Spatial Patterns of Income Deprivation in Greater Manchester

Which places have been improving and declining?

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About this slide pack

Greater Manchester has experienced relatively strong economic growth since 2001 but, as is well known, this has not been evenly distributed.

Most analyses of these patterns take the form of maps of neighbourhood ranks on the English Indices of Deprivation (IMD). These report relative changes. In other words, changes in GM are affected by trends elsewhere. They also relate to Lower-layer Super Output Areas (LSOAs), statistical units at the small neighbourhood scale which are not named and do not necessarily correspond to places people can identify.

This slide pack reports on absolute changes in identifiable named places, made up of groups or clusters of LSOAs. It tells us **which places have actually got better or worse on measures of income deprivation**.

Outline

1. Analysing change in income deprivation
2. The distribution of income deprivation in England and Greater Manchester
3. Defining 'severe income deprivation' (SID)
4. Severely income deprived places: clusters of SID LSOAs
5. The changing pattern for severe income deprivation
   a) Spatial distribution of SID in GM, 2001 and 2013
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   c) Different trends in different areas of GM
6. Analysis of large clusters
7. Typology of change in SID places
8. Conclusion

Analysing Change in Income Deprivation

Our analysis is based on the income deprivation domain of the English Indices of Deprivation (IMD).

This measure was selected because it is made up of real numbers: the number of people classified as 'income deprived' is divided by the local population, to produce an area income deprivation rate.

We can understand real change in places using rates. We can also tell whether an increase or a decrease in rate is because of changes in the number of income deprived people or changes in the underlying population.

**What is the IMD income deprivation domain?**

- Measures the proportion of small-area populations experiencing deprivation relating to low income.
- Includes people that are out-of-work, and those in work but who have low earnings (and who satisfy the respective means tests).
- Includes children and adults.
- Based on six benefits indicators:
    - Income Support
    - Income-based Job-Seeker's Allowance
    - Employment and Support Allowance
    - Pension Credit (Guarantee element).
    - Working Tax Credit and Child Tax Credit
    - Asylum seekers in receipt of subsistence support, accommodation support, or both.

We use data from the 2004 IMD (drawing on data mostly from 2001) and 2015 IMD (data from 2012/13). This means the analysis is describing a situation from several years ago (before major changes to public spending and tax benefits system). However there is no other suitable alternative indicator which is more up to date.

The Distribution of Income Deprivation: England

In England, the average (mean) neighbourhood income deprivation rate in 2001 was 13.9%. This increased by 0.6 percentage points to 14.5% by 2013.

Income deprivation rates for the majority of LSOAs in England were below 20%. But a very long 'tail' indicates some extreme rates in certain places. In 2001, 54 LSOAs nationally had rates greater than 60%. By 2013 there was only six.

The sharp peak at around 8% shows that most LSOAs nationally had very low income deprivation rates. By 2013, this peak was slightly less sharp, indicating that some neighbourhoods with low levels of income deprivation in 2001 had slightly higher levels in 2013. An decrease of 7.7 percentage points in the 'below or equal to 10%' bracket shows that this was indeed the case.
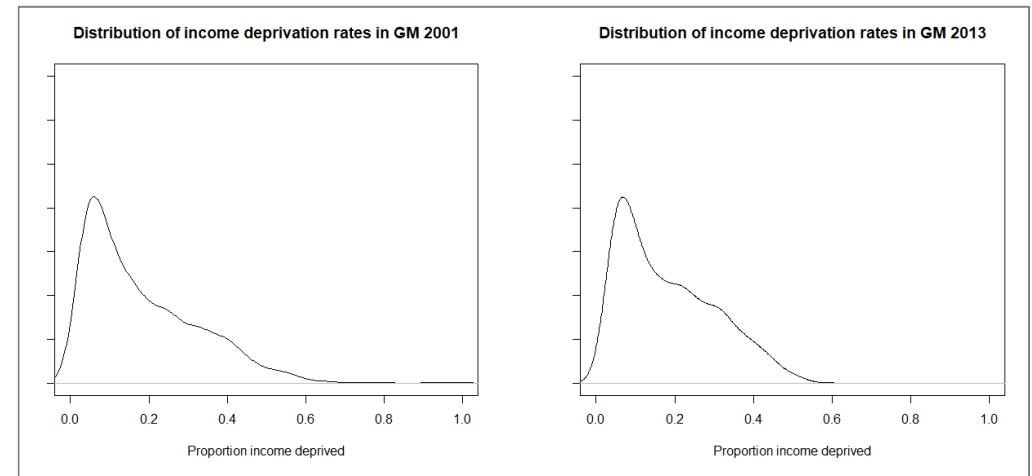

Distribution of income deprivation rates in England 2001

Distribution of income deprivation rates in England 2013
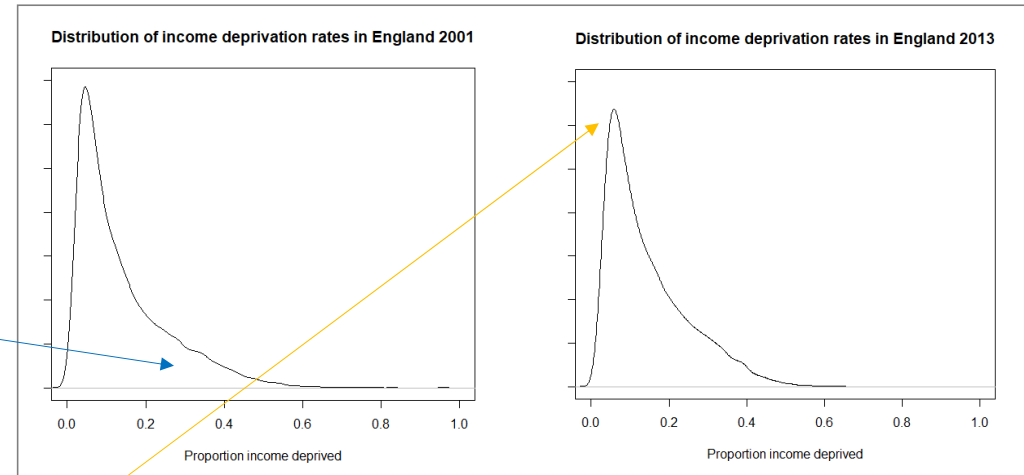
	2001	2013	Change
Mean income deprivation rate (%)	13.9	14.5	+ 0.6
SD of income deprivation rate (percentage point)	11.5	10.3	- 1.2
Proportion of LSOAs with inc. dep. rate of ≤10%	52.1	44.4	- 7.7
Proportion of LSOAs with inc. dep. rate of >10%	47.9	55.6	+ 7.7
Proportion of LSOAs with inc. dep. rate of >20%	23.1	25.3	+ 2.2
Proportion of LSOAs with inc. dep. rate of >30%	10.6	10.1	- 0.5
Proportion of LSOAs with inc. dep. rate of >40%	3.7	2.3	- 1.4

The Distribution of Income Deprivation: Greater Manchester

GM's average income deprivation rate in 2001 and 2013 was higher than England as a whole. However, the average rate in GM increased by less between than in England overall between 2001 and 2013: 0.1 percentage points compared to 0.6 in England.

A larger proportion of LSOAs in GM have higher rates of income deprivation. For example, in 2013 around 40% of neighbourhoods in GM had income deprivation rates of at least 20%, compared to only 25% of LSOAs nationwide.

However, GM showed a faster rate of improvement in neighbourhoods with extreme levels of income deprivation. The proportion of neighbourhoods in GM with income deprivation rates of at least 40% fell by three percentage points. For England as a whole, this decrease was only by 1.4 percentage points.

Distribution of income deprivation rates in GM 2001 — Proportion income deprived

Distribution of income deprivation rates in GM 2013 — Proportion income deprived

|	2001	2013	Change
Mean income deprivation rate (%)	18.2	18.3	+ 0.1
SD of income deprivation rate (percentage point)	14.0	12.2	- 1.8
Proportion of LSOAs with inc. dep. rate of ≤10%	40.3	34.6	- 5.7
Proportion of LSOAs with inc. dep. rate of >10%	59.7	65.4	+ 5.7
Proportion of LSOAs with inc. dep. rate of >20%	36.4	40.4	+ 4.0
Proportion of LSOAs with inc. dep. rate of >30%	20.8	20.1	- 0.7
Proportion of LSOAs with inc. dep. rate of >40%	8.9	5.9	- 3.0

Defining 'severe income deprivation'

We classify a neighbourhood as <u>severely income deprived</u> (SID) if it has an income deprivation rate that is…

Greater than the national *mean* ***in 2001 plus two standard deviations.***

So an LSOA is SID if at least 36.9% of its population are income deprived.

To understand absolute change in GM's neighbourhoods, we kept the same 36.9% threshold for the subsequent time point, in 2013.
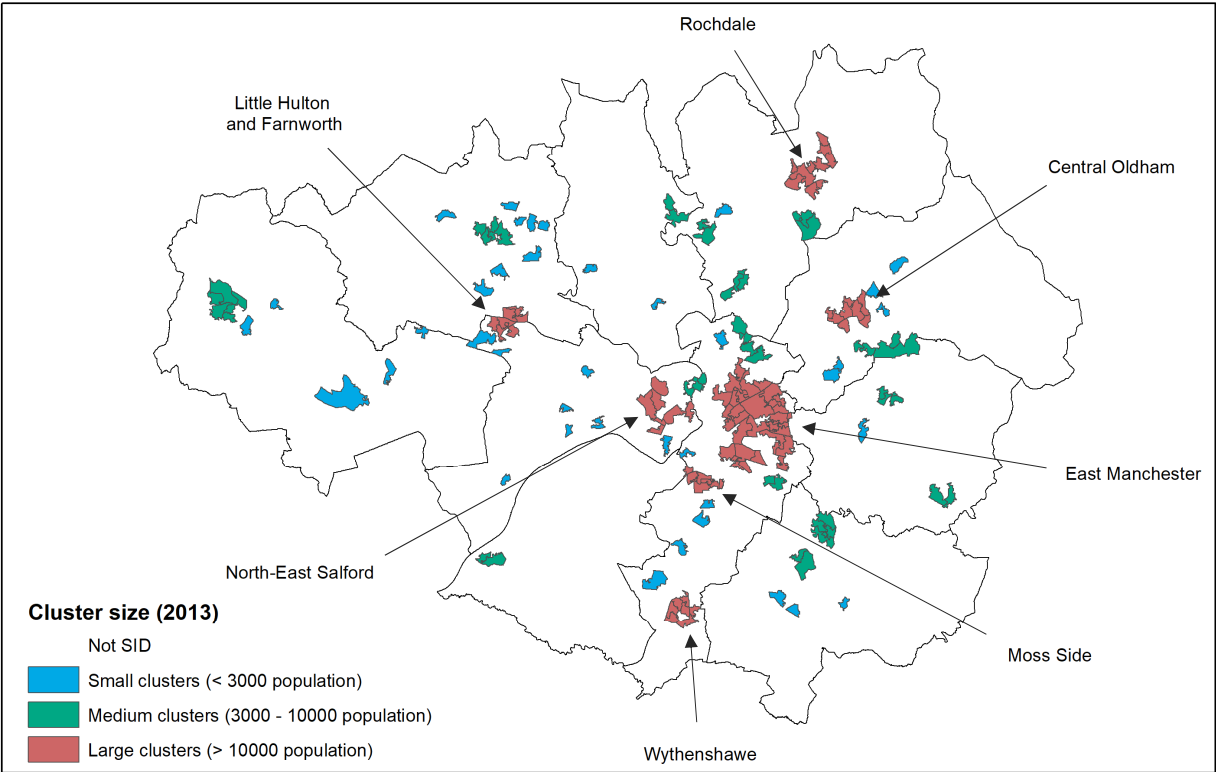

Distribution of income deprivation rates in England 2001

Mean 36.9% SID LSOAs

Proportion income deprived

0.0 0.2 0.4 0.6 0.8 1.0
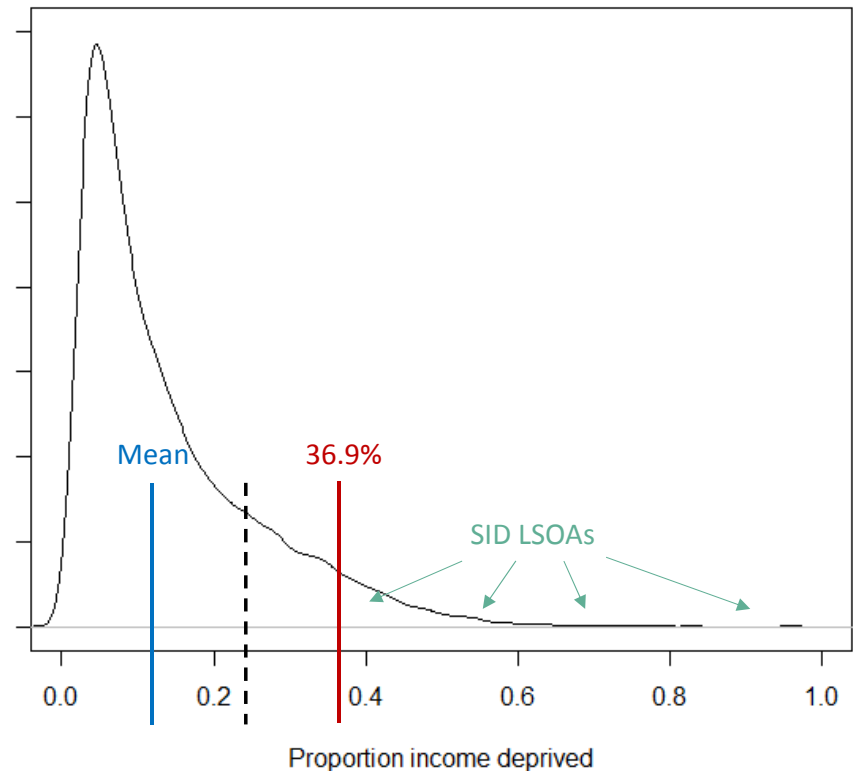
SID places: clusters of contiguous SID LSOAs

The majority of SID LSOAs are not stand-alone neighbourhoods but make up clusters of contiguous LSOAs. These areas of severe deprivation are larger than single LSOAs and correspond to actual places in GM.

- 24% of LSOAs that were SID in 2013 were single LSOAs or in small clusters of two with populations smaller than 3000.

- 48% of SID LSOAs in 2013 were part of large clusters, with populations of at least 10000. These large clusters ranged from 7 LSOAs in size to 30. These are labelled on the map.

- A further 28% were in medium-sized clusters with populations of between 3000-10000 people, typically between 2 and 5 LSOAs in size.

Cluster size (2013)
- Not SID
- Small clusters (< 3000 population)
- Medium clusters (3000 - 10000 population)
- Large clusters (> 10000 population)

	Number of clusters	Total number of SID LSOAs	Proportion of all SID LSOAs
Large clusters	7	76	48%
Medium clusters	15	44	28%
Small clusters	39	39	24%

# Spatial distribution of severe income deprivation in GM, 2001 and 2013

2001
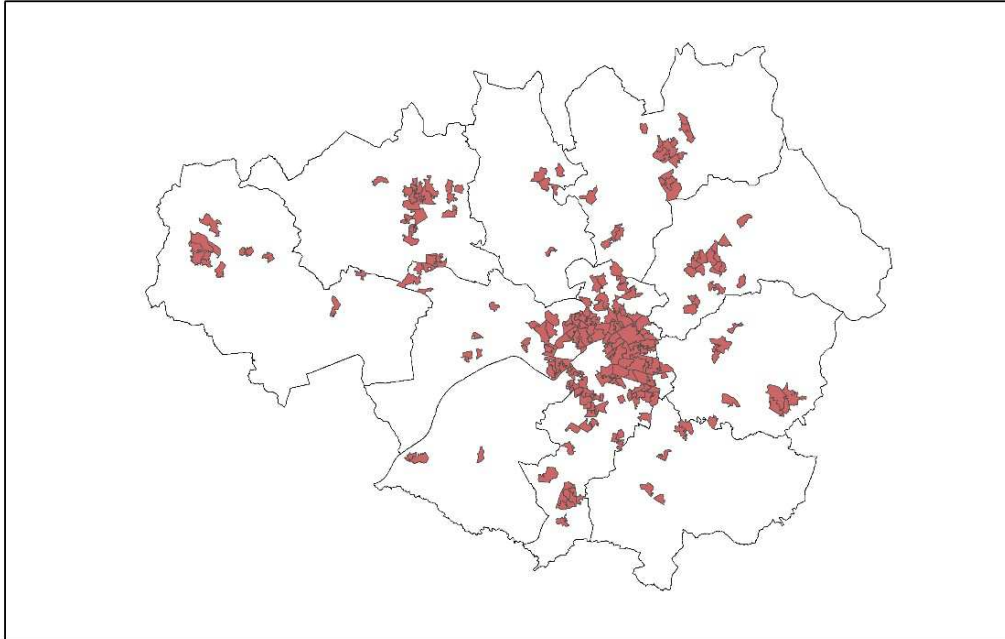
2013

These maps show severely income deprived places in GM in 2001 and 2013. A significant income deprivation problem is clear in the centre of GM in 2001 – one very large cluster stretches from East Manchester to North, through Salford, and down the East side of the Oxford Road corridor through Hulme and Moss Side.

Several other large clusters can be seen in major town centres such as in Rochdale and Bolton, some medium sized clusters like Laithwaite and Hattersley, and some clusters of only 1 or 2 LSOAs.
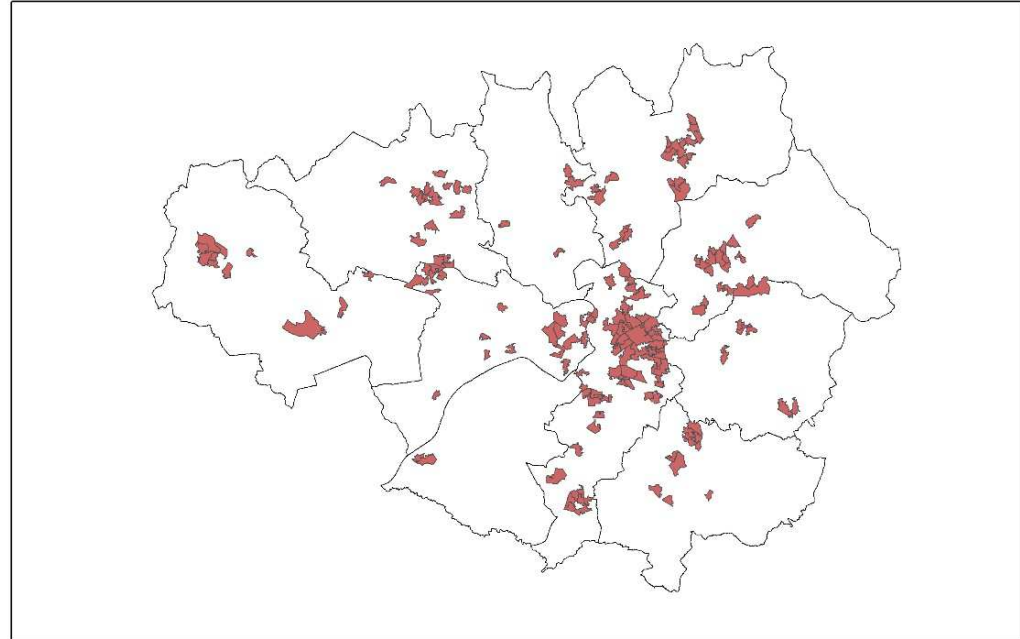
By 2013, the central cluster was much smaller, and had broken up in several smaller areas of severe income deprivation. Other large- and medium-sized clusters reduced in size.

However, some major town centre clusters and other medium and small sized clusters improved far less, or remained around the same size, or even expanded since 2001.

Changes in cluster size were different for different parts of GM.

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Nb. Data sources: IMD2004 and IMD2015. Data and maps based on 2001 LSOA boundaries (i.e., IMD2004) have been expressed in terms of 2011 boundaries. See accompanying appendix (separate word document) for tables showing names of all SID clusters in 2001 and 2013, and related statistics.

The changing pattern of deprivation, 2001 to 2013

	2001	2013
Number of SID clusters	56	60
Number of SID LSOAs	222	159
GM's overall income deprivation rate (%)	18.3	18.7
Total population living in SID places	326,129	268,821
Total income deprived population living in SID places	147,086	113,648
Overall income deprivation rate in SID places (%)	45.1	42.3
Proportion of GM's population living in SID places (%)	13.0	10.0
Proportion of GM's total income deprived population living in SID places (%)	31.5	22.0

Nb. Data source: IMD2004 and IMD 2015. Data and maps based on 2001 LSOA boundaries (i.e., IMD2004) have been expressed in terms of 2011 boundaries.

Between 2001 and 2013, GM's overall income deprivation rate *increased very slightly* – by 0.4 of a percentage point (from 18.3% to 18.7%).

However, the number of SID LSOAs declined from 222 to 159, indicating that deprivation was less concentrated.

13% of GM's population lived in SID places in 2001. This fell to 10% by 2013.

In 2001, 31.5% of GM's total income deprived lived in SID places, whereas in 2013 this figure was only 22% - a 9.5 percentage point drop.

The changing pattern of deprivation, 2001 to 2013

	2001	2013
Number of large SID places	5	7
Number of medium SID places	14	15
Number of small SID places	37	38
% of GM's total income deprived in large SID places	20	11
% of GM's total income deprived in medium SID places	7	6
% of GM's total income deprived in small SID places (%)	5	5
Total population of large SID places	197309	130830
Total population of medium SID places	68940	75727
Total population of small SID places	59880	62264
Total income deprived population in large SID places	92729	56637
Total income deprived population in medium SID places	29891	31710
Total income deprived population in small SID places	24466	25301

Nb. Data source: IMD2004 and IMD 2015. Large clusters have populations of at least 10,000. Medium clusters have populations of between 3,000 and 10,000 people. Small clusters have populations of below 3,000 people.

The number of large clusters increased by two across the period – from 5 to 7 – mainly due to the central GM cluster splitting into many.

The Central Bolton cluster also reduced in size, dropping from a large- to a medium-sized cluster. Little Hulton and Farnworth, however, travelled in the opposite direction, becoming a large cluster after being medium in size in 2001.

Large clusters in 2013 made up 11% of GM's total income deprived population – a drop of nine percentage points since 2001.

The number of medium- and small-sized clusters stayed roughly the same – as did their share of GM's total income deprived population.

Different trends in different areas of GM
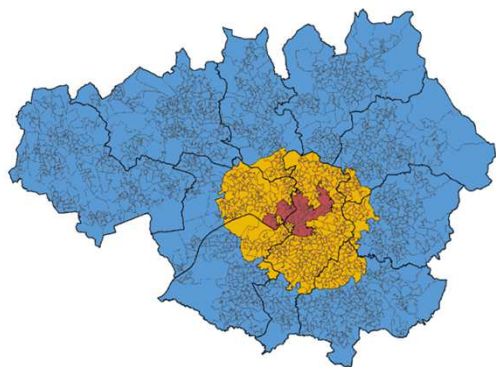
The map above shows three zones: the 'Regional Centre' (RC), 'within the M60', and 'outside the M60'.

Proportional to their size, zones closer to the centre saw the greatest improvement. A 33 percentage point drop is seen in the share of RC LSOAs that were SID; much greater than the eight and one percentage point drops for the within the M60 and outside the M60 regions, respectively.

The income deprivation rate of the whole RC area in 2001 to just 15% in 2013. This drop was much larger than within the M60 (two pp drop). In the areas outside the M60, the rate of income deprivation actually *increased by 2 percentage points.*

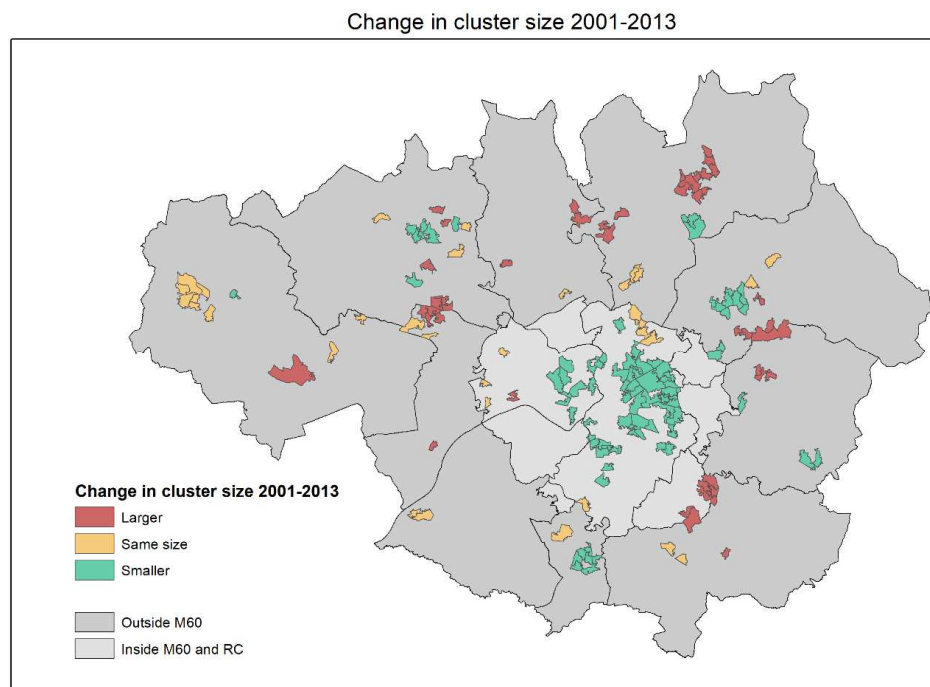|	2001	2013	Change
Number of SID LSOAs in the Regional Centre	22	6	- 16
Number of SID LSOAs within the M60	98	62	- 36
Number of SID LSOAs outside the M60	102	91	- 11
Proportion of LSOAs that are SID in the Regional Centre (change = perc. point change)	46	12	- 33
Proportion of LSOAs that are SID within the M60	23	15	- 8
Proportion of LSOAs that are SID outside the M60	9	8	- 1
Income deprivation rate of whole Regional Centre region (change = perc. point change)	33	15	- 18
Income deprivation rate of whole 'within the M60' region	24	22	- 2
Income deprivation rate of whole 'outside the M60' region	16	18	+ 2

Nb. Data source: IMD2004 and IMD 2015.

Different trends in different areas of GM

As seen on the map, most clusters that grew in size in GM are outside the M60, many in the northern local authorities.

76% of clusters outside the M60 got larger or stayed the same size. This figure was only 44% within the M60 and RC, with 56% of clusters becoming smaller.

The same pattern is seen when looking at change in income deprivation rates. 72% of SID clusters within the M60 and RC saw improvement in their rates of income deprivation, whereas the majority of clusters outside the M60 saw their rates of income deprivation increase.
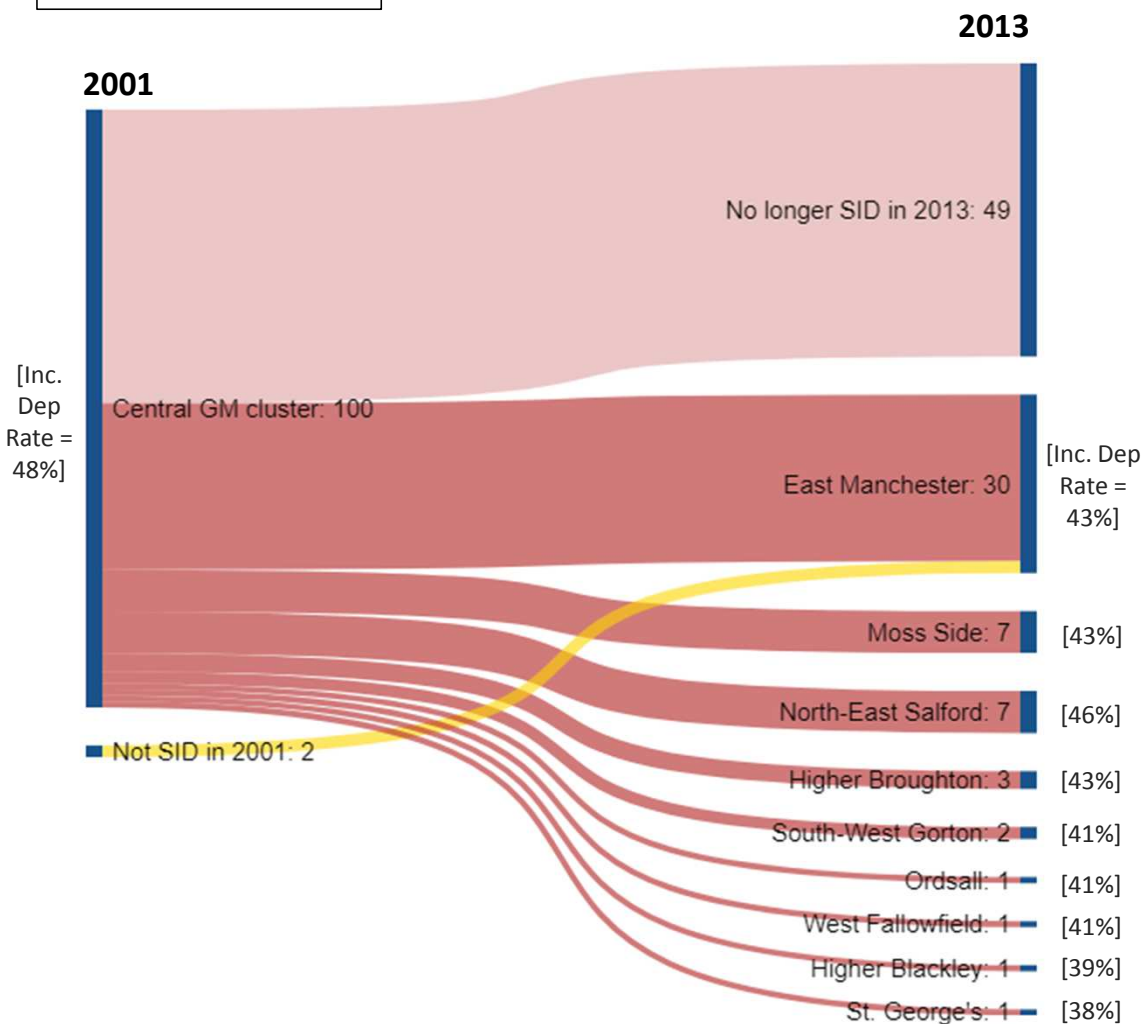

Change in cluster size 2001-2013

Change in cluster size 2001-2013
- Larger
- Same size
- Smaller
- Outside M60
- Inside M60 and RC

|	Within M60 & RC		Outside M60	
	Number	Proportion	Number	Proportion
Clusters that got smaller	10	56%	10	24%
Clusters that got larger or stayed the same size	8	44%	32	76%
Clusters where income deprivation rate decreased	13	72%	20	48%
Clusters where income deprivation rate increased	5	28%	22	52%

Analysis of large clusters

Large clusters are those with populations of at least 10,000 people. The following places contained large clusters either in 2001, 2013, or both time periods.

- Central GM cluster (includes large clusters East Manchester, Moss Side and NE Salford)
- Central Bolton
- Central Oldham
- Wythenshawe
- Rochdale
- Little Hulton and Farnworth

Central GM cluster

2001

2013

[Inc. Dep Rate = 48%]

Central GM cluster: 100

No longer SID in 2013: 49

East Manchester: 30 — [Inc. Dep Rate = 43%]

Moss Side: 7 — [43%]

North-East Salford: 7 — [46%]

Higher Broughton: 3 — [43%]

South-West Gorton: 2 — [41%]

Ordsall: 1 — [41%]

West Fallowfield: 1 — [41%]

Higher Blackley: 1 — [39%]

St. George's: 1 — [38%]

Not SID in 2001: 2

Nb. Numbers following cluster names = number of constituent LSOAs. Numbers in square bracket = Income deprivation rate *(Source: IMD2004 and IMD2015).* On maps, grey areas are other SID places that are not part of the cluster(s) in question.

2001   **2013**
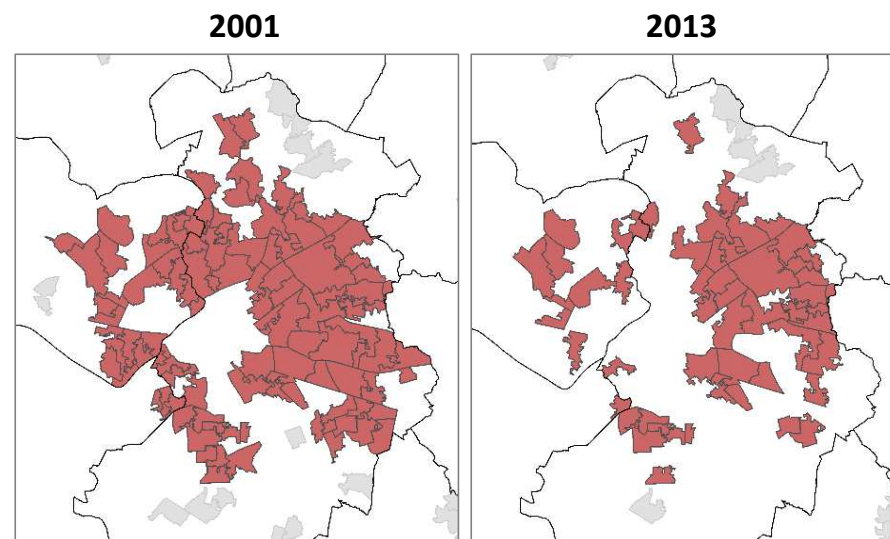
From 2001 to 2013, the large central GM cluster split into nine separate smaller clusters. Out of these nine, four were small (1 LSOA in size), two were medium-sized (between 2 and 3 LSOAs), and three were large (two with 7 LSOAs and one with 30).

49 of the original 100 LSOAs that made up the central GM cluster in 2001 were no longer SID by 2013. Two LSOAs that were not SID in 2001 became SID by 2013, joining up to the East Manchester cluster.

Just under half of the population in the central GM cluster were income deprived in 2001 (48%). As well as the large cluster breaking up, income deprivation rates declined. In 2013, NE Salford had an rate of 46%. Rates in the smaller clusters were less severe (e.g., St. George's, 38%).

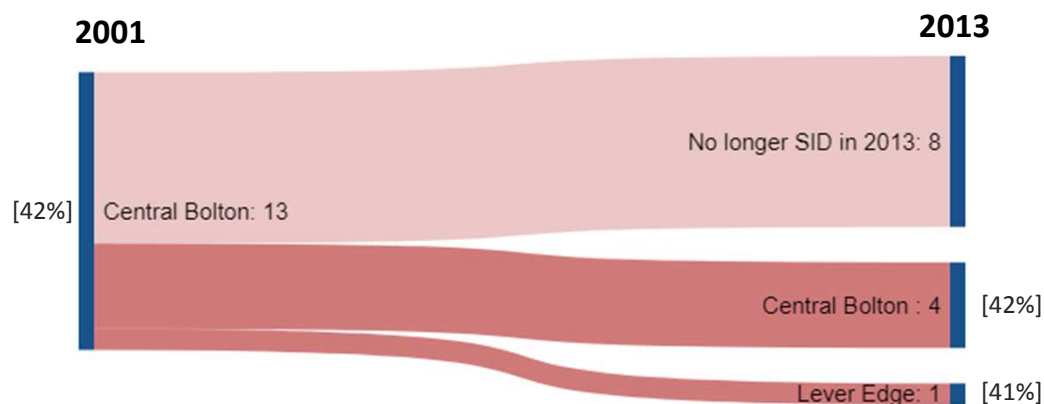More detailed statistics are available on the next slide.

The central GM cluster…

… split into nine separate clusters by 2013

| 2001 clusters	Number of LSOAs	Population	Income deprived population	Income deprivation rate (%)	Proportion of GM's total income deprived (%)
Central GM cluster	100	135649	65398	48	14.2
2013 clusters					
East Manchester	30	50842	22088	43	4.4
Moss Side	7	15040	6527	43	1.3
North-East Salford	7	10054	4594	46	0.9
Higher Broughton	3	6417	2750	43	0.5
South-West Gorton	2	3630	1481	41	0.3
Ordsall	1	1915	779	41	0.2
West Fallowfield	1	1797	731	41	0.1
Higher Blackley	1	1664	656	39	0.1
St. George's	1	1220	458	38	0.1

Together, these clusters now accounted for 7.9% of GM's total income deprived population – just over half of the 'central GM cluster' in 2001

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Central Bolton cluster

2001   **2013**

No longer SID in 2013: 8

[42%] Central Bolton: 13

Central Bolton : 4 [42%]

Lever Edge: 1 [41%]

Nb. Numbers following cluster names = number of constituent LSOAs. Numbers in square bracket = Income deprivation rate *(Source: IMD2004 and IMD2015)*

2001   **2013**

2001 clusters	No. of LSOAs	Population	Income deprived pop.	Inc. dep. rate (%)	% of GM's total inc. dep. pop.
Central Bolton	13	17960	7474	42	1.6
2013 clusters					
Central Bolton	4	6480	2696	42	0.5
Lever Edge	1	1802	732	41	0.1
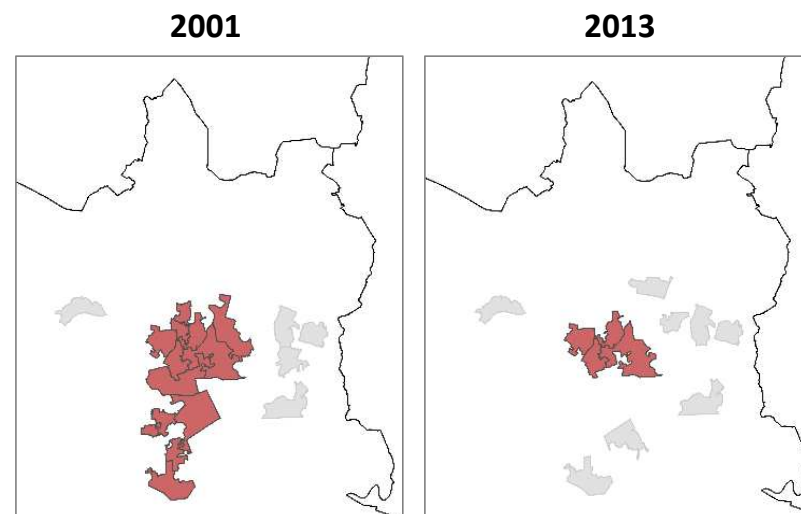
The Central Bolton cluster also improved substantially in terms of spatial coverage. Made up of 13 contiguous LSOAs in 2001, it was the second largest cluster, but by 2013 it was eleventh largest, made up of four LSOAs. The four LSOAs that remained are north of Bolton town centre.

The income deprivation rate of the Bolton cluster in 2013 remained the same as in 2001, when it was much larger. 42% were income deprived. It contained 1.6% of GM's total income deprived population in 2001 but only 0.5% in 2013.

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Central Oldham cluster

2001   **2013**

[44%]

No longer SID in 2013: 4

Central Oldham: 10

Central Oldham : 8   [45%]

Not SID in 2001: 2

Nb. Numbers following cluster names = number of constituent LSOAs. Numbers in square bracket
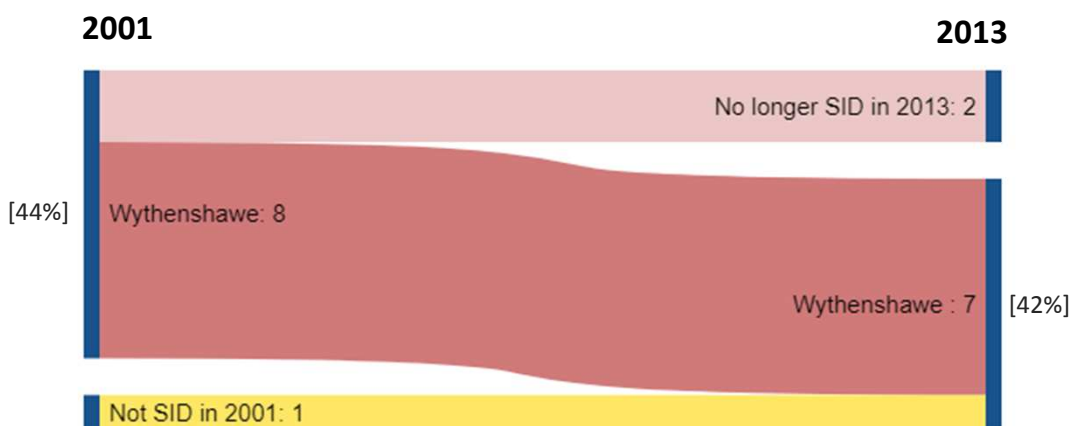= Income deprivation rate *(Source: IMD2004 and IMD2015)*

2001   **2013**

2001 clusters	No. of LSOAs	Population	Income deprived pop.	Inc. dep. rate (%)	% of GM's total inc. dep. pop.
Central Oldham	10	19240	8471	44	1.8
2013 clusters					
Central Oldham	8	13331	6063	45	1.2
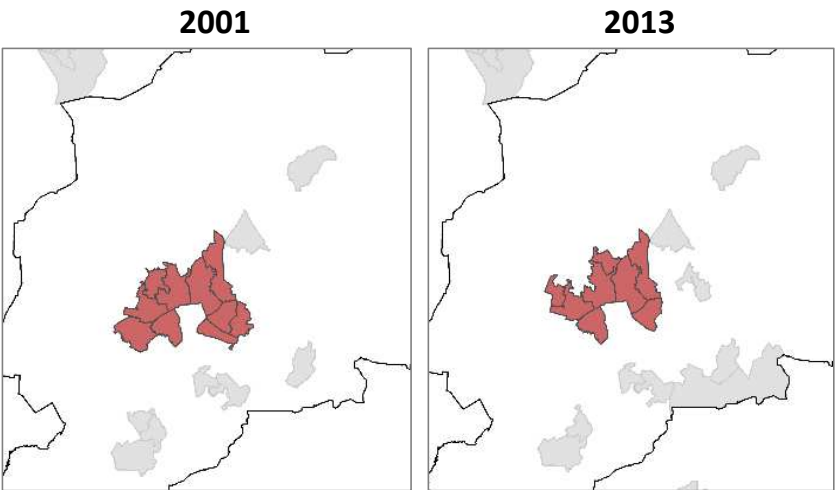
A different story can be told about the Central Oldham cluster. Its spatial coverage in 2013 was around the same level as in 2001; and whilst the number of constituent LSOAs declined by 2 (from 10 to 8), the rate of income deprivation in Oldham increased from 44% to 45%.

Four LSOAs from the original cluster fell out of the SID range, and two LSOAs that weren't SID in 2001 became SID and joined the Oldham cluster. Of the four that dropped out, three still had rates of around 36.6%, just short of the 36.9% SID threshold.

Wythenshawe cluster

2001   **2013**

[44%]

No longer SID in 2013: 2

Wythenshawe: 8

Wythenshawe : 7   [42%]

Not SID in 2001: 1

Nb. Numbers following cluster names = number of constituent LSOAs. Numbers in square bracket =
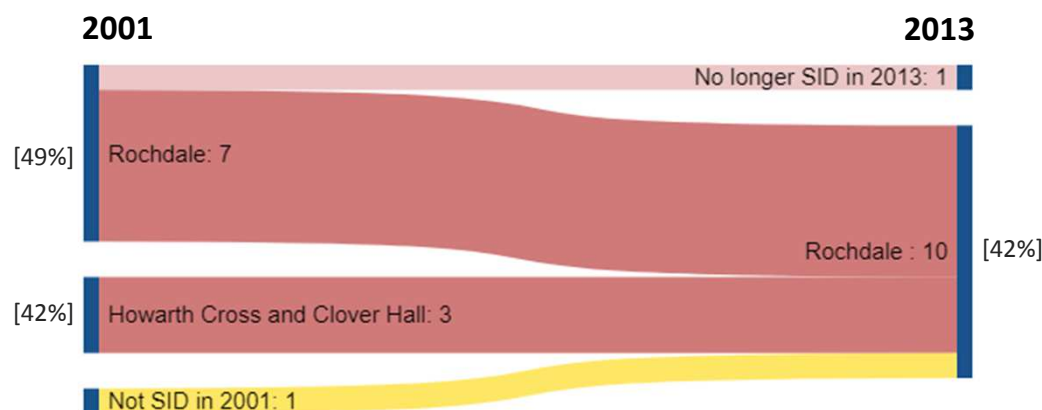Income deprivation rate *(Source: IMD2004 and IMD2015)*

2001   **2013**

2001 clusters	No. of LSOAs	Population	Income deprived pop.	Inc. dep. rate (%)	% of GM's total inc. dep. pop.
Wythenshawe	8	12640	5582	44	1.2
2013 clusters					
Wythenshawe	7	11895	5019	42	1.0
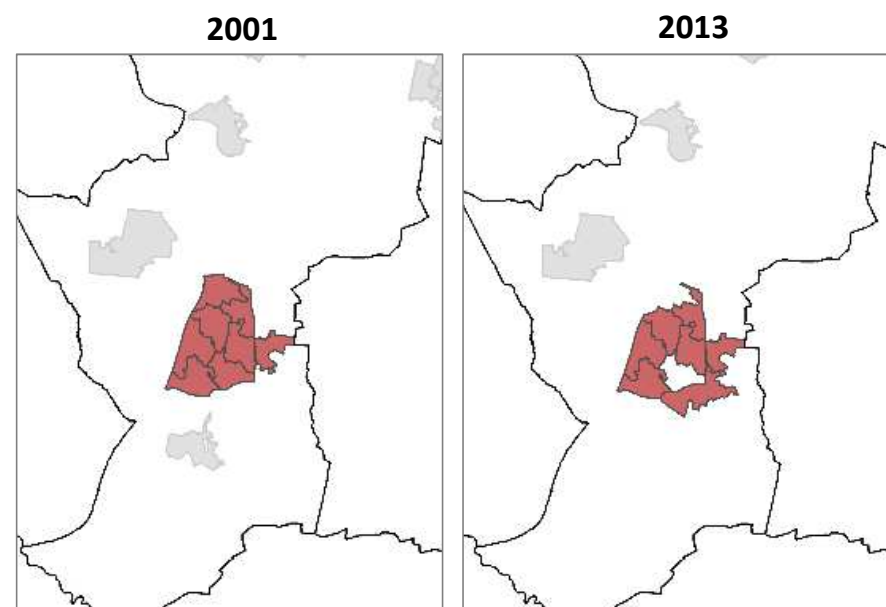
The rate of income deprivation in Wythenshawe dropped by two percentage points between 2001 and 2013. It also dropped two of its original LSOAs and gained an LSOA that was not SID in 2001. It therefore had one fewer LSOA in 2013 than in 2001. These changes are quite small.

The Wythenshawe cluster in 2013 held 0.2 of a percentage point fewer of GM's total income deprived population. Whilst this movement is in the right direction, it is not to the same extent as the central GM or Bolton clusters.

Rochdale cluster

2001   **2013**

[49%] Rochdale: 7

No longer SID in 2013: 1

Rochdale : 10 [42%]

[42%] Howarth Cross and Clover Hall: 3

Not SID in 2001: 1

Nb. Numbers following cluster names = number of constituent LSOAs. Numbers in square bracket = Income deprivation rate *(Source: IMD2004 and IMD2015)*
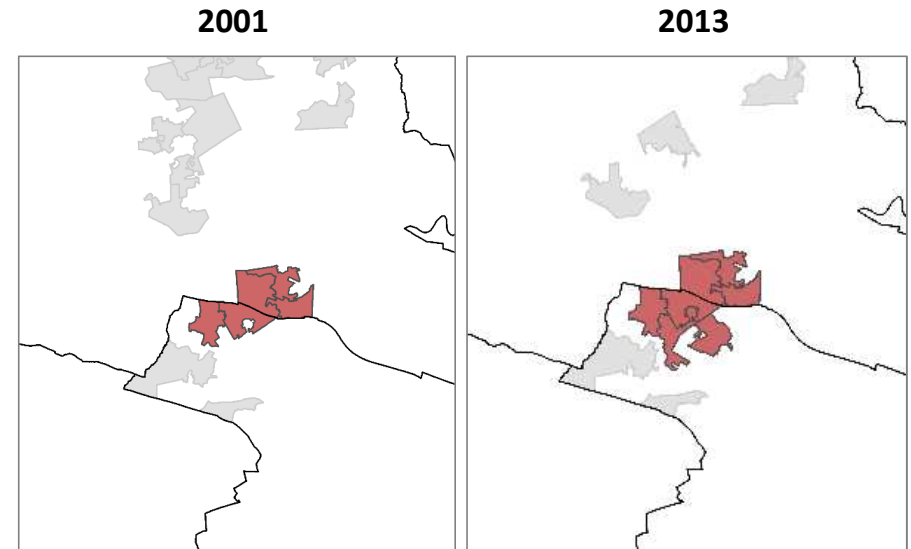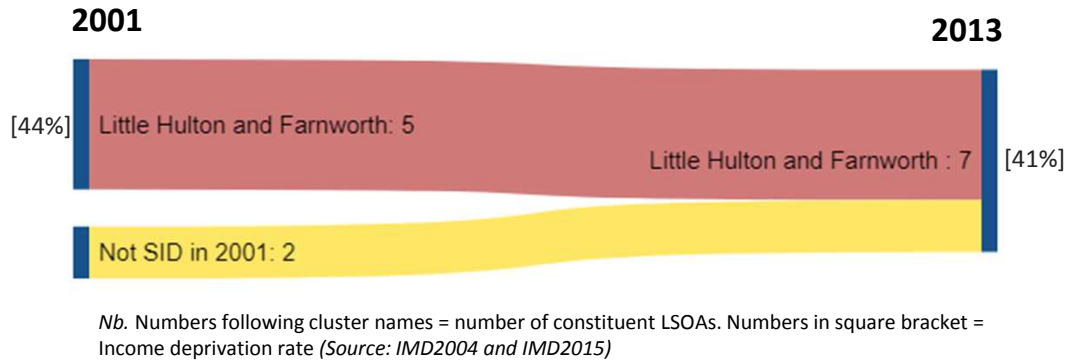

2001   **2013**

2001 clusters	No. of LSOAs	Population	Income deprived pop.	Inc. dep. rate (%)	% of GM's total inc. dep. pop.
Rochdale	7	11820	5804	49	1.3
Howarth Cross & Clover Hall	3	4460	1882	42	0.4
2013 clusters					
Rochdale	10	19027	7984	42	1.6
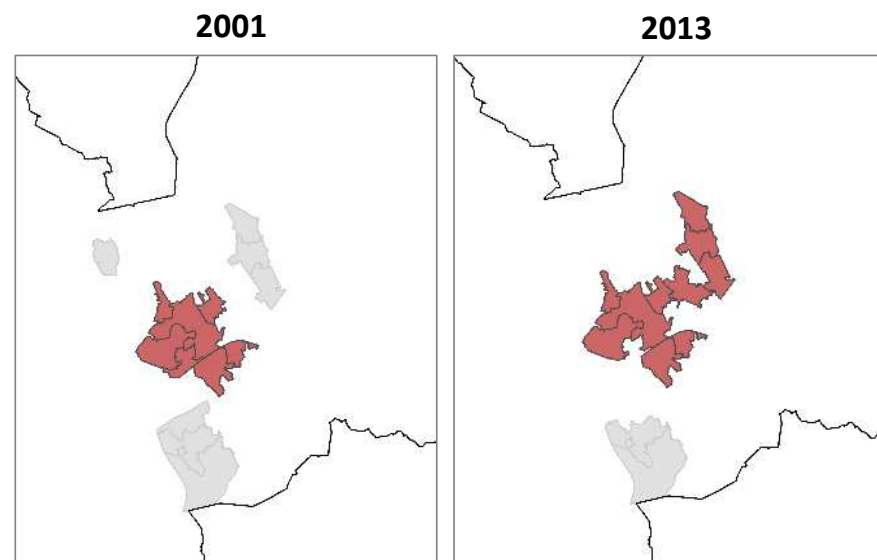
In 2001, the Rochdale cluster had the highest income deprivation rate of all clusters in GM with just under half its residents living in income deprivation (49%). One neighbourhood had 76% of its population living income deprived. The cluster grew by three LSOAs across the period, due to a previously non-SID LSOA connecting the Rochdale and Howarth Cross and Clover Hall clusters.

Rochdale's income deprivation rate declined to 42% by 2013. However, looking at only LSOAs that remained from the original 2001 cluster, the rate in 2013 was 44%.

Little Hulton and Farnworth cluster

2001

2013

2001

[44%] Little Hulton and Farnworth: 5

Little Hulton and Farnworth : 7 [41%]

Not SID in 2001: 2

Nb. Numbers following cluster names = number of constituent LSOAs. Numbers in square bracket = Income deprivation rate *(Source: IMD2004 and IMD2015)*

2001 clusters	No. of LSOAs	Population	Income deprived pop.	Inc. dep. rate (%)	% of GM's total inc. dep. pop.
Little Hulton & Farnworth	5	7290	3220	44	0.7
2013 clusters					
Little Hulton & Farnworth	7	10641	4362	41	0.9

Straddling the border between Bolton and Salford, the Little Hulton and Farnworth cluster was five LSOAs in size in 2001, but grew two LSOAs to seven in 2013, increasing its share of GM's income deprived by 0.2 of a percentage point, from 0.7 to 0.9.

Little Hulton and Farnworth has therefore not undergone the same improvements that neighbouring Bolton has since 2001.
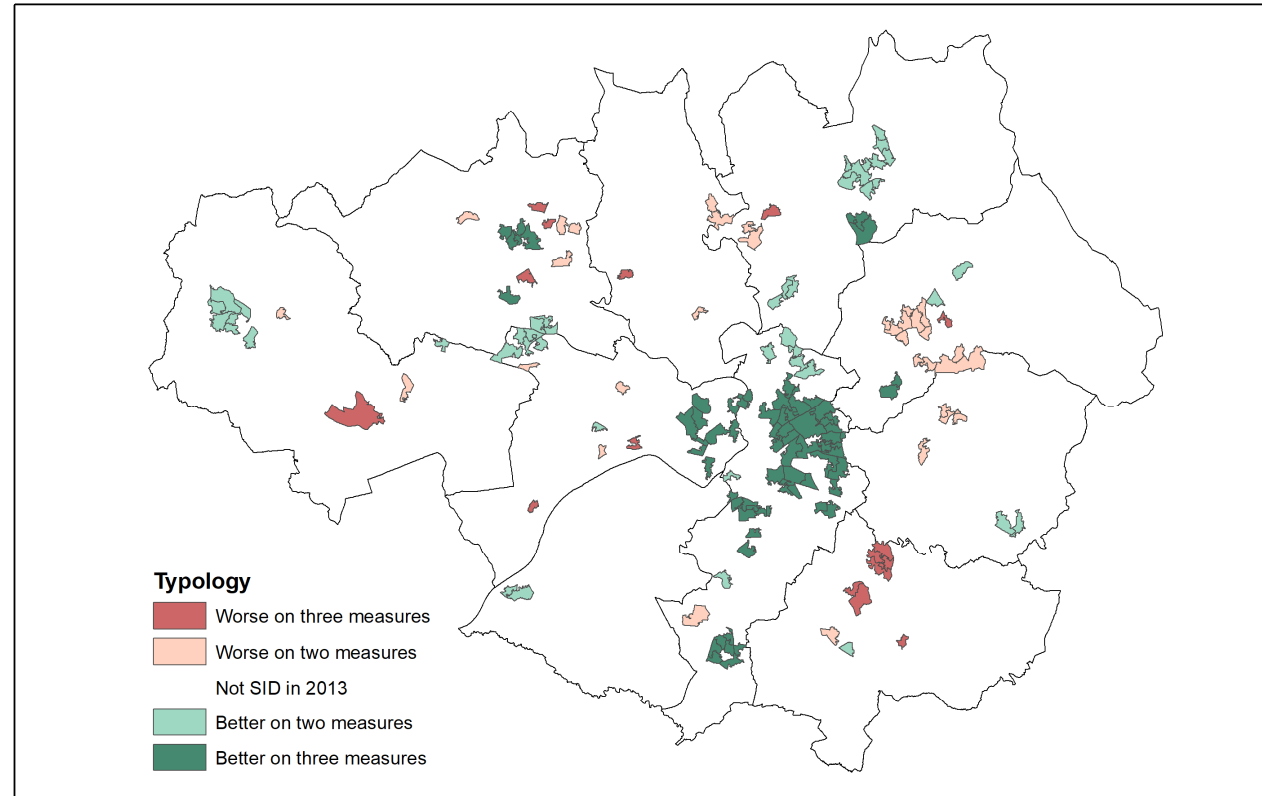
Typology of change in SID places

The typology is based on three measures:

1. Change in cluster size
2. Change in income deprivation rate
3. Change in income deprivation rate using 2013 cluster geography as constant.

Thirteen places improved on all three measures. Many of these clusters are around the centre, such as East Manchester and Moss Side. Others are in outer areas, such as Central Bolton and Wythenshawe.

Seventeen improved on two out of three measures. These are areas such as Laithwaite to the West of Wigan, Rochdale, Little Hulton and Farnworth, and Charlestown and Higher Blackley.

Typology of change in severely income deprived places

Typology
- Worse on three measures
- Worse on two measures
- Not SID in 2013
- Better on two measures
- Better on three measures

Nb. Typology based on change between 2001 and 2013 as a composite of the following three measures: 1) change in cluster size, 2) change in income deprivation rate, and 3) change in income deprivation rate using 2013 cluster geography as constant.

Typology of change

But there are also areas that got worse on all three measures. Shown here are three of the 12 of these places.

The two largest places that declined on all three measures are in Stockport local authority: Brinnington and Stockport clusters. All other that declined on all three were one LSOA in size in 2013.

There are also 18 clusters that got worse on two measures.

The largest two are located in Oldham local authority: Central Oldham and Alexandra and Medlock Vale.

Ten of the 30 clusters that got worse on two or three measures (2013)

Cluster name	Number of LSOAs	Income deprived population	Income deprivation rate	Typology
Central Oldham	8	6063	45	Worse on two measures
Alexandra and Medlock Vale	4	2301	43	Worse on two measures
Brinnington	4	3013	44	Worse on three measures
Hurst	3	1932	39	Worse on two measures
Fern Grove and Topping Fold	2	1475	44	Worse on two measures
Stockport	2	1411	42	Worse on three measures
Top of Heap and Heady Hill	2	1268	42	Worse on two measures
Ashton West	1	987	45	Worse on two measures
Baguley	1	813	38	Worse on two measures
Back o' th' Moss	1	584	37	Worse on three measures

Conclusion

We set out to understand the current pattern of deprivation in GM by looking at places that have severe levels of income deprivation, and investigating how that picture had changed since 2001.

The overall income deprivation rate for GM increased between 2001 and 2013, despite severely income deprived clusters reducing in number. Now a smaller proportion of GM's income deprived live in severely income deprived places.

What is clear is that patterns of change differ depending on where in GM you look. A greater number of areas closer to the centre of the conurbation have undergone greater improvement – both in terms of the spatial coverage of SID areas, and in terms of income deprivation rates. 'Declining' areas (on these measures) are located in outer areas of the conurbation.

But the picture is more nuanced than this. Within outer and inner areas of GM is marked variation in trajectories since 2001. A better understanding of the factors influencing these trajectories is needed to inform nuanced policy responses.