

## **Summary Report**

# **Pilot Mapping of Local Social Polarisation in Three Areas of England 1971-2001**

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This is a summary of some of the key findings from a much larger technical report<sup>1</sup>, which aims to illustrate the possibilities that exist for mapping and interpreting the changing patterns of social polarisation in England over the last three decades.

In this summary report, we highlight ways in which the populations along these transects appear to be diverging over time. This research does not answer the questions of what changes are most important to measure or how they should best be measured and interpreted. It serves to illustrate what could technically be achieved nationally. The most important policy question arising from this work is - given that we can now relatively easily measure how the characteristics of the populations of large neighbourhoods have been changing over the last three decades across England and Wales – on what changes should we concentrate study the most and why?

### **Methodology using an Analysis of Neighbourhoods:**

Following advice from the Neighbourhood Renewal Unit three study areas were chosen which are illustrated in the following pages. Each of the three areas were partitioned into small ‘neighbourhoods’ containing between 30,000 and 60,000 people. The full technical report describes in detail how and why this was done. Put most simply, these are areas of roughly equal population for which social statistics can be relatively easily compared over time and which contain households with similar income profiles. It is for those ‘neighbourhoods’ that income distribution is shown on the maps, which follow. For each of the three areas we also map a route, which can be followed which describes a ‘transect’ through the area (these are listed in the boxes which follow). Many social variables were analysed for each of these transects, some of which have been included in this summary report. We also calculated various indices of segregation and isolation and how they changed over time in each area between these neighbourhoods; examples are also included here. We conclude that the method we present here is a workable method of partitioning the geography of England and Wales into areas of the population sizes listed above. The results demonstrate that robust statistics can be derived for these areas and these can be used to reveal changes which are of social significance.

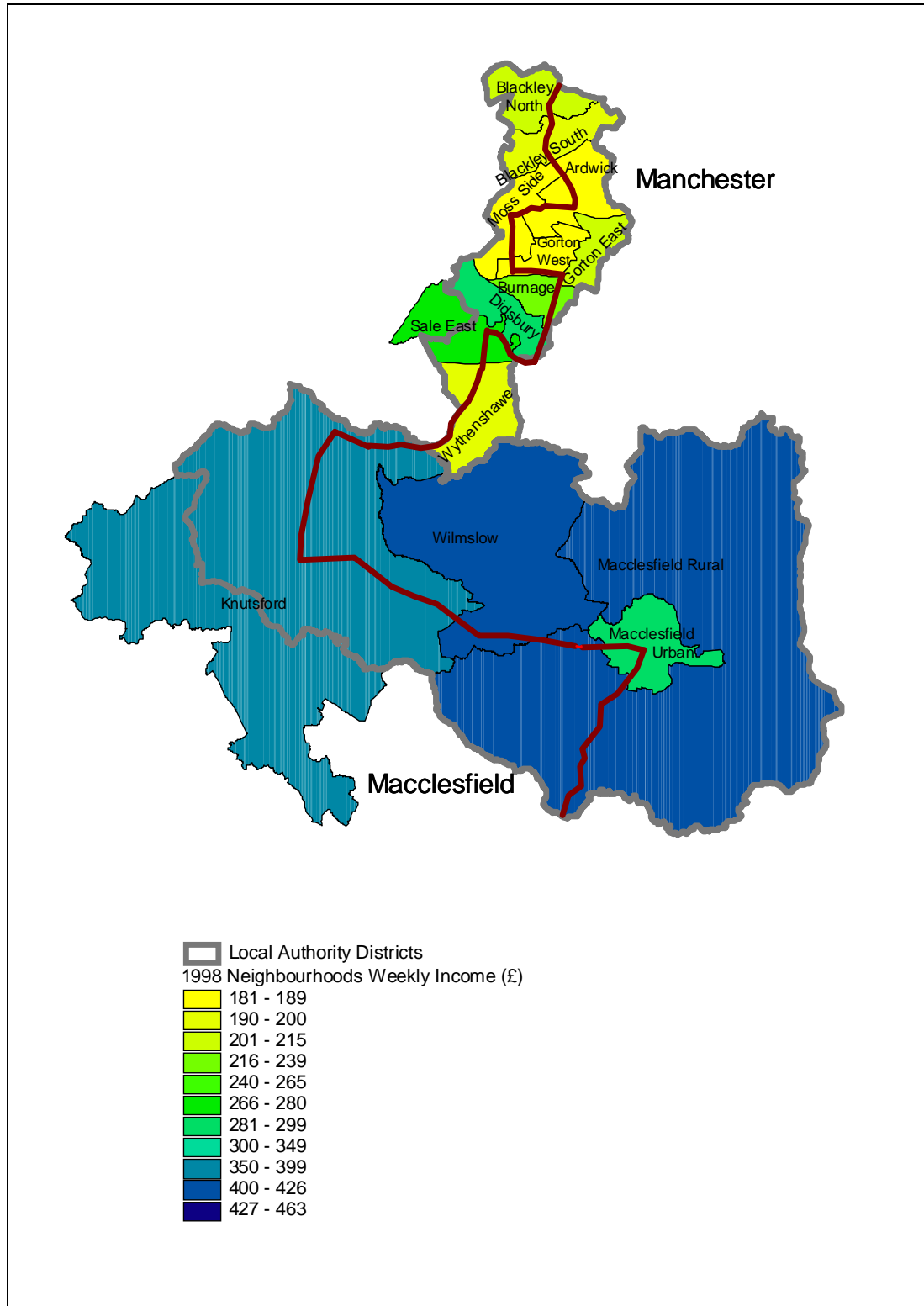
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<sup>1</sup> Available on-line from: [http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

## Areas of Analysis

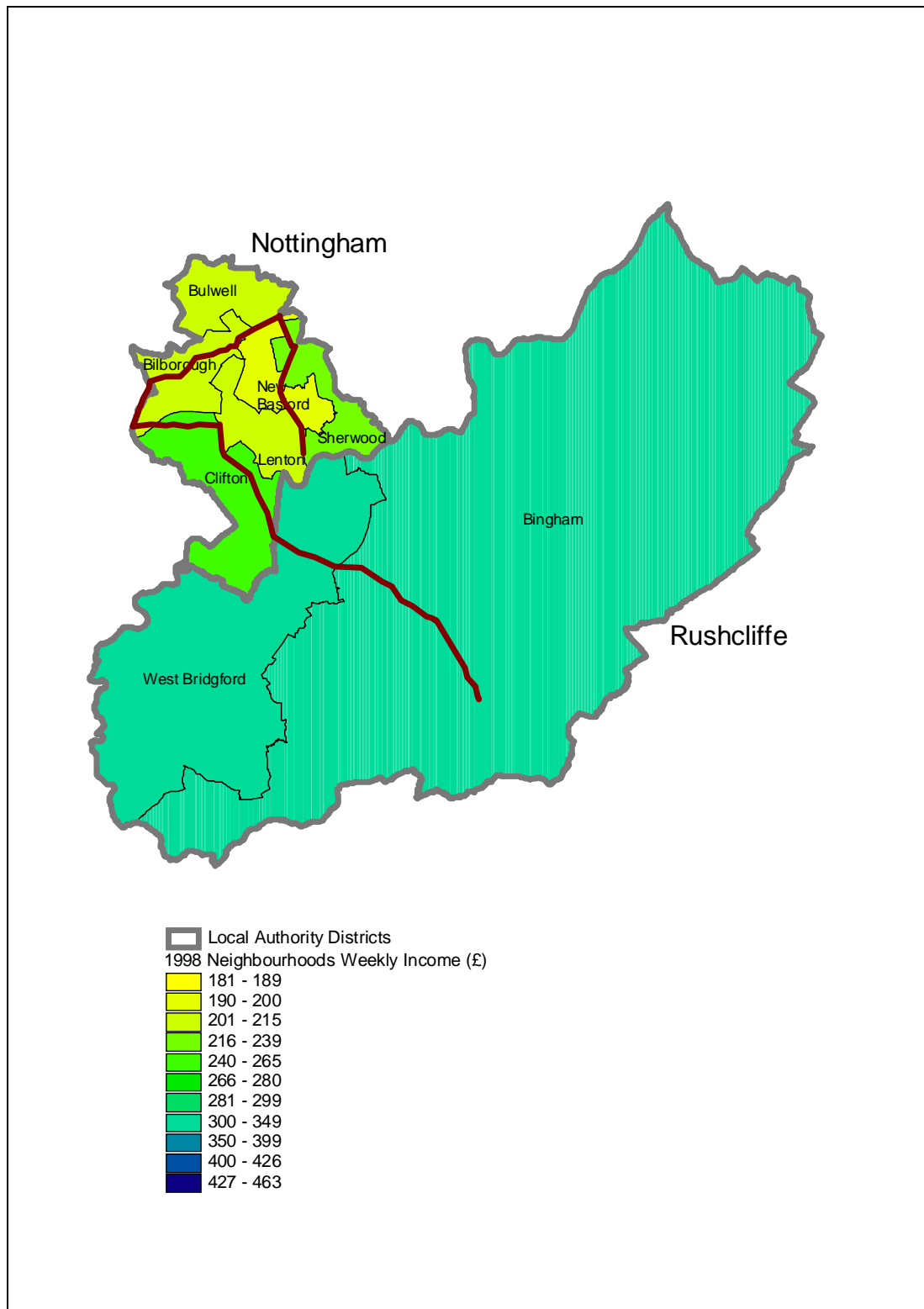
What follows are the maps of the three areas we have studied showing their extents, 'neighbourhoods', average income levels in each 'neighbourhood' and the hypothetical transect taken through each area.

**Figure 1:** Spatial distribution of estimated income within Manchester and Macclesfield



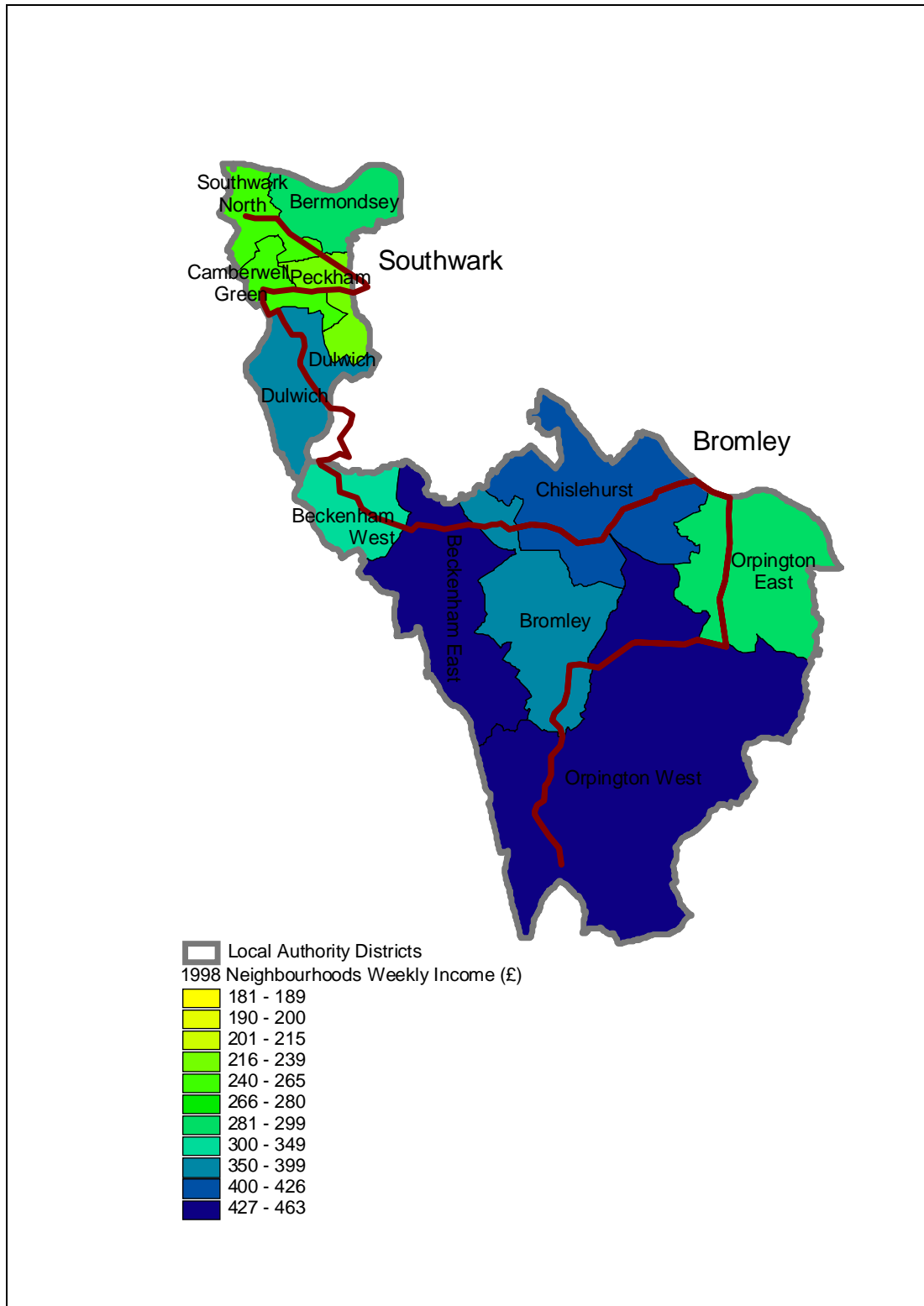
**Source:** Figure 6 of main report, available on-line from [http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

Figure2: Spatial distribution of estimated income in Nottingham and Rushcliffe



Source: Figure 11 of main report, available on-line from:  
[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

Figure 3: Spatial distribution of estimated income in Southwark and Bromley



Source: Figure 14 of main report, available on-line from:  
[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

***Box 1: Manchester/Macclesfield Route***

Start on the A664 at the M60 J20, north Manchester  
Proceed south through Blackley  
Turn Left onto the A6010  
Turn Right onto the A636 into central Manchester  
Join the A57 Mancunian Way  
Leave on the A5103, pass the Universities and Moss Side  
Turn left onto the A6010 through Fallowfield  
Turn right onto the A34, pass through Didsbury  
Join the M60 Westbound for one junction  
Leave at J5, turning left onto the A510  
Join the M56 at J3, and proceed south west  
At J8, leave the M56 and turn left onto the A556, pass through Bucklow Hill  
Pass straight over the M6, and turn left onto the A5033 into Knutsford  
Leave Knutsford on the A537, and follow all the way to Macclesfield town centre  
Leave Macclesfield on the A536 southbound, and proceed to Congleton, where the journey ends

***Box 2: Nottingham/Rushcliffe Route***

Start in New Basford, at the A6130 Junction with the A60  
Take the B682 through New Basford  
At Old Basford, take the B6004, and continue past the A610 Junction  
Continue past Broxtowe and Aspley  
Turn left onto the A6002  
Turn left onto the A609, pass through Wollaton  
Turn right onto the A60  
Join the A606 and continue through West Bridgford  
Continue on the A606 past Tollerton, until it joins the A46, where the journey ends

***Box 3: Southwark and Bromley Route***

Starting at the Elephant and Castle Tube Station, Proceed along the A201 New Kent Road towards Bermondsey  
Turn right onto the A2, and proceed towards Deptford  
Turn right onto the A202 through Peckham  
Turn onto the A215 at Camberwell, and then left onto the A2216  
Continue on The A2216, through Dulwich where it joins the A205 for a while  
At the roundabout turn right onto the A212  
Turn left onto the A234 at Crystal Palace Park, and follow this into Beckenham  
In Beckenham join the A222, and follow this through Bromley and Chislehurst  
Turn right onto the A20, and then right onto the A224  
Turn right at Orpington onto the A232  
Turn left near Bromley onto the A233  
Follow this to Biggin Hill, where the Journey ends

**Table 1:** Neighbourhood codes

Code	Neighbourhood Name	Local Authority
BN	Blackley North	Manchester
BS	Blackley South	Manchester
AR	Ardwick	Manchester
MS	Moss Side	Manchester
GW	Gorton West	Manchester
GE	Gorton East	Manchester
BU	Burnage	Manchester
DI	Didsbury	Manchester
SE	Sale East	Manchester
WY	Wythenshawe	Manchester
KN	Knutsford	Macclesfield
WI	Wilmslow	Macclesfield
MU	Macclesfield Urban	Macclesfield
MR	Macclesfield Rural	Macclesfield
LE	Lenton	Nottingham
NB	New Basford	Nottingham
SH	Sherwood	Nottingham
BL	Bulwell	Nottingham
BB	Bilborough	Nottingham
CL	Clifton	Nottingham
WB	West Bridgford	Rushcliffe
BI	Bingham	Rushcliffe
SN	Southwark North	Southwark
BR	Bermondsey	Southwark
PE	Peckham	Southwark
CG	Camberwell Green	Southwark
DU	Dulwich	Southwark
BW	Beckenham West	Bromley
BE	Beckenham East	Bromley
BY	Bromley	Bromley
CH	Chislehurst	Bromley
OE	Orpington East	Bromley
OW	Orpington West	Bromley

## Transects

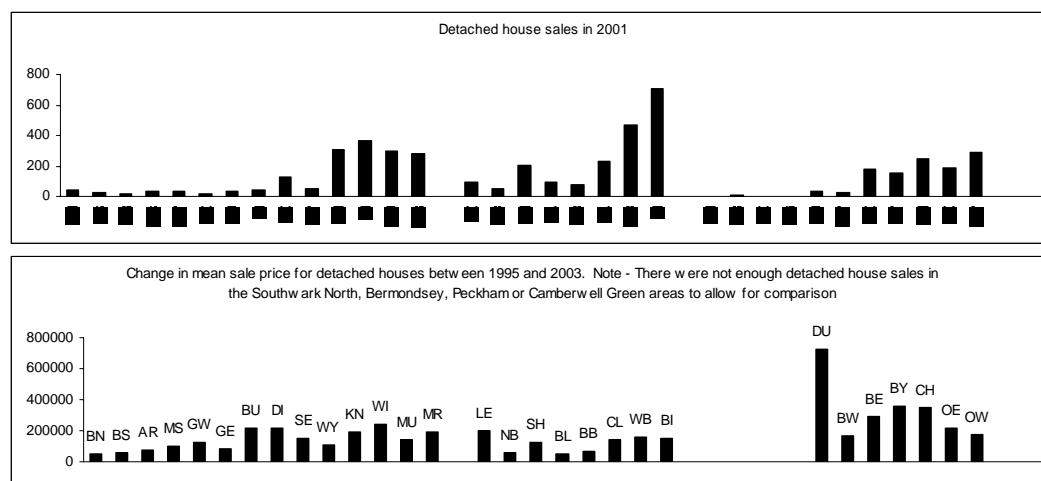
### Introduction

On the graphs below, as you read left to right you travel roughly north to south down each transect. Each graph shows all three transects and each is similar in many ways.

### Transect 1: House Prices

Data from the Land Registry shows both that far more detached houses are available for sale towards the southern ends of each transect and that, outside of the London transect, it is these detached houses which have increased most in value since 1995. In one neighbourhood price rises for detached homes over the last eight years have been ten times greater (in Dulwich) than in parts of North Manchester.

**Figure 4:** Detached house sales in 2001 and mean price changes 1995 to 2003

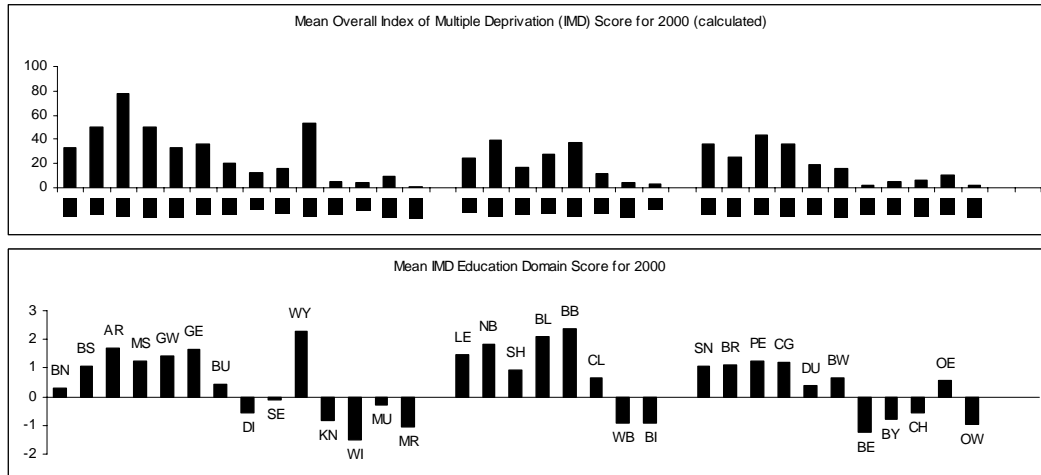


**Source:** Figure 110 of main report and appendix 1 of that report, available on-line from: [http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

### Transect 2: Index of Multiple Deprivation (IMD)

In general, when the Index of Multiple Deprivation (IMD) is calculated for each neighbourhood, it tends to fall as you move south along each transect. Social divides across the transects are particularly acute when the education domain score of each neighbourhood is viewed. Anomalies to the generally smooth social profiles along each transect such as are found in Wythenshawe in Manchester become clear. A higher bar shows increasing deprivation in the first graph whilst in the second graph a positive score illustrates increasing deprivation and a negative score decreasing deprivation.

**Figure 5:** IMD score & education domain 2000 recalculated for the neighbourhoods along the transects



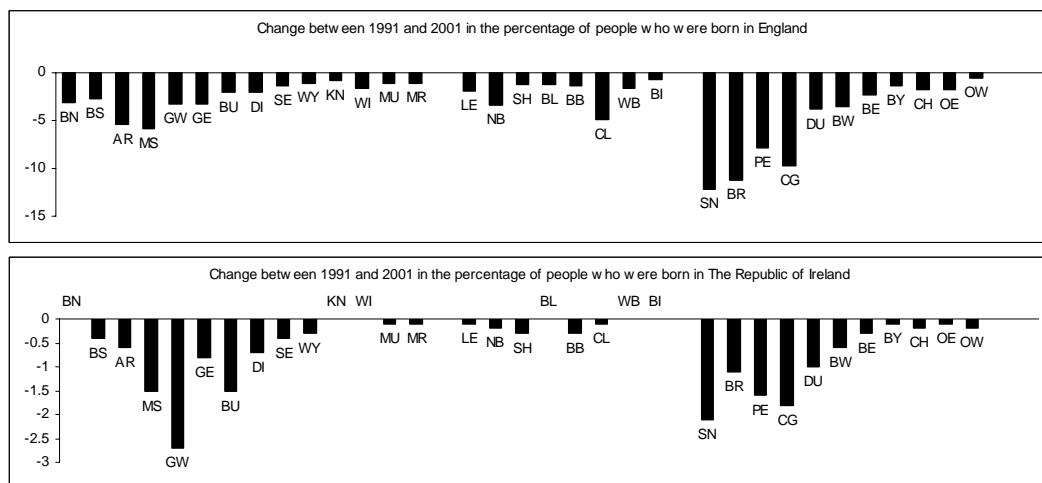
**Source:** Figure 106 of main report and appendix 1 of that report, available on-line from: [http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)



**Transect 3: Ethnicity**

Demographically, as you move southwards along each transect the decline in the proportion of the population born in England in each area tends to fall. This trend is only broken by university areas such as Clifton in Nottingham and this trend is mirrored to a degree by the pattern in the declining numbers of people born in the republic of Ireland living in each area since 1991. The Northern ends (centre of conurbations) of each transect have for a long time been areas to which migrants are more likely to arrive; increasingly those migrants are born further from England and Ireland.

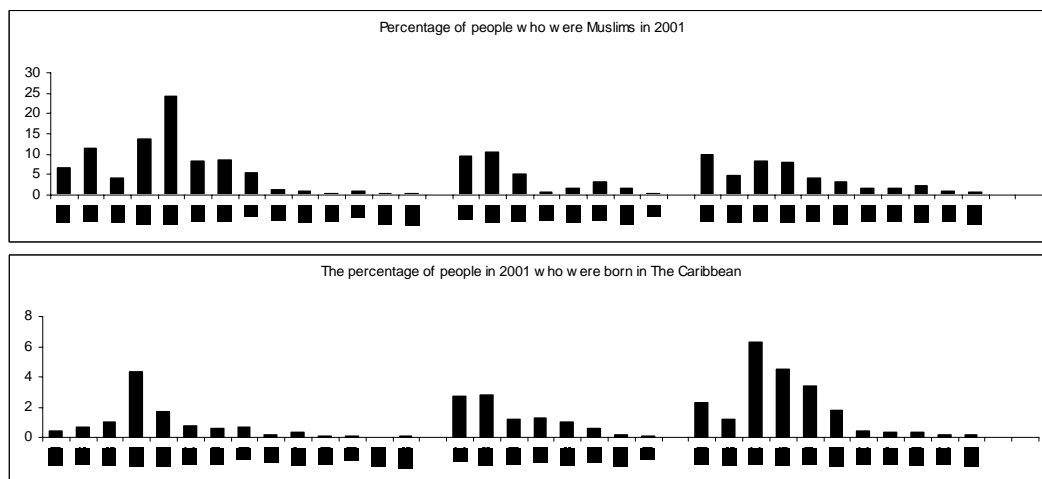
**Figure 6:** Change in proportion of population born in England & Ireland, 1991-2001



**Source:** Figure 20 of main report and appendix 1 of that report, available on-line from: [http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

Although patterns of change tend to be more complex, they often result in very simple social profiles of different social groups along these transects. The next pair of figures compares one group which is probably rising in number: people of Muslim religion, with a group which we know is generally declining in number in the UK: people born in the Caribbean. Currently both groups tend to live in much the same ‘neighbourhoods’ as each other along each transect. Thus both will be affected by changes to the same areas.

**Figure 7:** Proportion of population who were Muslim or born in the Caribbean, 2001



**Source:** Figure 22 of main report and appendix 1 of that report, available on-line from: [http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

## Indices

Although the drawing of maps and transects can produce clear patterns of change often the patterns are not as clear as those shown above. Furthermore it is not simple to interpret even what appear to be clear patterns. Indices of change in segregation and isolation provide summary measures of how these patterns are changing. However, there is no obvious single measure to use and again their interpretation is not straightforward. In this section we provide just a few examples.

### *Indices: Age*

People aged 25-29 have progressively become more spatially isolated along each transect during each of the last three decades with just two exceptions as the table below shows. The figures in the table are the index of isolation corrected for the changing size of this age group. The index of isolation measures the degree to which a social group is isolated in particular places. In general, along all these transects, the population is becoming more isolated by all ages and this pattern occurs outside of the years of university education as well as in those years:

**Table 2: the corrected index of isolation for people aged 25-29, 1971-2001**

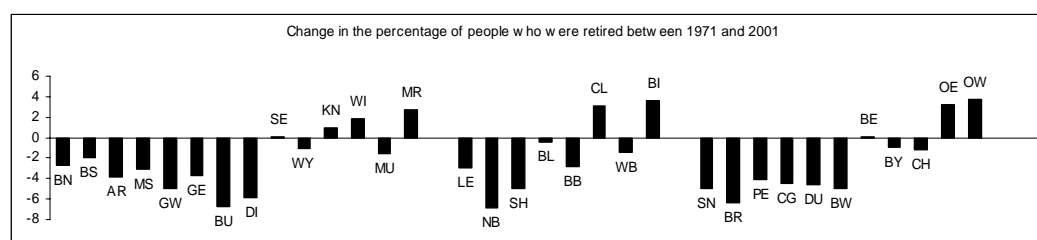
25-29		1971	1981	1991	2001
	London	0.06%	0.30%	0.94%	0.93%
	Manchester	0.07%	0.19%	0.44%	0.69%
	Nottingham	0.16%	0.07%	0.34%	0.42%

Source: Appendix 2 of full report

([http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc))

Increased isolation along the transects affects people of all ages. For instance, the figure below shows that the proportion of the population who are retired has only increased in a few 'neighbourhoods' towards the southern end of each transect over the course of the last thirty years. In general, the centres of these cities are becoming younger and the outer suburbs older.

**Figure 8: Change in proportion of people who were retired 1971-2001**



Source: Figure 44 of main report, available on-line from:

[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

### **Indice 2: Ethnicity**

Changes in indexes of isolation are most often calculated for ethnic groups and this is now possible in the UK. The table below shows how the uncorrected index of isolation has risen in all three areas for people of Black African Ethnicity. The corrected version of the index has also risen for this group, but the uncorrected is most simple to interpret. A person of Black African origin living along the London transect will, at random, meet another person of the same origin twice as often by neighbourhood in 2001 (17.7% of the time) as they would have done in 1991 (8.6%) of the time. Only part of this increase is due to the growing size of this group in London. As the graph of change below the table shows the other part of the reason for this change is that growth has been concentrated almost exclusively towards the northern end of the London transect.

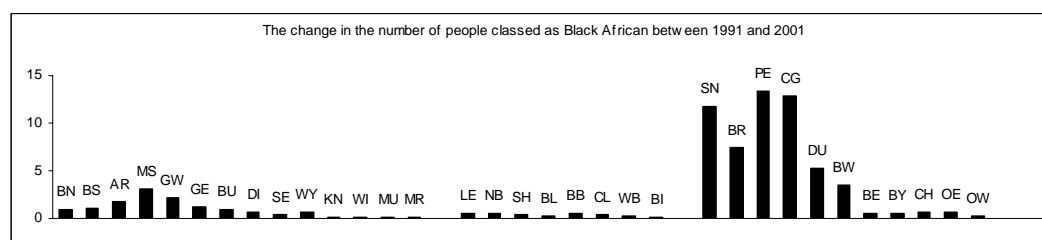
**Table 3:** the uncorrected index of isolation for people of Black African ethnicity, 1991-2001

Black African	1991	2001
London	8.6%	17.7%
Manchester	1.6%	3.3%
Nottingham	0.3%	0.7%

**Source:** Appendix 2 of full report, available on-line from:

[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

**Figure 9:** Change in proportion of population who were Black African, 1991-2001



**Source:** Figure 21 of main report, available on-line from:

[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

### **Indice 3: Migration**

Migration is the main process through which areas both remain the same over time and change. There are of course also changes to patterns of migration over time. In all three areas over the last decades, international migrants, internal UK migrant and consequently non-migrants all became more spatially segregated along the transects. The table below show the proportion of migrants of each of these three types who would have to move to a different neighbourhood along their transect were they to be distributed as the population as a whole is who live there. This is the asymmetrical measure of segregation.

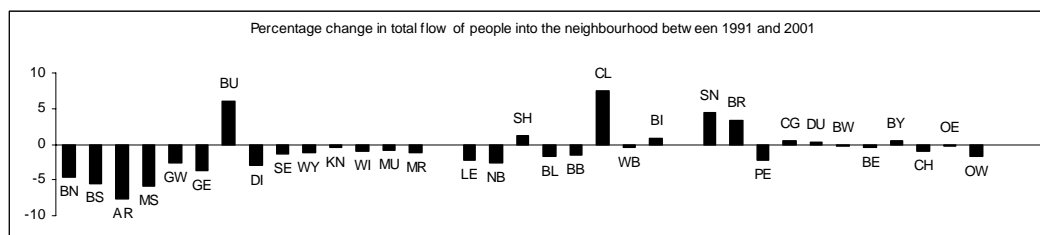
**Table 4: the asymmetrical index of segregation for migrants, 1991-2001**

International migrant	Transect / year	1991	2001
	London	14.3%	30.9%
	Manchester	23.3%	31.2%
	Nottingham	20.3%	29.9%
Internal migrant	Transect / year	1991	2001
	London	9.5%	11.5%
	Manchester	13.6%	18.7%
	Nottingham	11.4%	16.1%
non-migrant	Transect / year	1991	2001
	London	1.0%	1.9%
	Manchester	1.9%	3.8%
	Nottingham	1.4%	3.5%

**Source:** Appendix 2 of full report, available on-line from:  
[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

Interestingly, although migrants have become more spatially segregated along these transects over time the proportion of incomers has fallen along most of these transects over the course of the 1990s as the next graph illustrates. This is in contrast with the national patterns.

**Figure 10: Change in proportion of people moving into the area, 1991-2001**



**Source:** Figure 24 of main report, available on-line from:  
[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

### Indice 4: Occupation

The table below shows how in each area two occupational groups at opposing ends of the pay scales have generally become more geographically isolated: professionals as compared to people working in elementary occupations. Professionals are now most isolated along the Manchester transect, people working in elementary occupations are now most isolated in Nottingham (and there was a slight fall in isolation in London for this group):

**Table 5: the uncorrected index of isolation two occupational groups, 1991-2001**

Professionals	Transect / year	1991	2001
	London	12.3%	16.5%
	Manchester	13.6%	19.1%
	Nottingham	12.9%	17.6%

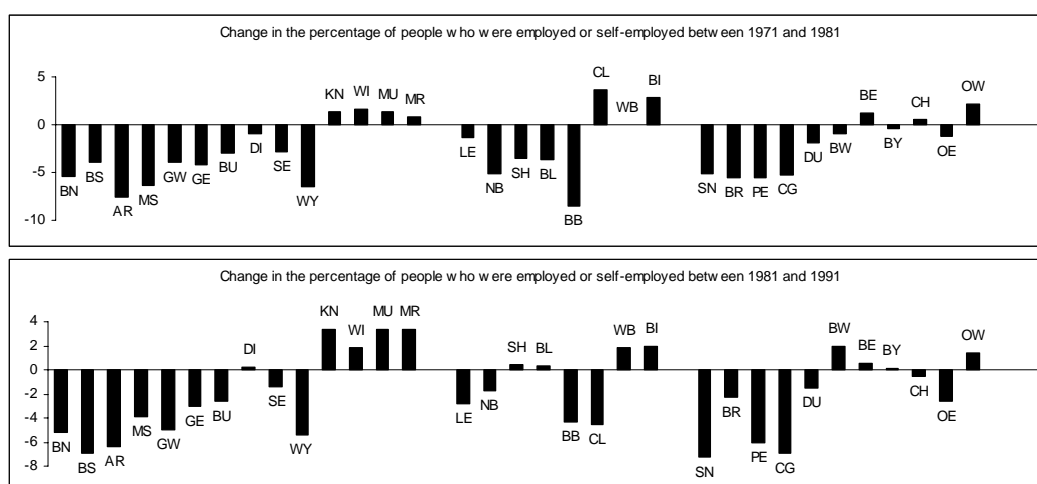
Elementary occupations	Transect / year	1991	2001
	London	12.2%	12.1%
	Manchester	13.2%	18.5%
	Nottingham	10.7%	19.1%

Source: Appendix 2 of full report, available on-line from:

[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

It is worth bearing in mind the changes that occurred over the twenty year period from 1971 to 1991 in employment rates in general along these transects when interpreting changes that occurred in the most recent decade. The two figures below show how jobs were generally lost (or not started) towards the northern end of each of these areas during both those earlier decades:

**Figure 11: Change in proportion of people who were employed or self-employed 1971-1981-1991**



Source: Figures 32 and 33 of main report, available on-line from:

[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

**Indice 5: Economic activity**

By industry, two groups that can be contrasted are those working in banking, a sector which rapidly expanded during the 1990s and a second, generally worse paid sector which also grew, people working in distribution (mainly serving in shops and cafes etc). Along each transect people working in both these industries were more likely to be living in different places by the end of the 1990s as compared to the beginning of that decade.

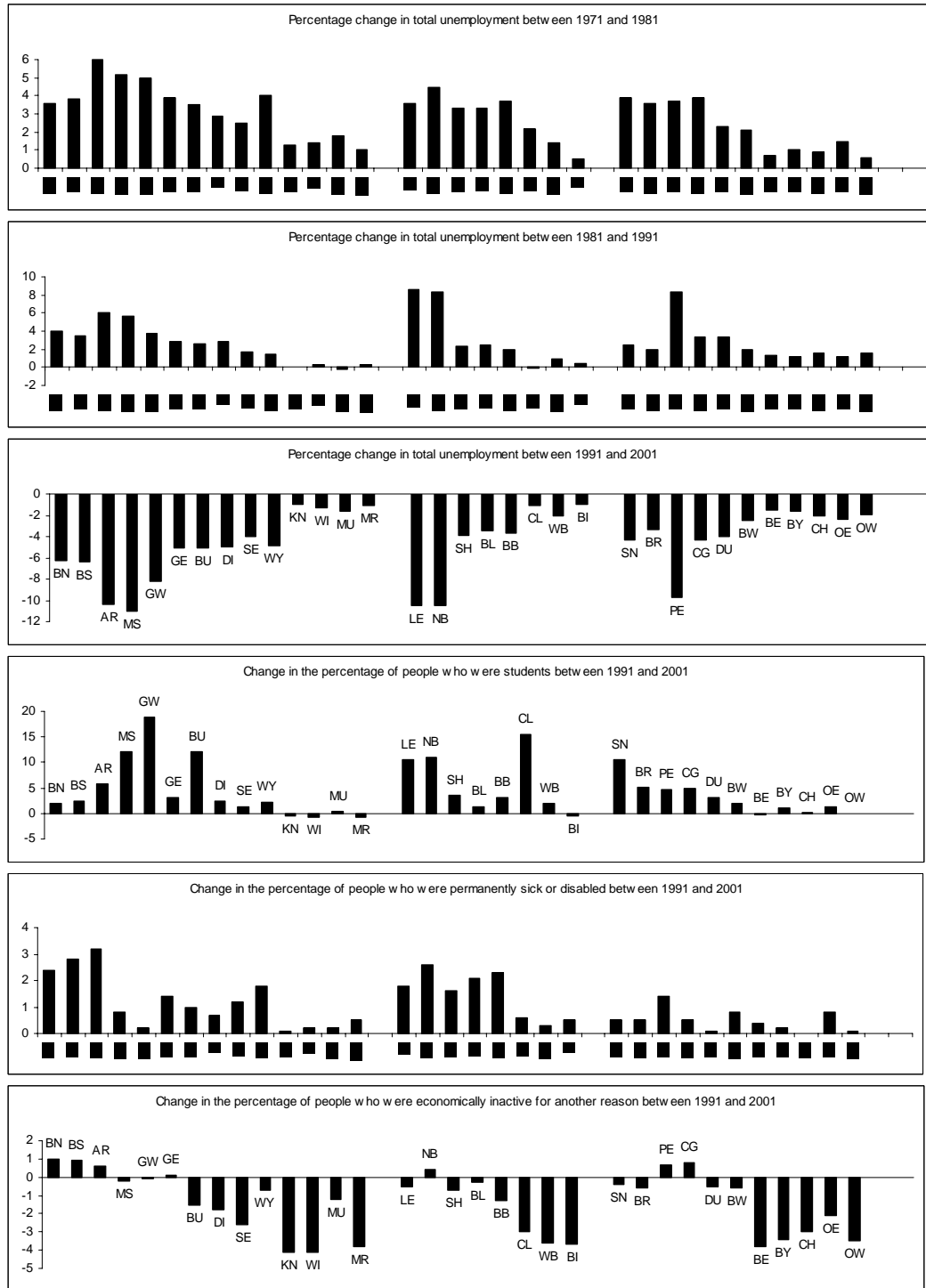
**Table 6: the uncorrected index of isolation two industrial groups, 1991-2001**

Banking	Transect /		
	year	1991	2001
	London	35.8%	44.1%
	Manchester	19.6%	30.0%
	Nottingham	14.4%	25.9%
Distribution	Transect /		
	year	1991	2001
	London	26.1%	26.3%
	Manchester	30.4%	32.5%
	Nottingham	31.0%	34.1%

**Source:** Appendix 2 of full report available on-line from:

[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

Again it is worth placing these changes in a longer term context. The graphs which follow show respectively the growth in unemployment during the 1970s and 1980s along each transect; how that growth was largely but not completely reversed during the 1990s; and then how that decline in unemployment in the 1990s can be largely accounted for by growing numbers of students, people who are permanently sick or disabled and people not unemployed or retired but not in work in each 'neighbourhood' (the source of the figure is Appendix 1 of the full report (available on-line from: [http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)



**Indice 6: Long-term illness or disability**

People suffering from a long term illness or disability have both grown in number along these transects over the course of the last ten years and become more isolated geographically from the majority of the population:

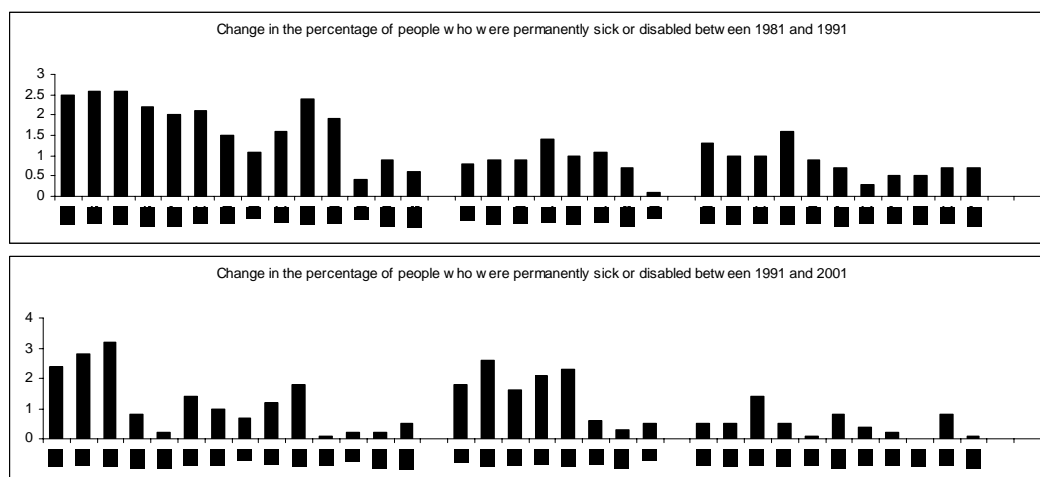
**Table 7: the uncorrected index of isolation for adults with LLTI, 1991-2001**

Ltli 16+	Transect / year	1991	2001
	London	11.0%	14.6%
	Manchester	13.9%	19.5%
	Nottingham	12.1%	18.2%

Source: Appendix 2 of full report available on-line from:  
[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

Over the course of the last thirty years rates of illness as reported in various ways between censuses have risen. The next graphs shows that in the 1980s the rises in illness were concentrated towards the northern ends of each transect and that this trend became even more geographically specific during the 1990s.

**Figure 13: Change in proportion of people who were permanently sick or disabled 1981-1991-2001**



Source: Figures 38 and 39 of main report, available on-line from:  
[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)



**Indice 7: Education (Graduates)**

Finally if we consider everyone who has a degree and correct for the growing number of graduates over time we find that graduates too have become more geographically isolated along the lengths of all three of these transects over the course of the last thirty years (with only one ‘hiccup’ to this trend in the London transect in the 1980s).

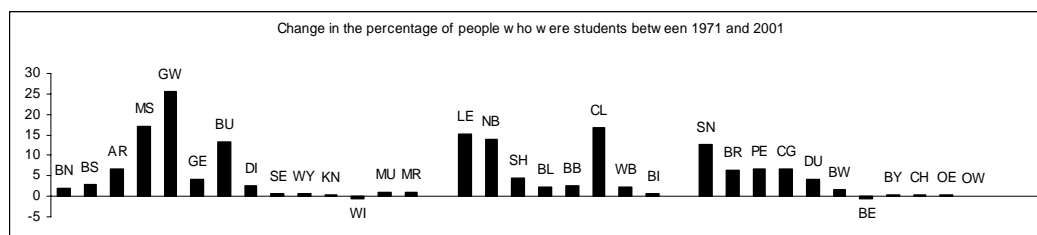
**Table 8: the corrected index of isolation for graduates, 1991-2001**

Transect / year	1971	1981	1991	2001
London	2.5%	4.3%	3.8%	4.5%
Manchester	1.7%	2.3%	3.4%	4.0%
Nottingham	1.5%	3.1%	3.7%	4.9%

**Source:** Appendix 2 of full report available on-line from:  
[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

As we are considering all graduates of all ages this concentration is not the result of university student numbers rising other than that, because most university students are not graduates, their increased geographical concentration as shown in the figure below can partly contribute to the increased geographical isolation of graduates along these transects.

**Figure 14:** change in proportion of people who were students 1971-2001



**Source:** Figure 46 of main report available on-line from:  
[http://www.shef.ac.uk/sasi/publications/2004/pilot\\_mapping\\_tech\\_report.doc](http://www.shef.ac.uk/sasi/publications/2004/pilot_mapping_tech_report.doc)

## **Conclusion**

In this short summary of the full technical report we have briefly described the methods, areas and measures used in our work and have highlighted some of the social changes that have taken place along these transects which are perhaps of greatest interest. We should not be surprised to find that as society has become more polarised socially, that polarisation is expressed geographically along three routes specifically not chosen deliberately to highlight such processes. Although each route travels from near a city centre to the suburbs, the three cities we have looked at (or parts of them) were chosen for us and we have simply travelled into the local authority district to the south of each. Thus very similar patterns of change should be expected across the UK, albeit with interesting variations in each place and no completely simple uniformity in most patterns.

Because we have only studied three areas we cannot say from this work that the population of the UK, England and Wales, or even London as a whole has become more or less socially polarised at a 'neighbourhood' level but it would be extremely surprising if this were not the case and we have presented here methods that could be used to measure such changes nationally. We have also highlighted those aspects of demography, economic activity, and social status for which geographical polarisation is probably most clear; and have tried to suggest that a long term perspective, going back preferably at least thirty years, is necessary to realise that these are generally steady long term changes which are occurring within our towns and cities.

There are potentially many implications for ODPM from this work including:

1. At a very simple level, the comparison of social statistics by local authority boundaries could be argued to be highly problematic if used to single out particular local authorities as performing 'well' or 'badly' by any measure. That is because, in the three example areas used here each is bisected by a local authority boundary and each boundary tends to lie on or near the point where the transects change from being areas in which some social groups are becoming more concentrated to areas where other groups are now more likely to live than in the past. This is true by age, by economic status such as whether people are retired or permanently sick, by occupational and industrial categorisations, by how house prices have changed over time and in general, by where the population is becoming relatively more or less wealthy, more or less transient, and more or relatively less qualified.
2. Along each of these transects for many aspects of living in Britain there are both generally smooth transitions between areas and regular patterns to social changes over time. People are becoming 'sorted out in space' by large neighbourhoods in many ways more neatly than they were before. Increasingly, as a result local authorities will be serving very different populations to their neighbouring authorities. There appears, at least for the transects studied here, to have been no abatement to the general rise in social polarisation that has been ongoing across Britain at these spatial scales since at least 1971.