

Census Outputs Geography Working Group

Minutes of Census Outputs Geography Working Group meeting held 26 August 2009 at Ladywell House

Present:

Sandy Taylor (General Register for Scotland (GROS))
Ann-Marie Meikle (GROS)
Tricia Couper (GROS)
Blair White (GROS)
Nick Schierloh (GROS)
Harvey Snowling (GROS)
David Blue (GROS)
Matt Perkins (Scottish Government)
James Reid (Edinburgh Data and Information Access (EDINA))
David Matthews (Dundee City Council)
Jenny Boag (Falkirk Council)
Prof. Robin Flowerdew (University of St. Andrews)
Alan Lambie (South Lanarkshire Council)
Bob Stead (West Lothian Council)
Heidi Goodship (Scottish Borders Council)

Apologies:

Angela Logue (Glasgow and the Clyde Valley Strategic Development Planning)
Paul McNamara (Stirling Council)

1 Introductions

- 1.1 Sandy Taylor welcomed everyone to the first meeting of the working group and introductions were made around the table.

2 Background

- 2.1 Sandy explained that the working group had been established as a sub-group of the Population and Migration Statistics Committee (Scotland) as a means of gathering expert advice on geographical issues relating to 2011 Census outputs. He anticipated that most of the work of the working group could be progressed in correspondence with perhaps just one or two further meetings to wrap things up.
- 2.2 Sandy provided the group with a brief recap of GROS preparations so far for the 2011 Census. This has involved a consultation process over a number of years and two large scale planning exercises: the 2006 Census Test and the 2009 Census Rehearsal. An evaluation of the 2009 rehearsal was currently underway and data from it will help inform the content of the Census Order and Regulations which are due be laid before Parliament in late 2009/early 2010 respectively. Sandy noted that increasing attention was now being given to planning the output and dissemination of census results. The first release of outputs is scheduled for autumn 2012 and so there is a window of opportunity over the next couple of years for users to help shape the

detail of these plans. Previous consultation with users about their high level requirements for census outputs has identified a number of priorities, including the facility for flexible online analysis on both standard and user-defined geographies. GROS will run a further formal census consultation round towards the end of 2009 to establish the views of users on census outputs in more detail. Geographical issues will be a specific topic of that consultation, and the working group will have an important role to play in assessing any feedback received.

3 Draft Terms of Reference

3.1 The working group was content with the following amended terms of reference:

To provide the General Register Office for Scotland with advice on geographical issues relating to outputs from the 2011 Census; and to report back to the Population and Migration (Scotland) Statistics Committee by May 2010.

Discussion of Identified Issues

4 2011 Census Output Areas

4.1 David Blue provided the group with an outline of the methodology being used to create census Output Areas (OAs) for 2011, the main aim of which is to maintain as much continuity as possible with 2001. He noted that, due to a change since 2001 in software tools available to GROS, the starting point for creating OAs is different this time round. 2011 postcodes will first of all be allocated to 2001 OAs using assignment by point (grid reference of centroid of postcode) in polygon (OA boundary). There will be around 42,600 OAs at this stage (the total number of 2001 OAs). Some OAs will fall below the minimum thresholds due to housing demolitions and population decrease since 2001 (and so need to be merged with other OAs). Others will be above the maximum thresholds due to new housing build and population increase (and so need to be split). Some 2001 OAs may 'disappear' because their designated 2011 postcode no longer exists. Changes in locality boundaries will also need to be taken into account, for example where new housing has been constructed on the edge of existing settlements.

4.2 A number of points were raised in discussion:

- it was suggested that local plans could usefully be taken into consideration when drawing up the 2011 outputs areas;
- councils were consulted when the set of output areas were created for the 1991 Census and it was proposed that some form of consultation be considered for 2011 (and ditto in relation to SNS datazone boundaries);
- it was thought that the distinction between urban and rural areas was likely to be less of a priority in 2011;
- it was suggested that aiming for a consistent circular shape when creating output areas should not necessarily be seen as a design priority – some 'odd-looking' OA shapes still worked well because they reflected physical realities on the ground.

4.3 Members of the working group asked about GROS plans for intermediate (created from aggregations of OAs) geographies for 2011. It was noted that 2001 Census

results were produced for wards and postcode sectors. Sandy commented that SNS datazones were likely to be created as one of the standard intermediate geographies for 2011, but that users will be consulted about what other intermediate geographies they would like. It was noted that datazones would not have been large enough to meet the desired threshold for the 2001 Census Area Statistics.

5 Settlement/Locality Boundaries

- 5.1 Sandy noted that the starting point for the methodology to define settlement/localities for 2011 was to adopt essentially the same approach as was used for 2001. It was suggested that local plans would be a useful way of local information for GROS to tap into on where locality boundaries were likely to change over the next couple of years.
- 5.2 It was noted that GROS has an automated process in place for updating settlement boundaries which is designed to take into account new postcodes and population changes. As settlement (and associated locality) boundaries are used in the census output area creation process, it was acknowledged that ideally up-to-date settlement boundaries (based on 2011 census data) should be used in order to ensure that output areas are as accurate as possible. There are potentially some resource/time constraints in achieving this ideal, and it was therefore agreed that GROS should review the planning of the work involved and report back to the group on the feasibility of this approach.

Action: GROS to report back to the working group on the feasibility of co-ordinating the update of settlement/locality boundaries and the creation of 2011 Census output areas.

- 5.3 In further discussion it was noted that in practice a compromise often had to be made between robust population estimates and sensible boundaries for settlements. It was also pointed out that different users sometimes adopt differing definitions of a settlement depending on their needs.
- 5.4 It was clarified that there was no geographical relationship between census enumeration districts and output areas, apart from the fact that both were based on the underlying geography of postcodes. Enumerator districts are designed in such a way as to spread the workload evenly between the enumerators rather than as a relevant area for statistical outputs.

6 Frozen Geography

- 6.1 Sandy commented that the strengths of the frozen geography approach taken for 2001 appeared to be a compelling argument for repeating this approach for 2011. Tricia Couper noted that the current plan is to have a double freeze of the underlying postcode geography: an initial freeze in October 2010 and then a final freeze in January 2011.

7 Non-Contiguous Postcode Boundaries

- 7.1 Blair White outlined his work on non-contiguous postcode boundaries. As the geographies used by GROS for census outputs are based on postcodes, they are affected by anomalies created by non-contiguous postcodes, i.e. postcodes that have

two or more discrete parts. This can arise, for example, when a new housing development might place new addresses within the area of an existing postcode (thereby splitting it), or when Royal Mail allocates the same postcode to addresses on the mainland and also to addresses on a nearby island. Blair noted that the extent of this issue was relatively small: it currently affects only 521 postcodes (out of a total of approximately 145,000) current small user postcodes. These postcodes contain 9,914 addresses, 83% of which fall within the parts of the individual postcodes which contain most the addresses.

- 7.2 Non-contiguous postcodes only become apparent when they are depicted graphically. The expectation is that all parts of a non-contiguous postcode will generally be contained within the same enumeration district. However, when it comes to output areas, due to their smaller size, it is quite likely that in some instances not all parts of a non-contiguous postcode will fit within the same output area.
- 7.3 Members of the working group queried whether Royal Mail could help in any way by correcting the postcodes involved. However, Blair noted that in some cases the postcode was not "wrong": some of the non-contiguous postcodes arose because GROS was creating boundaries around Royal Mail "lines" (i.e. the "route" of the postcode) and the problems arose when the "lines" crossed. In other situations it is not realistic for Royal Mail to amend a postcode, as householders are reluctant to change their allocated codes.
- 7.4 A number of alternative solutions to resolving the issue of non-contiguous postcodes have been investigated by the GROS geography team. However, they have concluded that continuing with their current method of digitising postcodes as they appear on the ground remains the best option. It was noted that the smaller parts of non-contiguous postcodes generally contain only one or two addresses and so the numbers affected are small, and that non-contiguous postcodes will generally not be an issue for analysis at higher levels of geography. It was agreed that this issue will need to be covered in the census metadata provided to users.

8 Workplace Output Areas

- 8.1 This type of geography was potentially useful, for example in analysis of travel patterns for large cities and for some types of area (such as industrial estates) with few residents but high numbers of people working. Sandy noted that an ONS review in 2007 of small area geography had not revealed much user demand for a separate geography of workplace output areas. GROS had also received relatively little demand from users in Scotland for this type of geography given that Scottish census output areas gave users a set of sufficiently small geographical building blocks to work from. However, the Department of Transport was still keen for this geography to be considered in relation to 2011 Census outputs, and it thought that there may demand for it from some academic researchers. It was therefore agreed that GROS should consult users on this issue in its forthcoming census consultation round.

9 Scottish Neighbourhood Statistics (SNS) Data Zones

- 9.1 Matt Perkins noted that SNS have been monitoring datazone populations for the past few years. The majority of datazones are still within range, though some have got very big while others are now too small. SNS were aware that the boundaries therefore

need to be redrawn. It had initially planned to do this before the 2011 Census, but had concluded that it would be better to wait until the census data had been published for reasons of consistency and efficiency.

- 9.2 Matt noted that feedback from the recent SNS strategy consultation had produced a mixed response on the redrawing of datazone boundaries: some users requested that change be kept to a minimum while others had stated a preference for the boundaries to be completely redrawn. He commented that in order to provide the best possible statistics from SNS a balance would need to be struck between having a stable geography, retaining consistent time series, avoiding disclosure issues from differencing and adjusting datazone boundaries to reflect local knowledge. The general view around the table was that the preferred approach would be to keep changes to existing datazones to a minimum, splitting and merging them as necessary.
- 9.3 It was pointed out that if census output areas are changed then the whole process of redrawing the datazone (which are aggregations of OAs) boundaries may become more complicated. For example, if output areas are changed to accommodate new or expanding settlements then datazones will also have to reflect these changes.
- 9.4 It was agreed that it would be useful for GROS, as part of the process of creating 2011 Census output areas, to investigate how well output areas and datazones fit to higher geographies as this will help flag up those areas where this is likely to involve significant change.
- 9.5 After further discussion it was confirmed that the aim was for any revisions to datazone boundaries would be done after COAs had been finalised and when DZ populations based on 2011 census were available, though the detailed planning for this had still to be worked up. Matt also noted that it was planned to hold a formal consultation with users at some point about the detail of datazones.

10 Standard Codings for Geography Areas

- 10.1 Matt noted that ONS have harmonised with Scotland in developing UK-wide standard geography codes. The codes are made up of nine characters consisting of two letters and seven numbers.
- 10.2 In discussion, it was pointed out that the census output area codes used for 2001 were less user-friendly than those used for 1991. The coding system for 2011 will contain no geographical intelligence within the code itself, though they will have some systematic basis and it was agreed that it would be helpful to users if they could be informed of the new codes earlier than was the case in 2001.
- 10.3 Matt offered to update the group on the progress of the Scottish Government document which sets out the impact of codes. He also offered to circulate a recent ONS paper on the new UK-wide standard geographic coding system so that the working group could see the latest available formal documentation on this issue.

Action: Matt Perkins to update the working group on the progress of the Scottish Government document which sets out the impact of codes and to also circulate the ONS geography coding system paper to the group.

11 Statistical Disclosure Control (SDC) Methodology

- 11.1 Sandy informed the group that the SDC method likely to be used in the 2011 census is pre-tabular record swapping.
- 11.2 James Reid suggested that the local density swapping SDC approach would be a good method to consider. Sandy commented that, while it was now too late in for a new method to be considered for 2011, it would still be useful to see more detail about it. James offered to circulate this.

Action: James Reid to circulate documentation on local density swapping SDC method to members of the working group. (Done)

12 User Consultation on Area Boundaries

- 12.1 As discussed earlier in the meeting, it was agreed that GROS would give more thought about how best to involve the feasibility, planning and timing of this issue, including intermediate geographies.

13 Discussion of any other issues

- 13.1 Sandy noted that the Office of National Statistics had established a Census Geography Working Group which he would attend and report back on any issues of relevance to Scotland.
- 13.2 It was noted that there are currently five Boundary Commission reviews underway - in Dundee, Glasgow, North Lanarkshire, and East Dunbartonshire. GROS has no control over how long these reviews will take, but will need to monitor them in case their outcomes affect census output geographies.

14 AOB

- 14.1 No other business was raised.

15 Date of next meeting

- 15.1 Early December 2009 – date/time/venue to be arranged.

**GROS Census Division
September 2009**