

Guidance Note 2

Annex 1 – SMALL AREA STATISTICS

Small Area Statistics

Project promoters frequently encounter a problem in securing *secondary data* for very small geographic areas or *ad hoc* geographic areas that do not conform to the established geographies for which data is published.

These established geographies are currently:

- # National statistics
- # Regional statistics
- # County statistics
- # District statistics
- # Travel to Work Area statistics
- # Ward statistics
- # Post Code statistics
- # Census Output Area Statistics

It is rare for datasets to be published below ward level and the local authority ward is usually the best that's on offer from local authorities and central government.

To compound matters, the Ward geography is unstable in that the boundaries of wards periodically change to cater for the needs of the democratic process. The Civil Service and local authorities are geared to producing statistics for current wards and will cease production of statistics for 'old wards' soon after the new ward boundaries have been adopted (usually about a year or two).

If you need secondary socio-economic statistics for geographic areas that do not conform to the established geographies then you need to do some creative thinking and take the initiative.

So, what can you do ?

Post Codes, Census Output Areas, 'geo-coding' and Super Output areas offer a solution to the problem.

Post codes

Almost all administrative datasets kept by health authorities, local authorities and the civil service will normally identify the post code of a subject or client.

Therefore if you can identify your geographic area of interest by reference to post codes then in theory each database can be interrogated to produce a count based upon the list of post codes equating to that area.

The secret is to assign a whole post code to your area of interest and you can do this by reference to the map of post codes. Don't try to split the post code between your area and an adjacent area unless the subject data warrants.

All local authorities possess a map of post codes, usually held in electronic format on a Geographic Information System (GIS, or, maps-on-computers). To get access to this map you have to contact the Council's (or Health Authority's) 'GIS Officer'.

The digitised post code boundaries can be overlain onto a standard street map (normally an Ordnance Survey map) and you can readily assign a post code to the geographic area of interest by visual inspection and thereby compile your list of post codes that equate to your area. With this list the database may be interrogated.

'Geo-coding'

The full potential of a GIS system starts to become apparent when you geo-code a subject (or 'entity'): every property in the United Kingdom and every post code has been assigned a geographic reference that enables the subject to be located on a map to an accuracy of a couple of metres.

This location is a National Grid Reference and is expressed as 'Easting' and 'Northing' coordinates. This is viewed as a single point on an electronic map.

The grid reference for a post code is the centre of the post-code.

If the GIS system 'knows' the boundaries of your area of interest (i.e. the boundaries have been input onto the GIS or 'digitised') it can render the area to screen and overlay it onto a map containing these points. The GIS can then be made to count-up the number of points within this search area (or 'polygon' as it is known).

For example, if you wanted to know the total number of houses in your search area (polygon) the computer can overlay the boundaries of your area onto an appropriate map of houses (represented as points on an Ordnance Survey Street gazetteer) and count the number of points falling inside the boundary – quickly !

Census Output Areas (COA)

These are very small geographic areas, usually no more than a cluster of streets in a town or village, that are the smallest geographic level for which figures from the Census of Population 2001 are produced.

Census of Population 2001 data is supplied to all local authorities and health authorities from Census Output Area up to any of the other standard publication geographies.

Again, the digitised boundaries of these Census Output Areas have been supplied by the government to these authorities allowing them to view these areas using a GIS system.

Overlaying the digitised boundaries onto a street map (usually Ordnance Survey) allows you to quickly assign a Census Output Area to your geographic area of interest. Unlike post codes however, you can split an Output Area for greater accuracy and this is done on a percentage basis (e.g. 50% in your area and 50% in the adjacent area).

Assigning COAs to your geographic area of interest will allow the authority to interrogate its Census database using this list and thereby provide a count for the area in question.

Unfortunately, you are presently (February 2004) restricted to Census of Population 2001 data but data from the 1991 Census should become available soon.

For more information visit: www.statistics.gov.uk/geography/census_geog.aps

Super Output Areas

The Government has long been concerned about the dearth of small area statistics and instructed its Neighbourhood Renewal Unit and the Office for National Statistics to do something about it.

The results of their endeavours is the Super Output Areas which should be created and adopted in 2004 and for which a great many and wide range of datasets will be produced commencing in 2005.

It should be noted that the forthcoming replacement for the Index of Multiple Deprivation 2000 will be based on 'lower level' SOAs and not local authority wards.

Super Output Areas are accretions of the smaller Census Output Areas and will be produced at three geographic levels, viz: lower, medium and upper levels.

By way of reference, lower level SOAs are about one-sixth the size of a standard local authority ward, middle layer SOAs about half the size, and upper layer SOAs about three times the size.

Again, all local authorities and health authorities will be supplied with the digitised boundaries of these areas allowing you to associate any SOAs to your geographic area of interest.

Alternatively, the Government intends to create an SOA 'Estimation Engine' and place this onto the website of the Office for National Statistics. This 'engine' will allow you to draw your own area on an electronic map and thereby instruct the database to create a count for that area by reference the lower level SOAs which fall wholly within the defined area and those that lie partly within it splitting Output Areas that straddle the defined boundary.

This facility should be available by mid 2005.

For more information visit: www.statistics.gov.uk/geography/soa.asp

A note of caution

Geographic Information System Officers and general Information Officers within local government, health authorities etc. work under great pressure because there are relatively few of them and their workload has increased greatly as the usefulness of GIS systems has become recognised by their colleagues, and the demands for monitoring and research have increased.

In short, they are struggling to meet internal workloads before anyone 'external' contacts them.

Because of the pressure of work your information request may not receive the immediate attention that you feel is merited and in this scenario we can only advise that you are persistent but polite.

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