

# **Documenting the extraction of small area census data for the three Community Development Projects (Benwell, North Tyneside and Coventry)**

**(with comparable data for Local Authority areas on current boundaries)**

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**CDP reports:** some of the reports published by Benwell, Coventry, North Tyneside and other CDPs can be purchased from St James' Heritage & Environment Group (see website: <http://stjameschurchnewcastle.wordpress.com>). Some are available in digital form online at <http://ulib.iupui.edu/collections/CDP>

## INTRODUCTION

### **'re-assembling a pile of bricks'**

It was taken as axiomatic that a full understanding of the story of particular CDPs to the present required the use of official Census of Population data. It was quickly realised, however, that while the history of figures for reference areas comprising full local authorities is comparatively straightforward – with just one issue, a set of amalgamations of authorities in 1974 – the comparison of smaller areas over time, certainly over 40 years, is inherently much more difficult, indeed rarely attempted!

Even if recording systems were held constant as far as possible at the local scale, as between the last two decennial censuses, the re-distribution of population itself would require change and re-organisation of the principal geographical units, electoral wards. It is necessary for each successive official reallocation of electors to Wards across any City to move boundaries and merge parts of former wards, to meet a requirement to roughly equalise representation by councillors per elector. In Newcastle, for example, it was soon realised that “Benwell” Ward in the 1971 Census of Population did not match the CDP area at all and that the area was associated with population decline from the decline of employment of Scotswood Works and the redevelopment at lower densities of older housing.

Changes of boundaries were less severe in the areas of the North Tyneside (which did include two whole 1971 Wards, Percy and Trinity) and Hillfields (Coventry) CDPs. Nonetheless, the need throughout is to resort to the “Small Area Statistics” of censuses to build up a matching area to the defined CDP areas, in constructing total figures and tables by extracting selected data for those areas as defined and combined.

**These are known as SASTABLES in accompanying files and contain the same selected data variables for each year 1971, 1991 and 2011 for the CDP areas of Benwell and North Tyneside, with a comparison with Hillfields, and with the respective parent Authority areas (present boundaries) of Newcastle upon Tyne, North Tyneside and Coventry (present boundaries). The same variables are matched as far as possible in the Tables across the three years, but it has to meet approximations and omissions, due to changes in the questions in the national Census (see below).**

## 1971 SMALL AREA DATA

The choice of the subject matter of our eight SASTABLES resulted from prioritisation among the titles of the available 21 tables, 14 for people and seven for households, all on paper and online, and the additional eight “10%” sample tables for socio-economic subjects, available only by computer at this level. The 21 table titles were circulated among the two teams of researchers and classified by agreement as follows;

- 9      BLACK=available both years 1971 and 2011 (1991 to be included if possible)
- 4      BLUE = available in 1971 and not 2011, but to be extracted
- 7      RED= available in 1971 and not 2011, but not to be extracted, i.e.superfluous
- 1      GREEN= available in 1971 and 2011, but not to be extracted, i.e.superfluous

The principal items judged to be “superfluous” and not for extraction mainly comprised elaborated cross-tabulations, including respondents’ parental histories before 1971, together with local ratios which are not susceptible to summation across areas.

Many SAS table variables are sourced in the shape of the lowest size of building bricks, for example 1971 population data have to be recovered from one-year age bands 0-21, and 5-year ones above that. In many cross-tabulations, rows and columns are not summed at source. Thus work for example to summarise population structure in say 15 or 20 year age bands, or to calculate the “working age population” require extensive manipulation of raw data in EXCEL.

In the event, the operation was somewhat curtailed by the time factor: if time had allowed, the next table to have been extracted would have been the cross-tabulation of household amenities by tenure, a very characteristic concern of the historical census, relevant to Local Authority housing management and Town Planning.

After extensive searching among different institutions, libraries and staff members (see below), the 21 tables were acquired on two sheets of A4 paper each for relevant local authority areas, wards and enumeration districts, one page for population variables and one for households (sample levels did not allow for *publication* of 10% variables at local level).

A start was made in transcribing data for individual variables from these pages for summation in EXCEL. However, it was found that the computed data could be directly sourced from the CASWEB computer system; <http://casweb.mimas.ac.uk/> , and this was done for 1971 as the major operation of the research task. CASWEB is part of the [UK Data Service Census Support](#) service, composed of

data specialists who focus on making a wide range of data from the contemporary censuses from 1971 to 2011 as accessible as possible to research users. They provide access to census counts for areas, data on migration and commuting between areas, samples of anonymised census records and the boundary files necessary to map them. (The UK Data Service is funded by the ESRC with contributions from the University of Essex, the University of Manchester and JiscWant).

## **ASSEMBLING FIGURES FOR THE CDP AREAS FROM VERY LOCAL DATA**

To produce figures for CDP areas is to re-assemble large amounts of disaggregated data from the basic lowest size of building blocks in Census data. It is necessary to descend to the level of small geographical districts, only a couple of streets wide to build up accurate data for areas such as the CDPs.

**ASSEMBLING 1971.** The printed Census volume for 1971 merely prints the fact of Benwell Ward of 1971 having a greater housing occupation density (0.72 persons per room in 3041 households) than the then City as a whole (0.64), and that there was an established excess of females (51.0%). In any case, Benwell Ward, which does carry SAS data did not match the CDP area, which fell across three Wards (Armstrong, Benwell and Elswick).

In order to match data to the CDP in 1971, it was therefore necessary not only to source data sets for 'enumeration districts' (EDs) as above but also to find maps which located each ED on the ground. The search for these now historical items took a team member several weeks of investigation checking Newcastle and Durham University and Newcastle City and North Tyneside libraries, and then different departments and named staff members of the present Newcastle City and North Tyneside administrations, with similar investigations by the Coventry team.

ED maps (along with A4 paper census data sheets, as above) were eventually supplied by Newcastle-upon-Tyne City Library Local Collection and North Tyneside's reference collection at North Shields Library, both on a topographic base originally at a 1:10,000 scale. The maps are not easy to read without colour (there is some possible confusion from EDs of similar reference numbers appearing in both of two adjoining wards). In any case, local boundaries do not necessarily coincide with those drawn up by the CDPs themselves, and there is no doubt that on the outer margins of CDPs, identification of CDP populations has been and must be approximate to a small degree.

The method used identifies the areas shown at Appendix 2 below. Combining the choice of areas and variables, as defined in the sections above, led to the preparation of the tables in the accompanying files.

The objective in preparing the SASTABLES was to produce documents of medium size, of A3 maximum when printed. The summing of sub-totals from the population data required for example, in the case of providing data for the three CDPs, a computer matrix of 66 areas by 87 data cells. (That was before the addition of parts of North Tyneside which could be included as whole wards.)

In turn the 1971 calculations involved the representation of post-1974 Local Authorities in terms of the sum of their predecessors. Thus, data for Gosforth and Newburn Urban Districts had to be added to those for Newcastle-upon-Tyne County Borough, and Longbenton Urban District and Wallsend and Whitley Bay Municipal Boroughs to Tynemouth County Borough.

Unfortunately, the programme available for 1971 does not allow for the saving of combinations of areas from one occasion of data extraction to another, whether of a gross number of EDs, or of Local Authorities, therefore this part of the work was costly in terms of time, in accurately repeating the specification of CDP areas in terms of EDs for each extraction of data.

**ASSEMBLING 1991 AND 2011.** By contrast, the later years allowed not only for the identification of small area boundaries on computer maps (to provide the nearest overall fit to the original CDP areas) but also the saving of these combinations under a module to “make your own area”. This is because Censuses from 1981 have been mounted on the National Online Manpower Information System (NOMIS) of the Office for national Statistics, run from the University of Durham since 1979 at

<https://www.nomisweb.co.uk/query/construct/summary.asp?mode=construct&version=0&dataset=38>

The order of commands for 1971 in NOMIS is:

- >1991 census - small area statistics
- >Click Region and drill down to local area
- >Geography – select Newcastle-upon-Tyne using map
- >double-click to drill down the map into smaller areas
- >Select Enumeration districts

Then can go hover over the map and check in the list which areas are in the original CDP and get the codes

- >create your own area
- >save

The order of commands for 2011 is:

[http://www.nomisweb.co.uk/census/2011/key\\_statistics](http://www.nomisweb.co.uk/census/2011/key_statistics)

- >Go to Quick Statistics
- >Pick 'Population Statistics'
- >Click Wizard Query
- >Choose '2011 Output Areas'
- >Select Newcastle upon Tyne and tick Use Map

Then can go hover over the map and check in the list which areas are in the original CDP and get the codes

- >create your own area
- >save

## ANALYSIS OVER TIME

The principal objective of the research was to compare the period of operation of the CDPs and the present day, for which the nearest census years are 1971 and 2011. Additionally, a mid-year of the period, 1991, was chosen; not only does this show some very serious extra features of the areas' experience, particularly the accumulation of unemployment from the 1980s recession into that of the early 1990s in sharper form in these areas, but it also provides some reassurance that very big differences in figures between 1971 and 2011 showed the reality of gradualness.

It may come as a surprise to some readers that, if there are severe problems in establishing comparability of geographical areas over time, so too there are significant problems in comparing the measures used between censuses; each decennial Census is designed and consulted by a new team in the Office for National Statistics, and changes in the Census questions and analysis, as well as additions, may emerge for a variety of reasons. Data from the previous decennial Census have normally appeared only in a short introductory table to each published volume.

Some of the most important changes in Census variables in this 40 year study arose simply from *changes in the real world*: the elimination nationally of the problems of housing without proper amenities, indoor toilets etc., the raising of the school-leaving age from 15 to 16 after 1971 and the growth in the number of full-time students (both affecting levels and calculation of economic activity

rates), and the transition from attention to the British Commonwealth as such to the European Union.

The study also, however, encountered *Census operational problems*, when it abandoned by 1991 the reporting of shared dwellings, and by 2011 had ceased to enumerate absent households and vacant rooms in dwellings.

*Changes in practice* meant that the numbers of married persons, and of the sick, are no longer divided by gender in 2011.

*The decennial revision of a number of standard classifications, together with the provision of only a 10% sample of Census returns for Tables 22-28, mean that serious comparison over time of the components of the employed population between Censuses should not be undertaken at all for SAS TABLE 28: INDUSTRY OF EMPLOYMENT and SAS TABLE 23: SOCIO-ECONOMIC GROUPS.*

There are two tables for which 1991 data are not available because the Census chose not to supply the data at the Small Area Statistics level: SAS TABLE 8: COUNTRY OF BIRTH and SAS TABLE 23: SOCIO-ECONOMIC GROUPS.

**Otherwise, all the qualifications made above are shown in notes on tables briefly (a) explaining why tables showing comparison with 1971 have to contain gaps and (b) why some *elements of tables are less comparable. Where notes do not apply, calculations of change over time may be readily made.***

While all the *Tables* selected from the 1971 Small Area Statistics have some equivalent in the 1991 and 2011 Censuses, the exception is of data in Table 16 covering Household Amenities, i.e. availability of hot water, bath and inside WC. This was an obsolete question by 2011, with the only related question being the availability of central heating, which, being almost universal, was not analysed here; for these 1971 data, please see the file CDP AREAS, SUMMARY CENSUS RESULTS, 1971 (P.2, Private Households).



## APPENDIX 1

### CENSUS SOURCES OF COMPARABLE DATA, 1971, 1991 AND 2011

In compiling tables for 1971-2011, the 1971 Small Area Statistics Ward Library table numbers are repeated here marked “a” (viz. “SASTABLES 5 & 7” et seq.) as used to name the computer files accompanying this report, followed by the table numbers and header titles of the nearest equivalent 1991 and 2011 tables (2011 in bigger pitch characters), that were used in completing the tables.

#### *b. Prefixes for 1991 Census tables are*

**L = local base statistics**

**S = small area statistics**

**WA = special workplace statistics**

#### *c. Prefixes for 2011 Census tables are*

**LC = Local Characteristics**

**KS = Key Statistics**

**QS = Quick Statistics**

#### **a. SASTABLES 5 & 7 ECONOMICALLY ACTIVE**

**b. Tables L08 and S08 - Economic position: Residents aged 16 and over [100%]**

**c. LC6107EW - Economic Activity by sex by age**

#### **a. SAS TABLE 7 AGE & SEX STRUCTURE**

**b. Tables L02 and S02 - Age and marital status: Residents [100%]**

**c. LC1117EW - Sex by age AND**

**KS103EW - Marital and civil partnership status**

#### **a. SAS TABLE 8; COUNTRY OF BIRTH**

**b. NB; 1991 data not available for individual countries beyond Great Britain**

**c. QS203EW - Country of birth (detailed, but see below)**

Although India, Pakistan, Bangla Desh and Sri Lanka and the “Old Commonwealth” are separately identified and reported in our 2011 tables (to match 1971), in most continents not all

Commonwealth countries are separately identified in the source; thus judgement has to be made over including or not “Other Australasia”, “Other Central and West Africa” and “other Caribbean” in the “New Commonwealth” total

#### **a. SASTABLE 15 HOUSEHOLDS & CARS**

**b. Tables L21 and S21 Car availability: Households with residents; residents in households; cars in households [100%]**

**c. KS404EW - Car or van availability**

**a. SASTABLE 16 & 17; OCCUPATION OF DWELLINGS**

**b. Table S54 Occupancy (occupied, vacant, and other accommodation): [100%] Household spaces; rooms in household spaces; rooms in hotels and boarding houses**

**c. QS407UK - Number of rooms**

**a. SASTABLE19 TENURE OF HOUSEHOLDS**

**b. Table S20 Tenure and amenities: Households with residents [100%]**

**c. KS402EW – Tenure**

**a. SASTABLE 23; SOCIO-ECONOMIC GROUPS**

**b; 1991 data not available at Small Area scale**

**c.LC6101EW - NS-SeC by sex by age - Household Reference Persons**

The **National Statistics Socio-economic Classification** (often abbreviated to **NS-SEC**) is the primary [social classification](#) in the [United Kingdom](#). It was adapted from the Nuffield class schema developed in the 1970s. Its first major use was on the [2001 UK census](#). The classification replaced two previous social classifications: Socio-economic Groups and Social Class based on Occupation

**a. SAS TABLE 28 INDUSTRY OF EMPLOYMENT**

**b. WA9 Industry divisions and classes (1980 Standard Industrial Classification (Residents in each zone – 10% sample)**

**KS605UK –  
Industry**

## **APPENDIX 2**

1971 BENWELL, nearest fit to CDP area

- enumeration districts (Ward name in brackets)
  - A35-43 (Armstrong)
  - A44-51 (Benwell)
  - A54-58 (Benwell)
  - A1-A12 (Elswick)

1991 BENWELL, as saved en bloc in NOMIS

Individual selections:

- enumeration districts (Ward name in brackets)
  - CJFA12 (Benwell)
  - CJFA13 (Benwell)

- CJFA14 (Benwell)
- CJFA15 (Benwell)
- CJFA16 (Benwell)
- CJFA17 (Benwell)
- CJFA18 (Benwell)
- CJFA19 (Benwell)
- CJFA20 (Benwell)
- CJFA21 (Benwell)
- CJFG03 (Elswick)
- CJFG04 (Elswick)
- CJFG05 (Elswick)
- CJFG07 (Elswick)
- CJFG08 (Elswick)
- CJFG09 (Elswick)
- CJFG10 (Elswick)
- CJFG11 (Elswick)
- CJFG12 (Elswick)
- CJFG18 (Elswick)
- CJFZ07 (West City)

BENWELL CDP AREA, 2011 as saved en bloc in NOMIS

Individual selections:

- 2011 output area 
  - E00042046 
  - E00042047 
  - E00042061 
  - E00042062 
  - E00042064 
  - E00042065 
  - E00042066 
  - E00042265 
  - E00042266 
  - E00042267 
  - E00042269 
  - E00042270 
  - E00042273 
  - E00042280 
  - E00042283 
  - E00042803 
  - E00042808 

○

1971 N TYNESIDE CDP nearest fit to CDP area

- enumeration districts (Ward name in brackets)
  - A24-A35 (Trinity whole Ward)
  - A36-A52 (Percy whole Ward)
  - A53-A55 (Chirton)
  - A65-A66 (Chirton)










1991 N TYNESIDE CDP, as saved en bloc in NOMIS

Individual selections:

- enumeration districts (Ward name in brackets)
  - CKFD11 (Chirton)
  - CKFD12 (Chirton)
  - CKFD13 (Chirton)
  - CKFD14 (Chirton)
  - CKFD15 (Chirton)
  - CKFD16 (Chirton)
  - CKFD17 (Chirton)
  - CKFD18 (Chirton)
  - CKFN08 (Riverside)
  - CKFN09 (Riverside)
  - CKFN10 (Riverside)
  - CKFN11 (Riverside)
  - CKFN12 (Riverside)
  - CKFN13 (Riverside)
  - CKFN14 (Riverside)
  - CKFN15 (Riverside)
  - CKFN16 (Riverside)
  - CKFN17 (Riverside)
  - CKFN18 (Riverside)
  - CKFN19 (Riverside)
  - CKFN20 (Riverside)

N TYNESIDE CDP 2011, as saved en bloc in NOMIS

Individual selections:

- 2011 super output area - lower layer 
  - E01008483 : North Tyneside 022A 
  - E01008482 : North Tyneside 023B 
  - E01008485 : North Tyneside 023D 
  - E01008539 : North Tyneside 027A 
  - E01008540 : North Tyneside 027B 
  - E01008541 : North Tyneside 027C 
  - E01008544 : North Tyneside 027D 
  - E01008545 : North Tyneside 027E 

1971 HILLFIELDS nearest fit to CDP area

- enumeration districts (Ward name in brackets)
  - A19-A25 (Godiva)
  - A27-A28 (Godiva)
  - A43 (Godiva)

- A13-A26 (St. Michaels)
- A28-A35 (St. Michaels)








1991 HILLFIELDS,, as saved en bloc in NOMIS

Individual selections:

- enumeration districts (Ward name in brackets)
  - CQFE35 (Foleshill)
  - CQFE36 (Foleshill)
  - CQFE37 (Foleshill)
  - CQFE38 (Foleshill)
  - CQFE39 (Foleshill)
  - CQFL01 (St Michael's)
  - CQFL02 (St Michael's)
  - CQFL03 (St Michael's)
  - CQFL04 (St Michael's)
  - CQFL05 (St Michael's)
  - CQFL06 (St Michael's)
  - CQFL07 (St Michael's)
  - CQFL08 (St Michael's)
  - CQFL09 (St Michael's)
  - CQFL10 (St Michael's)
  - CQFL11 (St Michael's)
  - CQFL12 (St Michael's)
  - CQFL13 (St Michael's)
  - CQFL14 (St Michael's)
  - CQFL15 (St Michael's)
  - CQFL16 (St Michael's)
  - CQFL17 (St Michael's)
  - CQFL18 (St Michael's)
  - CQFL19 (St Michael's)
  - CQFL21 (St Michael's)
  - CQFL22 (St Michael's)
  - CQFL23 (St Michael's)
  -

HILLFIELDS CDP, 2011 as saved en bloc in NOMIS

Individual selections:

- 2011 super output area - lower layer 
  - E01009574 : Coventry 015F 
  - E01009636 : Coventry 024A 
  - E01009637 : Coventry 024B 
  - E01009638 : Coventry 024C 
  - E01009639 : Coventry 024D 
  - E01009640 : Coventry 024E 
  - E01009641 : Coventry 024F 