

The definition of urban areas

1.1 Census statistics for urban areas are produced both because of the widespread interest in information for areas *per se* (as they are more readily identifiable as the traditional towns and cities of Great Britain than are administrative areas, most of which comprise a mixture of both urban and rural land), and for the complementary purpose of dividing the country's population between those living in urban areas and those living in rural areas. Furthermore, the Statistical Office of the European Communities (SOEC) requested member countries to define large urban agglomerations (of 100,000 or more population) after the 1980 round of censuses.

1.2 This section of the Report covers the concept of an urban area and some of the variety of ways in which such areas may be defined. The definitions used for urban areas identified in this listing differ between areas in England and Wales and areas in Scotland. Paragraphs 1.12-1.20 give details of the processes of identifying urban areas in England and Wales.

The concept

1.3 The traditional concept of a town or city would be a free-standing built-up area with a service core with a sufficient number and variety of shops and services, including perhaps a market, to make it recognisably urban in character. It would have administrative, commercial, educational, entertainment and other social and civic functions and, in many cases, evidence of being historically well established. A local network of roads and other means of transport would focus on the area, and it would be a place drawing people for services and employment from surrounding areas. It would often be a place known beyond its immediate vicinity.

1.4 Urban areas in Britain are, however, more complex. On one hand, historically free-standing towns have, over the years, grown and coalesced into continuously built-up areas, and subsidiary central places have developed as suburbs and satellite towns. This was recognised in the definition of conurbations used in the 1951 Census⁸. At the other extreme, some historic towns have stagnated and have lost central place functions.

General definitions of urban areas

1.5 An obvious way to define a town is in terms of its administrative boundary - that is, the area administered by a city, borough or town council. This is the method that had been followed in censuses in Great Britain up to and including 1971. In England and Wales, until re-organisation of local government in 1974, the division of the country between boroughs, urban districts and rural districts provided an approximate urban/rural split, and in Scotland, until re-organisation in 1975, the division between cities, burghs and district councils provided a similar split.

1.6 But there were serious disadvantages in the use of

such administrative boundaries. They tended to change only infrequently and thus often did not reflect the development of a town. Sometimes the boundary lay well beyond the town's built-up area (*over-bounding*) and included tracts of rural countryside. More often they lay within the built-up area (*under-bounding*) and so included only part of the totality of the urban area.

1.7 The local government boundaries established after reorganisation in the mid-1970s, and in use at the time of the 1991 Census, were almost entirely unsuited for the definition of urban areas because many districts had been deliberately drawn up to bring together towns and the surrounding rural countryside into single administrative units.

1.8 There are, however, at least three other approaches to defining an urban area. It may be defined either in terms of the *built-up area* (the 'bricks and mortar' approach); or, alternatively, it may be defined in terms of the areas for which it provides services and facilities - the *functional area*. The *functional area* may embrace not only the *built-up area* but also free-standing settlements outside the urban area together with tracts of surrounding countryside if the population in these surrounding areas depends on the urban centre for services and employment. A third method is to use *density* (either of population or of buildings) as an indicator of urbanisation. However, implementation of any of these approaches involves some arbitrary decisions in drawing up boundaries because, in practice, towns tend to merge physically and functionally with neighbouring towns and their hinterlands.

1.9 The first attempt to define urban areas in a census was made after the 1951 Census and a limited range of statistics was published in the General Report from that Census⁹. After the 1966 Sample Census, the then Ministry of Housing and Local Government produced an analysis of *de facto* urban areas¹⁰. But neither of these provided a suitable base for statistics for urban and rural areas to be produced from later censuses.

1.10 A new initiative was therefore necessary for the 1981 Census. The request from SOEC for member countries to define large urban agglomerations after the 1980 round of censuses, coincided with research at the then OPCS and the Department of Environment (DoE) into new methods of defining urban areas.

1.11 In England and Wales, two methods were considered: the first based on a combination of population density and land use; and the second on the extent of urban development indicated on Ordnance Survey (OS) maps. The latter was selected as it met the needs of both OPCS and DoE and enabled internationally comparable statistics to be produced for SOEC and the United Nations.

⁷GRO(S). 1991 Census Key Statistics for Localities in Scotland. HMSO, 1995. ISBN 0 11 495736 3.

⁸General Register Office. Census 1951, England and Wales: Report on Greater London and five other conurbations. HMSO, 1954.

⁹General Register Office. Census 1951, England and Wales: General Report. HMSO, 1958.

¹⁰Department of the Environment, Regional Plans Directorate. *De facto urban areas in England and Wales, 1966*. DoE, 1966.

Basically, the same criteria were adopted for defining urban areas in the 1991 Census. In Scotland, the method used was a mix of the ‘bricks and mortar’ approach and the population density methods described in paragraph 1.8.

The definition of an urban area in England and Wales

1.12 Generally, the terminology ‘urban’ and ‘rural’ has no fundamental definitional basis. The starting point in the definition of urban areas in England and Wales in this Report is the identification of areas with *land use* which is irreversibly urban in character. The definition used to identify urban land use is modelled on the developed areas classification produced by DoE, which, in turn, is based on the National Land Use Classification¹¹.

1.13 Land included as urban land comprises:

- (a) permanent structures and the land on which they are situated (built-up site); for this purpose, ‘land’ is defined as *the ground covered by a permanent structure and any ground enclosed by, or closely associated with, such a structure;*
- (b) transportation corridors (such as roads, railways and canals) which have built-up sites on one or both sides, or which link up built-up sites which are less than 50 metres apart;
- (c) transportation features such as airport and operational airfields, railway yards, motorway service areas and car parks;
- (d) mine buildings (but mineral workings and quarries are excluded); and
- (e) any area completely surrounded by built-up sites.

Areas such as playing fields and golf courses are excluded unless they are completely surrounded by built-up sites as in (e).

1.14 The prerequisite for the recognition of an *urban area* is that the area of urban land should extend for 20 hectares or more. Separate areas of urban land are linked if less than 50 metres apart. Land between built-up sites is not regarded as urban unless it satisfies one of the conditions listed in paragraph 1.13 above.

1.15 The critical factor in the recognition of an *urban area* is a minimum population of approximately 1,000 persons. However, as there was no prior information on the 1991 populations of areas of urban land, a proxy threshold was applied by excluding areas with less than four 1991 Census Enumeration Districts (EDs). This resulted in the

exclusion of some areas of urban land with more than 1,000 population, but very few above 2,000.

1.16 A rule recommended by the United Nations and used by a number of European Community members states is that areas of urban land of 20 or more hectares that are less than 200 metres apart are linked to form a continuous urban area. Major urban agglomerations, such as Greater London and the metropolitan counties, are sub-divided in order to provide a more useful set of statistics and to enable some comparisons to be made with previously published census data. Some smaller urban agglomerations are also sub-divided where appropriate, and, where possible, previously separate urban centres, where urban land has since merged, are also subdivided.

Identification of urban areas in England and Wales

1.17 The first stage was the updating, by Ordnance Survey (OS) of the 1981 set of 1:10,000 scale transparent overlays depicting the extent of urban land as defined by the criteria above as at 1 April 1991. These overlays were updated at OS headquarters from information supplied by each of their local field offices, making use of local intelligence including recent urban development which might not have been fully surveyed.

1.18 The second stage was for OS to digitise the boundaries of the areas of urban land, including the sub-divisions used in 1981. A computer analysis of the digitised boundaries and the population-weighted centroids of the 1991 Census EDs was then carried out. This process identified those ED centroids within or near the boundary of each area of urban land.

1.19 An ED was then defined as urban if its centroid was either within the area of urban land or within a buffer zone of 150 metres of it. From detailed inspection of a sample of areas, this buffer zone minimised the misclassification of EDs as rural when they were really urban in character, or *vice versa*. Those areas of urban land with four or more such EDs were then classified as *urban areas*.

1.20 Inspections were carried out on newly emerging urban areas in 1991, and on any 1981 urban areas that had apparently disappeared, to confirm that the treatment of these areas had been correct; similarly with those areas in 1981 that had merged or split.

¹¹Department of the Environment. *National Land Use Classification*. A report of the joint Local Authority, Local Authorities Management Services and Computing Committee, Scottish Development Department and DoE Study Team. HMSO, 1975