

# **National Statistics Small Area Geography Policy Response from MRS Census & Geodemographics Group (CGG)**

## **1. Introduction**

The small area geography used for communicating statistics is a critical component of the Census, Neighbourhood Statistics and the creation of local statistics more widely. The CGG welcomes this opportunity to respond to the ONS consultation on future policy in this field.

We believe that output geography should be driven by the needs of users, subject to the interlocking criteria of output content and disclosure control requirements, and that this consultation is an essential step towards developing a policy that can be applied for the 2011 Census.

The Census and Geodemographics Group is an advisory committee of MRS (The Market Research Society) and was founded in 1989 to represent the interests of researchers in Census and related population statistics. The CGG has around twenty members drawn from a range of sectors, including market research, retail site location, market and database analysis, census distributors and academic users.

Given the wide range of interests and views of our members, we have chosen to respond with a written submission rather than by completing the consultation questionnaire. However, individual CGG members have been encouraged to respond via the questionnaire, if they so choose.

This submission is partly based on views discussed at a roundtable meeting held on Monday 5<sup>th</sup> February, which was attended by representatives from ONS.

In the following section, we present our high-level response to the consultation, indicating where the views are held by CGG members as a whole, and where there are divergences in views.

## **2. High-level Response**

2.1 The underlying priority for all users is access to freely available output on key variables from the 2011 Census and other sources, for a small area geography no less fine than 2001 Census OAs, on a consistent basis throughout the UK. This access will be a crucial contribution to gaining value from investment in the Census and other sources.

- 2.2 The CGG welcomes the indications that this requirement will be met, but argues that more assessment and development are needed before final decisions are made by ONS on small area geography, interlinking with decisions on output content and disclosure control. We do not want to be tied to a small area geography, only to find later that other factors do not permit release of key results for Output Areas or require that unacceptable levels of disclosure protection be applied to the OA data.

We believe that the quality of the 2001 Output Areas should be critically assessed before any decision is taken to continue with this solution for 2011. The assessment should examine the extent of social homogeneity within each OA (see also 2.9) and review the geographical contiguity of the populations included in each OA (a particular issue in rural areas).

- 2.3 Whilst ONS policy decisions are welcome, we feel that there must be evidence that the essential components which will underpin the geographical framework are in place, namely:
- a good quality coordinate referenced address gazetteer, in order to help ensure comprehensive coverage in the 2011 Census and to extend the innovations made in the 2001 output geography
  - with the gazetteer and all derived output available in the public domain to encourage use and benefit
- 2.4 We feel that up-front funding of a gazetteer and derived products such as output geography, and indeed the whole package of output, is the only option for modern dissemination and obtaining full benefit. We believe that users must receive reassurances that this will be achieved, that there will not be any move to restrictive royalty based arrangements, and that the existing royalty-based arrangements should be removed.
- 2.5 We put the greatest emphasis on availability at OA level of cross-sectional information from the Census, and also from other sources through NeSS on a regular inter-censal basis.
- 2.6 We support the creation of stable geography for time series, but vary in our views of how this should be achieved and at what level. We believe that either middle or lower level SOAs would be a more suitable geography for stability.
- 2.7 We put less emphasis on the measurement of change, at least over the long inter-censal periods, and feel that there is very little evidence that change between censuses can be reliably estimated at OA level. Any investment primarily in OA stability must be supported by evidence that reliable time series will be produced and supplied by ONS.

2.8 Opinions differ within the CGG membership, on the issue of whether 2001 OAs should be retained or renewed, between two constituencies:

- Group 1 - Market research users, census distributors and geodemographics/market analysis suppliers
- Group 2 – End-user members of the Demographics User Group

2.9 Users in Group 1 feel that the OA geography should be recreated for the 2011 Census, using 2011 data, and based again on whole postcodes to facilitate cross-referencing with other postcode information sources.

A key objective should be to achieve greater social homogeneity within each Output Area, which would significantly increase the power and value of the published results. However, we do not believe that it is necessary to have an equal number of households in each OA. Examination of these issues and development of an improved automatic OA zoning system should be priority topics for research.

Group 1 users believe that the over-riding priority is cross-sectional use of the most up-to-date data and that OAs should be renewed in order to provide the most effective geography for communicating the 2011 Census results.

An Annex explains why Group 1 users want output geography to be enhanced, renewing OAs within a more stable middle layer.

The views of Group 1 users are explained more fully in the separate submission from CACI.

2.10 Users in Group 2 favour retaining 2001 OAs, seeing the key advantages as:

- a stable base for a wide range of sources
- a decision to retain 2001 OAs would encourage a greater rate of uptake for supply of other data sources, and avoid a 'blight' in release of small area data until release of new Census data in around 2013
- realistically it is not possible to predict any better set of stable small areas

Group 2 users see the key issue as the need for much more clarity on the processes for updating OAs, particularly the correction of 'unsatisfactory' 2001 OAs by Local Authorities and others in a consistent way (especially if conflicts arise).

The views of Group 2 users are explained more fully in the separate submission from the Demographics User Group.

2.11 Some 2001 Output Areas have very large daytime populations. Any such Output Area in the 2011 Census output should have workplace statistics published at a more detailed geographical level, nesting within the 2011 OA.

2.12 We believe that it is inevitable over time, in the complexity of the physical, administrative and organizational map of the UK, that geographical flexibility in output will be required for larger areal units, which could result in overlapping geographies and introduce potential disclosure risks. A high priority should be given to developing methods to control any risk of disclosure in output for overlapping areas between large geographies.

### **3. In Conclusion**

In conclusion, we consider that ONS needs to do further research and development in the following key areas of geography highlighted by CGG users as a whole:

- assessment of the 2001 OAs against each of the main objectives set for their production and in terms of suitability for any future use
- full proposals for updating, if 2001 OAs are retained, so that users can assess impacts on their requirements
- potential improvements in an automated OA production process, particularly to improve homogeneity, weighed against the 'status quo'
- evaluation of options for stable and common zones at lower SOA level, within which renewed OAs could nest
- evaluation of the appropriate geographical level(s) for statistically valid time series for a range of key indicators of change
- conclusion of work on SDC which might impact on the size of and / or output for future OAs
- examination of the potential for improving the positioning of OA boundaries - more 'social' boundaries - whilst retaining the link to postcode geography and without compromising free availability
- a review of the overall costs and risks of either retaining 2001 OAs or renewing OAs, or of any other options emerging through consultation, on the assumption that lower costs are desirable
- a set of proposals for consistent geography throughout the UK

Users should receive feedback on the outcomes of the above research for further discussion before any final decisions are made - which we argue must also embrace the content of output, statistical disclosure control and the fundamental issues of ownership and access.

We believe that this will help to maximise the benefit of the investment in the geography which underpins statistical output as a whole.

The CGG has welcomed this opportunity to submit its views on small area geography to ONS and wishes to contribute further as the small area geography policy develops.

We would be happy to make more widely available the presentations and examples discussed at our meeting held on 5<sup>th</sup> February.

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**16<sup>th</sup> February 2007**

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## ANNEX

### Enhancing output geography

*This section of our submission covers the views of our members who want ONS to enhance the innovative approach to geography begun in 2001. It explains why retaining 2001 OAs will not meet future needs, and proposes that OAs should be systematically reviewed within a more stable middle layer.*

1. Our over-riding need is for geography to meet requirements which exist when statistics are released and used, and for continuing refinement in the production of output geography.
2. Common zones for different sources and for time series are needed, but we are not convinced that zones at the level of OAs, and particularly the retention of 2001 OAs, can meet this need unless output from more sources is released and statistically valid measures of change can be produced at OA level.
3. We propose that a better solution would be common zones at the level of lower Super Output Areas (SOAs) and suggest options, with renewed output areas within them.

#### **The right strategy**

4. We consider that the right long term strategy for output geography was set for the 2001 Census. The fundamental innovation was the coordinate referencing of the output database. This allows GIS to manipulate the records and fit them to any zone, particularly for specific output purposes, including automatic zoning which created the 2001 OAs. UK consistency was achieved, OA boundaries for the whole of England and Wales were released concurrently, and were in effect in the public domain.
5. These were major breakthroughs with all round benefits. The automated zoning method is robust, cost effective, and very suitable for re-use, and indeed that was the published long term Census strategy. The 2001 OAs were a major improvement over the Enumeration Districts used previously, but they were fit only for 2001 Census purposes, and were not created for long term stability nor to meet criteria for output zones for other sources.

#### ***Retaining 2001 OAs: the limitations***

6. Retaining 2001 OAs, with what are essentially ephemeral boundaries interpolated around clusters of population selected on criteria for 2001

Census output alone, would not enhance output geography. Indeed it would serve future needs decreasingly well as time passed.

7. There would a general tendency over time, of divergence from the criteria set for OA production in 2001 - less consistency in size, less homogeneity and a lack of fit with postcodes where these changed. There would be additional inevitable pressures as the many layers of geography in the UK change for non-statistical reasons. This would be coupled with local pressures to adjust for physical or socio-economic change, or to rectify perceived defects in 2001 OA boundaries.

8. Any partial updating of 2001 OAs would involve relatively costly manual operations which could only be completed at a period of time pressure when 2011 Census results became available for a check on confidentiality thresholds. Indeed, we think that updating would be much more cost and resource consuming process than automatically redrawing OA boundaries as a whole, and that estimates of the comparative overall costs should be made available by ONS on the assumption that lower costs are desirable.

9. There would be risks of arbitrary and inconsistent updating. We see problems in reconciling conflicting suggestions for updates if the process is not restricted to a crude amalgamation and subdivision of OAs, or indeed of getting a consistent approach between different local authorities. It would be difficult to avoid departing significantly from the objective standards set in 2001 wherever OAs were updated, and hence further diminishing consistency.

10. Absolute stability of output geography, as the ONS proposals accept, is not an option and in the longer run any attempt to maintain stability at a fine area level is likely to break down, as the physical, socio-economic, political and administrative environments which statistics serve move on. This will happen quite rapidly in some places and the attempt to retain boundaries will be self defeating in the areas of greatest change. There is no contingency for this in the ONS proposals.

### ***A better approach and balanced solution***

11. Our view is that a more progressive solution is needed for the 2011 Census, other sources, and for statistical geography in the longer term, in order to avoid the potential defects, risks and costs of partial updating and the likelihood of longer term breakdown.

12. Whilst the emphasis in geodemographics is on cross-sectional information for small areas, we recognise of course the current investment in a 'stable' geography for measuring change, particularly in SOAs, and we recognise concerns about disclosure from output for overlapping areas.

But we also note that work to formulate reliable local time series, and also to develop appropriate disclosure protection methods, necessary to meet the high priority Government aim of monitoring change at neighbourhood levels, has some way to go.

13. We do not expect a totally flexible geography for statistics, although this is technically achievable, and indeed the prime requirement for established geodemographic analysis is a single set of small areas, but we suggest that there can be a balanced solution in the interests of all users which would have two main elements:

- an improved middle layer at the lower SOA level, set up in advance of the 2011 Census to act as a common and stable base for local time series, with steps to give the areas a much higher profile in local communities (options are discussed below)
- an updated automatic zoning system to produce new Output Areas within a revised middle (SOA) layer on the basis of information current around the time of production

14. If the 2001 OAs are not retained as proposed by ONS, and a middle layer is prepared in advance of the Census when time pressures are more manageable, the timetable achieved in producing the 2001 OAs shows that it would be perfectly feasible to renew output geography with a speedy, automated and cost effective process after the 2011 Census, when relevant information from the Census and other sources is available.

### ***The middle layer***

15. A middle layer of common output zones would probably not have particularly small populations. Precise geographical coding is needed to structure output geography properly, not to drive down the populations output areas to risky levels. Indeed we have seen no evidence that reliable measures of change from Census or other sources can be produced at OA level, or that much information from sources other than the Census is being widely released at OA level. So maintenance of 2001 OA boundaries could be wasteful. But there are some indications that zones around the level of lower Super Output Area (SOA) might be generally appropriate.

16. The options for a middle layer, which we consider need further evaluation by ONS, are either to retain the current lower layer of SOAs with minimal change or to adopt an approach to renew such areas regularly to meet future needs. Partial change of the current SOAs would seem to have no advantages.



17. We understand that retaining the current SOAs will help ensure the continued supply of aggregate data sets to the Neighbourhood Statistics system as there would be costs in recoding data to revised geographies, but the definition of the SOAs would perpetuate a combination of 2003 wards and 2001 OAs which we see as increasingly less relevant to future needs. We suggest that, at the least, ONS should investigate and report on the costs of fitting data to a renewed middle layer before any retention of the current SOAs.

18. The alternative is to renew a middle layer. Coordinate referencing of 'old' data such as the 2001 Census allows them to be sorted to new or common areas, so time series can 'look back' from areas which are relevant in the future, rather than around the end of the last century, and can be redrawn again over time, or for different purposes. Data which are postcoded can be similarly treated, but with a little less precision.

### **The long term**

19. Such an approach could be rolled forward to future censuses, or to sources replacing the census. The approach keeps up with change, both in the statistical environment and in methods, whilst providing a realistic degree of common geography. But it would also be capable of producing measures of change for any zones drawn to meet future needs. In summary, it would not lock output to geography and conditions from the past in a way that retaining 2001 OAs would do, but would have the options to deliver a better output geography over the long term.