

Mapping Welsh Neighbourhood Types

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WISERD

- Established in 2008 and funded by the ESRC and HEFCW
- Five universities in Wales (Cardiff, Swansea, Aberystwyth, Bangor and Glamorgan)
- Collaborative research emphasis on quantitative, qualitative and mixed methods research
- Investigating Welsh survey data sources - mapping
- Localities programme of work – in-depth qualitative research in distinctive areas of Wales



Identifying 'localities'

- Analysis of secondary data to identify possible localities for in-depth research – empirically informed
- Several metrics considered (e.g. housing markets / labour market areas / areas differentiated by socio-economic characteristics eg. cultural and identity signifiers)
- People's attitudes to neighbours and neighbourhoods in which they live
- Living in Wales survey



Living in Wales Survey



- Main source of general statistical information about households in Wales
- Undertaken in 2004 until 2008
- Average annual response of around 7,500 households (an average annual response rate of around 60%)
- Different households surveyed each year
- Variety of social, economic and opinion based questions
- One of the few data to allow Welsh national social data to be mapped below the level of the Unitary Authority



Eight attitudinal questions that have been asked

1. The degree to which the respondents trust the people in their neighbourhood
2. How they rate their neighbourhood as a place to bring up children
3. How often they talk to their neighbours
4. Whether they feel that they belong to their neighbourhood
5. Whether friendships with people in their neighbourhood means a lot to them
6. Whether they can get advice from their neighbours, borrow things and ask favours of their neighbours
7. Whether they can work together to improve their neighbourhood
8. Whether they see themselves as similar to their neighbours.



MSOA unit of analysis



Pooling data from all the surveys creates a large enough sample size for analysis at the Middle Layer Super Output Area (MSOA) level (c. 35,000 records)

They have a minimum of 5,000 residents and 2,000 households with a mean population of around 7,200.

Wales has 413 MSOAs and these will be used in this analysis to represent neighbourhoods.

Average 74 households (sd 36) per MSA in the pooled survey (2004-07)

Min 21 hhs per MSA to max of 225 hhs

10th - 90th percentile range is 36 to 118 households per MSA, the distribution is not heavily skewed.



Cluster Analysis

- A likert scale response to each question (1 +ve – 5 -ve response)
- Z-scores were calculated for each attitudinal variable and these were aggregated to an average z-score for each of the 413 MSOAs
- Data weighed so that they are representative of the total number of households in Wales
- Neighbourhood level z-scores were used in a k-means cluster analysis based on Euclidean distance
- Five clusters to be optimal in terms of maximising difference between clusters and parsimony



Cluster ID	Distances between cluster centres				No. of MSOAs
	1	2	3	4	
1					90
2	0.98				76
3	0.70	0.64			136
4	1.51	0.83	0.84		93
5	2.59	1.88	1.95	1.14	18

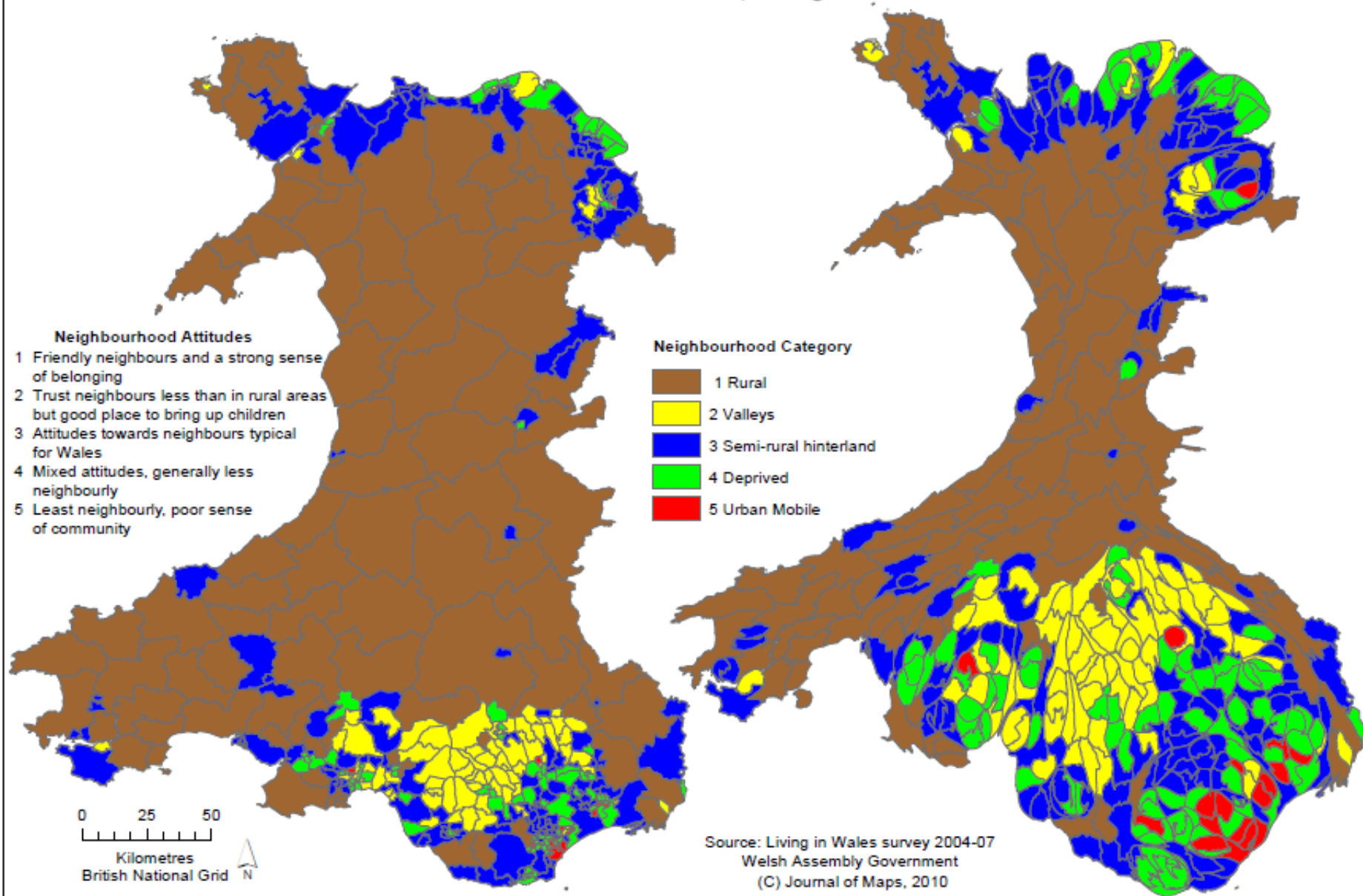
Cluster 5 is the most distinctive and has the fewest members

Cluster 3 has the most similarity to the other clusters and has the largest membership



A classification of Welsh Middle Layer Super Output Areas using social attitudes data from the Living in Wales survey 2004-07

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Cluster ID	Map Label	Geographical description	Conventional Map Area (km-sq)	Cartogram Map Area (km-sq)	Proportional Difference in Map Area	Population 2001
1	Rural	Rural mid- west- and north-west Wales	15552	9214	0.59	608186
2	Valleys	Valleys and former mining areas	1223	2045	1.67	566472
3	Semi-rural hinterland	Suburban and semi-rural areas	2942	3808	1.29	952310
4	Deprived	Deprived – non-former mining areas	627	1840	2.94	656505
5	Urban Mobile	Inner-city neighbourhoods	37	303	8.29	119612



Neighbourhood 1 Rural (90)

- Characterised by people who trust most of their neighbours and who believe that their neighbourhood is a very good place to bring up children.
- Over half talk to their neighbours on most days, and regard their friendship as meaning a lot to them.
- They tend to ask their neighbours for advice and for favours and to borrow things from them.
- They have a very good sense of belonging to the area and tend to see themselves as similar as other people in their area and are willing to work with others to improve the neighbourhood.
- These neighbourhoods are predominately rural and are concentrated in mid-, west and north-west Wales.



Neighbourhood 2 Valleys (76)

- Characterised by people whose attitudes are quite similar to those in neighbourhood 1, **But:**
- They trust their neighbours a lot less than in neighbourhood 1, with less than half trusting most of their neighbours and a quarter trusting very few of them.
- A quarter believe that their neighbourhood is a very good place to bring up children, although half think that it is a fairly good place.
- These neighbourhoods are almost exclusively found, and almost entirely compose, the neighbourhoods of the Welsh valleys.
- The only other areas outside of the valleys where these neighbourhoods can be found are in the former slate mining communities of north Wales



Neighbourhood 3 Semi-rural hinterland (136)

- Characterised by people having attitudes to the place where they live that tend to reflect the Welsh average.
- These neighbourhoods are predominantly the suburbs of the cities in south Wales or the semi-rural hinterland that surround them.
- They can also be found in the more affluent areas of the coastal fringe of north Wales and the market towns of mid-Wales.



Neighbourhood 4 Deprived (93)



- Characterised by people with a mix of attitudes towards their neighbourhood.
- Few people tended to strongly agree that they rely on their neighbours for advice, favours and friendship
- Few people strongly agreed that they have a sense of belonging to their neighbourhood and that they thought themselves as similar
- A third trusted very few people in their neighbourhood at all.
- Around half believe that it's a fairly good place to bring up children with a further fifth believing that it is a very good place.
- Located in more deprived areas of Wales and generally outside of the former mining communities. Concentrated in the south Wales urban areas and the coastal fringe of north Wales.



Neighbourhood 5 Urban Mobile (18)

- Fewest members and least neighbourly
- Only a quarter trust many people in their neighbourhood
- Over half trust few people or no-one at all.
- Two fifths believe that it is a fairly good place to bring up children; nearly one third think that it is a poor place.
- Fewer people talk to their neighbours compared to the other neighbourhood types with a quarter talking to them less than once or month or never.
- People are less likely than in the other neighbourhood types to see neighbours as friends and less likely to ask advice and favours from them.
- Less of a sense of belonging and are less likely to see themselves as similar to others in their neighbourhood.



Neighbourhood 5 Urban Mobile

- These neighbourhoods are predominately found in the inner-cities of Cardiff, Newport and Swansea and very rarely outside of these areas.
- They are not necessarily deprived areas (although some are) with this neighbourhood type including regenerated docklands.
- Characterised by private rented accommodation and a very varied and mobile population.



Conclusions

- This has been an inductive, data-driven approach to neighbourhood classification.
- An important observation is the way in which 'geography' emerges through mapping the results of the cluster analysis
- strong spatial patterning in the clusters suggests that the attitudes of people in Wales towards the neighbourhood in which they live are broadly very similar
- the analysis suggests that these attitudes are strongly embedded within particular parts of Wales
- The distinctive clustering of neighbourhood 2 within the Welsh valleys but rarely outside of this area is a good example of this strong spatial clustering in attitudes.
- The distinctive rural neighbourhood 1 is another example



- The five neighbourhood types broadly conform to other metrics used to classify Wales at small scales
- e.g. deprivation indicators, commuting patterns and local housing markets.
- This association suggests that people's attitudes towards their neighbours and their neighbourhood are broadly related to socio-economic, demographic and cultural factors that vary across Wales.



Some Limitations

- MSOAs as a unit of analysis could smooth out differences in neighbourhood attitudes at smaller scales.
- Cluster classification would not be representative of everyone
- living in a particular MSOA.
- Effects of modifiable areal unit problem (MAUP) in the sense that different spatial units may give rise to different spatial patterns



WISERD is investigating four localities covering each of these neighbourhood types.

The first locality is based around the predominately rural neighbourhoods (1) of west and mid-Wales.

The second is located around the valley neighbourhoods (2)

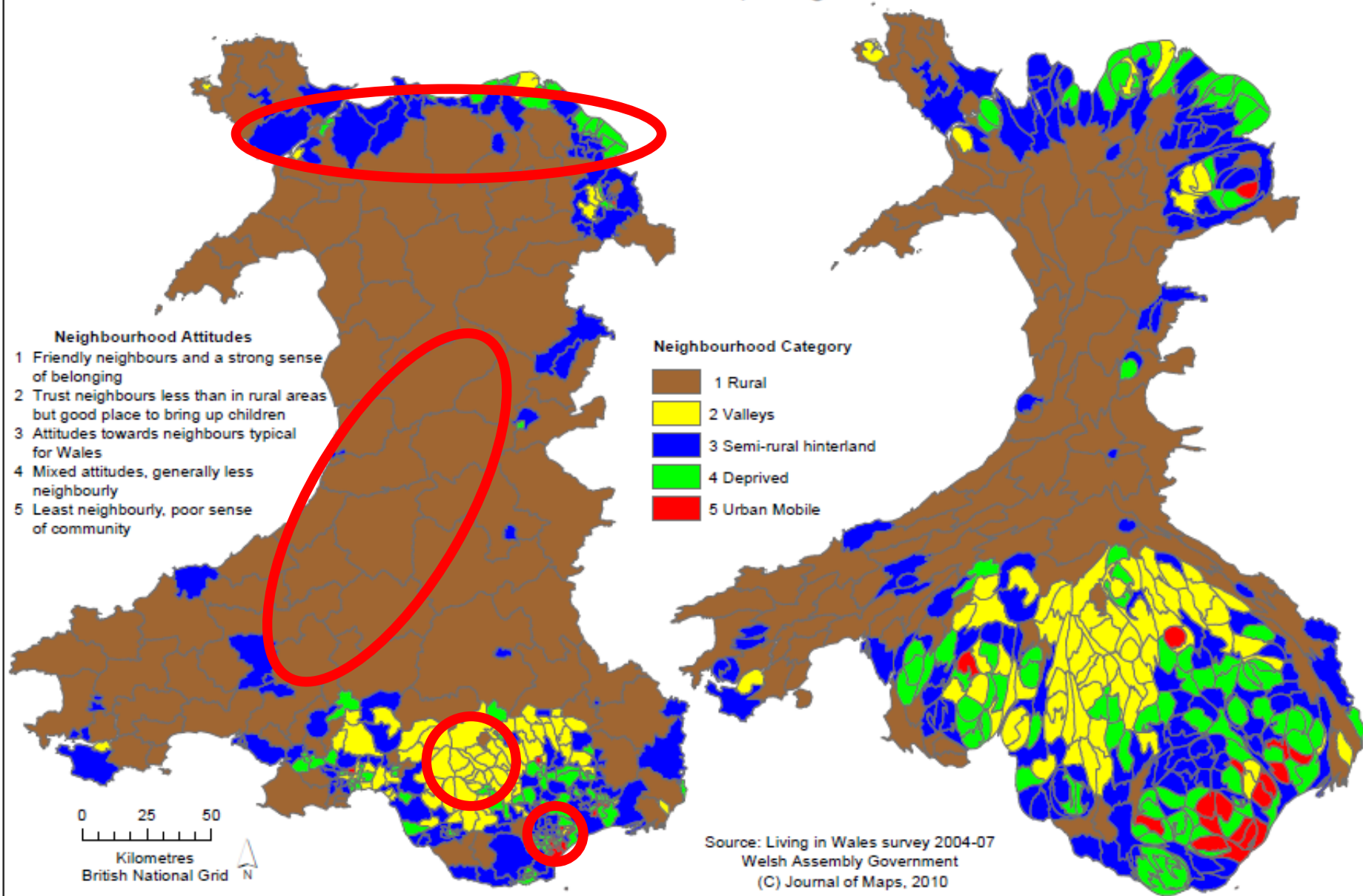
The third is concerned with the inner-city neighbourhoods (4) and (5) of Cardiff City centre.

The fourth locality is based around the A55 corridor – very diverse neighbourhoods



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Further details

- Orford, S. and Jones, S. (2010) Mapping Welsh neighbourhood types classified using attitudinal data from the national Living in Wales survey, Journal of Maps, pp. 346-353, 10.4113/jom.2010.1096



Publications related to this research:

- Orford, S. and Jones, S. (2010) [Mapping Welsh neighbourhood types classified using attitudinal data from the national Living in Wales survey](#), Journal of Maps, v2010, 346-353.