316
Shrewsbury and Atcham LA	Taunton Deane LA 2.068	Mendip LA 2.323	South Somerset LA 2.517	Stroud LA 2.521	West Wiltshire LA 2.528
Slough UA	Hounslow LB 4.677	Luton UA 5.197	Redbridge LB 5.618	Hillingdon LB 6.152	Harrow LB 6.465
Solihull LA	Warrington UA 2.961	Stockport LA 3.041	Vale Royal LA 3.095	Rugby LA 3.281	Lichfield LA 3.34
South Ayrshire	Angus 3.271	Fife 3.298	Dover LA 4.057	South Lanarksh ire 4.072	Darlington UA 4.075
South Bedfordshire LA	Tonbridge and Malling LA 2.342	Maidstone LA 2.534	Braintree LA 2.721	Dacorum LA 2.744	Chelmsford LA 2.769
South Bucks LA	Chiltern LA 1.804	Waverley LA 3.07	Mole Valley LA 3.353	Tandridge LA 3.357	Windsor and Maidenhead UA 3.41
South Cambridgeshire LA	Vale of White Horse LA 1.858	South Oxfordshire LA 2.217	East Hampshire LA 2.795	Uttlesford LA 2.811	West Berkshire UA 2.842
South Derbyshire LA	North West Leicestershire LA 2.287	Selby LA 2.521	Vale Royal LA 2.684	Hinckley and Bosworth LA 2.762	Ashford LA 2.857
South Gloucestershire	Eastleigh LA 1.765	Test Valley LA 2.645	North Wiltshire LA 2.667	Mid Bedfordshire 2.821	Cherwell LA 2.859
South Hams LA	South Lakeland LA 2.944	Purbeck LA 3.854	West Dorset LA 4.311	North Cornwall LA 4.475	Caradon LA 4.545
South Holland LA	Breckland LA 3.212	Fenland LA 3.456	Boston LA 3.67	King's Lynn and West Norfolk LA 3.831	East Lindsey LA 4.483
South Kesteven LA	Ashford LA 2.171	West Wiltshire LA 2.197	Selby LA 2.377	East Northamptonshire 2.514	Melton LA 2.539
South Lakeland LA	South Hams LA 2.944	West Dorset LA 3.093	Purbeck LA 3.097	Craven LA 3.433	Derbyshire Dales 4.036
South Lanarkshire	Falkirk 2.382	Renfrewshire 2.411	Clackmannanshire 3.03	Fife 3.149	North Lanarkshire 3.274
South Norfolk LA	Broadland LA 2.063	Mid Suffolk LA 2.28	Babergh LA 2.368	Suffolk Coastal LA 2.803	Forest of Dean LA 2.834
South Northamptonshire	Harborough LA 2.128	Daventry LA 2.152	Mid Bedfordshire 2.396	Test Valley LA 2.421	Uttlesford LA 2.539
South Oxfordshire LA	Vale of White Horse LA 1.734	East Hertfordshire LA 2.168	West Berkshire UA 2.188	South Cambridgeshire LA 2.217	Horsham LA 2.476
South Ribble LA	Chorley LA 2.139	Warrington UA 2.711	North Warwickshire 2.72	Vale Royal LA 2.816	Flintshire UA 2.853

South Shropshire LA	West Devon LA 2.502	Ryedale LA 2.697	Powys UA 2.785	Eden LA 3.662	Torridge LA 3.847
South Somerset LA	Sedgemoor LA 2.112	Taunton Deane LA 2.447	Shrewsbury and Atcham LA 2.517	East Riding of Yorkshire UA 2.555	Mendip LA 2.609
South Staffordshire LA	Lichfield LA 1.776	Bromsgrove LA 2.509	Hinckley and Bosworth LA 3.116	Stafford LA 3.341	Selby LA 3.401
South Tyneside LA	Sunderland LA 3.419	Hartlepool UA 3.906	Gateshead LA 3.976	North Ayrshire 4.309	Middlesborough 4.594
Southampton UA	Exeter LA 4.569	Bristol, City of UA 4.69	Portsmouth UA 5.101	Cardiff UA 5.371	Leeds LA 5.921
Southend-on-Sea UA	Hastings LA 3.839	Shepway LA 4.126	Worthing LA 4.645	Thanet LA 4.792	Weymouth and Portland LA 4.889
Southwark LB	Lambeth LB 5.819	Lewisham LB 5.835	Hackney LB 5.918	Haringey LB 7.167	Islington LB 7.24
Spelthorne LA	Reigate and Banstead LA 2.806	North Hertfordshire LA 3.242	Chelmsford LA 3.243	Epping Forest LA 3.345	Maidstone LA 3.404
St. Albans LA	Woking LA 2.333	Windsor and Maidenhead UA 2.573	Elmbridge LA 3.03	South Oxfordshire LA 3.48	Reigate and Banstead LA 3.742
St. Edmundsbury LA	West Wiltshire LA 1.817	Braintree LA 2.474	Kettering LA 2.484	Rugby LA 2.576	Melton LA 2.603
St. Helens LA	Halton UA 2.771	Doncaster LA 3.115	Wigan LA 3.228	Rotherham LA 3.255	Redcar and Cleveland UA 3.305
Stafford LA	Hinckley and Bosworth LA 2.549	Lichfield LA 2.567	Stroud LA 2.61	Broxtowe LA 2.64	Congleton LA 2.669
Staffordshire Moorlands LA	Forest of Dean LA 3.004	North Warwickshire LA 3.025	Wyre Forest LA 3.103	Hinckley and Bosworth LA 3.164	Amber Valley LA 3.288
Stevenage LA	Harlow LA 2.461	Crawley LA 3.52	Basildon LA 3.707	Dartford LA 3.865	Northampton LA 3.947
Stirling	Colchester LA 3.766	Canterbury LA 4.329	Perth & Kinross 4.356	York UA 4.387	Chester LA 4.395
Stockport LA	Trafford LA 2.104	Rugby LA 2.938	Bury LA 2.978	Broxtowe LA 3.035	Gedling LA 3.035
Stockton-on-Tees UA	Newport UA 3.151	Blyth Valley LA 3.172	Doncaster LA 3.275	Rotherham LA 3.428	Copeland LA 3.492
Stoke-on-Trent UA	Sunderland LA 3.714	Barnsley LA 3.849	Wakefield LA 3.966	Mansfield LA 3.972	Gateshead LA 4.023
Strabane	Newry and Mourne 4.34	Limavady 5.041	Omagh 5.254	Cookstown 5.42	Dungannon 5.69
Stratford-upon-Avon LA	Wychavon LA 2.336	Macclesfield LA 2.707	Tewkesbury LA 2.803	Cotswold LA 2.856	Congleton LA 2.933
Stroud LA	Babergh LA 1.754	Tewkesbury LA 1.985	Monmouthshire UA 2.463	Shrewsbury and Atcham LA 2.521	Melton LA 2.535
Suffolk Coastal LA	Purbeck LA 2.367	New Forest LA 2.387	Babergh LA 2.609	Derbyshire Dales 2.781	South Norfolk LA 2.803
Sunderland LA	Gateshead LA 2.865	Hartlepool UA 3.186	Redcar and Cleveland UA 3.338	South Tyneside LA 3.419	Wansbeck LA 3.439
Surrey Heath LA	Hart LA 1.626	Wokingham UA 2.58	South Oxfordshire 3.219	West Berkshire UA 3.228	Chiltern LA 3.456
Sutton LB	Watford LA 3.015	Bromley LB 3.393	Bexley LB 4.064	Trafford LA 4.267	Hillingdon LB 4.298
Swale LA	Gravesham LA 2.851	East Staffordshire LA 2.93	Medway UA 3.068	Crewe and Nantwich LA 3.171	Wellingborough LA 3.222
Swansea UA	Bridgend UA 3.55	Newcastle-under-Lyme LA 4.133	Neath Port Talbot UA 4.235	Newport UA 4.237	Wirral LA 4.293
Swindon UA	Dartford LA 2.502	Northampton LA 2.985	Kettering LA 3.049	Cherwell LA 3.432	Worcester LA 3.552

Tameside LA	Bolton LA 2.617	Rochdale LA 3.171	Wigan LA 3.256	Rossendale LA 3.324	Oldham LA 3.402
Tamworth LA	Redditch LA 2.746	Telford and Wrekin UA 2.937	Cannock Chase LA 3.288	Nuneaton and Bedworth LA 3.815	Thurrock UA 3.952
Tandridge LA	Mid Sussex LA 2.069	Horsham LA 2.083	Uttlesford LA 2.297	Reigate and Banstead LA 2.381	East Hampshire LA 2.401
Taunton Deane LA	Shrewsbury and Atcham LA 2.068	South Somerset LA 2.447	Mendip LA 2.833	Sedgemoor LA 2.962	Oswestry LA 3.037
Teesdale LA	Alnwick LA 3.325	Tynedale LA 3.83	Powys UA 3.926	North Devon LA 4.053	King's Lynn and West Norfolk LA 4.142
Teignbridge LA	Sedgemoor LA 2.884	Carrick LA 3.085	Purbeck LA 3.091	Caradon LA 3.103	South Somerset LA 3.167
Telford and Wrekin UA	Tamworth LA 2.937	Wellingborough LA 3.268	Carrickfergus 3.451	Thurrock UA 3.475	Redditch LA 3.522
Tendring LA	Arun LA 3.52	Rother LA 3.702	Christchurch LA 3.878	Conwy UA 4.163	North Norfolk LA 4.207
Test Valley LA	North Wiltshire LA 1.527	West Oxfordshire 1.649	Mid Bedfordshire 2.089	East Hampshire LA 2.14	Eastleigh LA 2.192
Tewkesbury LA	Stroud LA 1.985	Wychavon LA 2.314	Babergh LA 2.371	Congleton LA 2.484	West Wiltshire LA 2.608
Thanet LA	Shepway LA 3.564	Torbay UA 3.618	Conwy UA 3.709	Great Yarmouth LA 3.869	Hastings LA 3.881
Three Rivers LA	Reigate and Banstead LA 2.63	Tandridge LA 2.671	Hertsmere LA 2.7	Epsom and Ewell LA 2.833	North Hertfordshire LA 2.928
Thurrock UA	Dartford LA 2.588	Basildon LA 3.082	Medway UA 3.097	Telford and Wrekin 3.475	Gravesham LA 3.522
Tonbridge and Malling LA	South Bedfordshire 2.342	Maidstone LA 2.371	Braintree LA 2.42	Test Valley LA 2.435	Eastleigh LA 2.551
Torbay UA	Isle of Wight UA 3.254	Conwy UA 3.529	Thanet LA 3.618	Scarborough LA 3.698	Shepway LA 3.848
Torfaen UA	Caerphilly UA 2.214	Bridgend UA 2.7	Sedgefield LA 3.024	Rhondda, Cynon, Taff UA 3.202	Derwentside LA 3.365
Torridge LA	North Cornwall LA 3.161	North Devon LA 3.371	Powys UA 3.697	Restormel LA 3.783	Kerrier LA 3.821
Tower Hamlets LB	Newham LB 10.661	Hackney LB 10.852	Brent LB 12.358	Islington LB 13.013	Southwark LB 13.083
Trafford LA	Stockport LA 2.104	Bury LA 3.494	Bromley LB 3.554	Chester LA 3.606	Bexley LB 3.718
Tunbridge Wells LA	Harrogate LA 2.646	Reigate and Banstead LA 3.031	North Hertfordshire LA 3.094	Salisbury LA 3.098	Mid Sussex LA 3.145
Tynedale LA	Monmouthshire UA 2.869	East Riding of Yorkshire UA 2.918	Derbyshire Dales LA 2.957	Herefordshire, County of UA 3.128	Hambleton LA 3.146
Uttlesford LA	East Hampshire LA 1.336	Horsham LA 2.051	Tandridge LA 2.297	Mid Sussex LA 2.333	Harborough LA 2.491
Vale of Glamorgan, The UA	West Lancashire LA 2.913	Ellesmere Port and Neston LA 3.17	Bury LA 3.281	Warrington UA 3.444	High Peak LA 3.516
Vale of White Horse LA	South Oxfordshire LA 1.734	South Cambridgeshire LA 1.858	West Berkshire UA 2.065	East Hampshire LA 2.263	Test Valley LA 2.313
Vale Royal LA	Warrington UA 2.28	Chorley LA 2.39	Crewe and Nantwich LA 2.684	South Derbyshire LA 2.684	South Ribble LA 2.816
Wakefield LA	Rotherham LA 2.045	Doncaster LA 2.122	Ashfield LA 2.43	Wigan LA 2.447	Mansfield LA 2.501
Walsall LA	Rochdale LA 3.415	Wolverhampton LA 3.426	Bolton LA 3.535	Sandwell LA 3.553	Oldham LA 3.655
Waltham Forest LB	Greenwich LB 4.679	Enfield LB 5.26	Croydon LB 5.334	Lewisham LB 5.438	Ealing LB 6.097

Wandsworth LB	Hammersmith and Fulham LB 5.214	Lambeth LB 8.755	Merton LB 9.072	Camden LB 9.231	Westminster LB 9.365
Wansbeck LA	Derwentside LA 2.353	Wear Valley LA 2.571	Sedgefield LA 2.648	Barnsley LA 3.311	Sunderland LA 3.439
Warrington UA	Chorley LA 2.052	Vale Royal LA 2.28	South Ribble LA 2.711	Rugby LA 2.735	Solihull LA 2.961
Warwick LA	Guildford LA 3.185	Chester LA 3.298	Bath and North East Somerset UA 3.451	Runnymede LA 3.493	North Hertfordshire LA 3.629
Watford LA	Sutton LB 3.015	Hillingdon LB 3.994	Rushmoor LA 4.227	Bedford LA 4.544	Crawley LA 4.556
Waveney LA	Great Yarmouth LA 2.836	Kerrier LA 3.354	Dover LA 3.441	Conwy UA 3.652	Shepway LA 3.675
Waverley LA	Mole Valley LA 1.842	Tandridge LA 2.568	Mid Sussex LA 2.834	Winchester LA 2.875	Chiltern LA 2.945
Wealden LA	New Forest LA 2.443	Malvern Hills LA 2.813	Suffolk Coastal LA 3.143	Babergh LA 3.217	South Norfolk LA 3.229
Wear Valley LA	Derwentside LA 2.279	Wansbeck LA 2.571	Sedgefield LA 2.735	Barnsley LA 3.504	Redcar and Cleveland UA 3.739
Wellingborough LA	Kettering LA 2.753	Nuneaton and Bedworth LA 3.02	Erewash LA 3.102	Peterborough UA 3.106	Gravesham LA 3.178
Welwyn Hatfield LA	North Hertfordshire LA 3.929	Colchester LA 3.947	Warwick LA 3.976	Dacorum LA 4.047	Bath and North East Somerset UA 4.074
West Berkshire UA	East Hertfordshire LA 2.047	Vale of White Horse LA 2.065	South Oxfordshire LA 2.188	Basingstoke and Deane LA 2.27	Mid Bedfordshire LA 2.307
West Devon LA	South Shropshire LA 2.502	Mid Devon LA 2.699	Ryedale LA 2.816	Herefordshire, County of UA 2.842	Caradon LA 2.849
West Dorset LA	East Devon LA 2.257	Purbeck LA 2.963	South Lakeland LA 3.093	Chichester LA 3.234	Teignbridge LA 3.585
West Dunbartonshire	Inverclyde 3.154	North Lanarkshire 3.731	North Ayrshire 4.444	Renfrewshire 4.868	East Ayrshire 4.975
West Lancashire LA	Vale of Glamorgan, The UA 2.913	Ellesmere Port and Neston LA 2.948	Flintshire UA 2.964	Newark and Sherwood LA 3.182	Chorley LA 3.241
West Lindsey LA	East Riding of Yorkshire UA 2.273	Forest of Dean LA 2.385	North Shropshire LA 2.815	Newark and Sherwood LA 2.822	Sedgemoor LA 2.984
West Lothian	Midlothian 3.556	Telford and Wrekin 3.809	Thurrock UA 3.887	Harlow LA 3.929	Wellingborough LA 4.114
West Oxfordshire LA	Test Valley LA 1.649	North Wiltshire LA 2.12	East Hampshire LA 2.44	Vale of White Horse LA 2.449	Kennet LA 2.455
West Somerset LA	East Devon LA 3.679	North Norfolk LA 3.695	Rother LA 4.333	West Dorset LA 4.359	Tendring LA 4.9
West Wiltshire LA	St. Edmundsbury 1.817	Ashford LA 2.049	South Kesteven LA 2.197	Braintree LA 2.254	Kettering LA 2.311
Westminster LB	Camden LB 6.205	Kensington and Chelsea LB 6.219	Hammersmith and Fulham LB 7.56	Wandsworth LB 9.365	Islington LB 9.548
Weymouth and Portland LA	Dover LA 2.614	Shepway LA 2.684	Carlisle LA 3.299	Taunton Deane LA 3.414	Sedgemoor LA 3.587
Wigan LA	Wakefield LA 2.447	Nuneaton and Bedworth LA 2.71	Blyth Valley LA 2.889	Chester-le-Street LA 2.939	Rotherham LA 2.989
Winchester LA	Waverley LA 2.875	Guildford LA 3.235	Horsham LA 3.516	Harrogate LA 3.585	Rushcliffe LA 3.661
Windsor and Maidenhead UA	Woking LA 2.368	St. Albans LA 2.573	Elmbridge LA 3.181	South Oxfordshire 3.329	Wycombe LA 3.386
Wirral LA	Sefton LA 1.865	Darlington UA 3.631	St. Helens LA 3.658	North Tyneside LA 3.961	Swansea UA 4.293

Woking LA	St. Albans LA 2.333	Windsor and Maidenhead UA 2.368	Wycombe LA 2.792	Reigate and Banstead LA 2.883	South Oxfordshire LA 3.143
Wokingham UA	Hart LA 2.188	Surrey Heath LA 2.58	West Berkshire UA 4.098	South Oxfordshire 4.361	East Hertfordshire 4.372
Wolverhampton LA	Sandwell LA 2.574	Walsall LA 3.426	Derby UA 4.225	Rochdale LA 4.957	Stoke-on-Trent UA 5.186
Worcester LA	Northampton LA 3.291	Gloucester LA 3.3	Colchester LA 3.359	Kettering LA 3.43	Swindon UA 3.552
Worthing LA	Eastbourne LA 3.919	Arun LA 4.201	Adur LA 4.211	Lewes LA 4.328	Fylde LA 4.505
Wrexham UA	Newcastle-under-Lyme LA 2.653	Wakefield LA 3.092	Ellesmere Port and Neston LA 3.224	Flintshire UA 3.229	Wigan LA 3.319
Wychavon LA	Tewkesbury LA 2.314	Mid Suffolk LA 2.335	Stratford-upon-Avon LA 2.336	Babergh LA 2.362	Congleton LA 2.457
Wycombe LA	Woking LA 2.792	Three Rivers LA 3.284	West Berkshire UA 3.33	Windsor and Maidenhead UA 3.386	Aylesbury Vale LA 3.412
Wyre Forest LA	Amber Valley LA 2.091	North Warwickshire LA 2.344	North West Leicestershire LA 2.407	Newark and Sherwood LA 2.586	Hinckley and Bosworth LA 2.636
Wyre LA	Denbighshire UA 3.326	Teignbridge LA 3.525	Sedgemoor LA 3.559	Adur LA 3.58	Conwy UA 3.589
York UA	Bath and North East Somerset UA 2.966	Cheltenham LA 3.473	Canterbury LA 3.747	Colchester LA 3.964	Chester LA 4.115