



# Population Update/Projections for the United Kingdom

2011 RELEASE

PRODUCT GUIDE

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All estimates sum to the latest official estimates of consumer expenditure as given in the ONS (Office for National Statistics) United Kingdom National Accounts (ONS Blue Book), after allowing for differences in coverage and rounding. Population and household counts have been derived by Pitney Bowes Business Insight UK from the official Government mid-year population and household estimates.

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# Product Descriptions

This document describes the following two products:

- ♦ **Population Update: 2009** .....2
- ♦ **Population Projections: 2009 to 2021**.....2

The documentation for these products has been combined because the sources and methodologies used for the development of the products have been integrated and synchronised. Nevertheless, the two products are sold separately.



See the `uk_demographics_variables.xls` file in the `docs\` folder on your product media for a complete list of variables used in both products. This file is a Microsoft Excel spreadsheet.

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## Population Update: 2009

**Population Update: 2009** is a database of demographic variables – total population, population by age and sex, households, etc. – that represents a significant extension of content from prior releases of this data. Specifically, in addition to the population by broad age group variables, a set of five-year age group variables for males and females is included. Also, estimates of the distribution of households by the age of the household reference person are provided.

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**i** Standalone files for the products described in this Guide contain data at Output Area and Postcode Sector level. Refer to the [Postcode Sector Roll-Up Process on page 10](#) for the methodology.

AnySite® (Pitney Bowes Business Insight's demographic analysis software) can include the same data at multiple geography levels, for example Output Area, Postcode Sector, Postal District, Ward, Government Office Region.

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The following reference years are provided in the database: 2009, 2010, 2011, 2016 and 2021. The first year – 2009 – continues the tradition of basing the updates on the latest year for which population estimates are available from the ONS (Office of National Statistics) and affiliated agencies. In addition, one-year (2010), two-year (2011), seven-year (2016) and twelve-year (2021) projections are provided. This means that users can analyse the recent historical trend from the census year to 2009, and also, where they require a more current estimate and/or a sense of trend for their local area or market territory, analyse the trend from 2009 to the current/next year, or to a seven- or twelve-year projection.

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**i** Whilst the projections conform to the latest ONS population projection series at the LGA (Local Government Area) level, and make use of the LGA (Local Government Area)-level cohort models (refer to [Methodology on page 10](#)), the results should be interpreted as forecasts whose accuracy is dependent upon the continuation of current trends and assumptions.

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## Population Projections: 200- to 202%

**Population Projections: 200- to 202%** is a database of demographic variables – total population and population by broad age groups – that is identical in content to prior releases. The database contains total population and population by broad age groups for each year from 2009 through 2021.

Insofar as is possible, the projection is consistent with recent estimates and projections published by the ONS and affiliated agencies.

The data is also consistent with the [Population Update: 200-](#) data product described above, as the two series were produced with an integrated methodology and consistent assumptions.

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**i** Users should take into account that, as the timeframe of the projection increases, the likelihood of divergence of reality from underlying assumptions also increases. Also, since smaller geographic units place increasing burdens on those assumptions, projections for larger aggregations of the smallest units may be expected to generate high confidence.

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# Getting Started

This chapter explains file names and provides you with instructions for installing the data:

- ♦ **File Names** ..... 4
- ♦ **Copying Files onto your System** ..... 5

## File Names

The Population Update database contains the following file sets:

200J Population Update	UPD11_OA UPD11_SC
2009 Population Update Base	UPD11_UK
2001 Census Ward Name Reference	REF_WD
2001 Census Local Government Area Name Reference	REF_LG
2001 Census County Name Reference	REF_CO

The Population Projections database contains the following file sets:

2009 Population Projecions	PP11_OA PP11_SC
2009 Population Projections Base	PP11_UK
2001 Census Ward Name Reference	REF_WD
2001 Census Local Government Area Name Reference	REF_LG
2001 Census County Name Reference	REF_CO

Both products include the following file types:

.DAT	Data file
.ID	Identification file
.MAP	Map file
.TAB	Tabular file

The Base Table file sets for both products contain the following file types:

.DAT	Data file
.TAB	Tabular file

The Reference file sets for both products contain the following file types:


.DAT	Data file
.TAB	Tabular file

To use a product database correctly, you must have access to all of the files in the file set. They must all be located in the same directory.

## Copying Files onto your System

The data is supplied on disk to ISO 9660 standard and may be used either directly from the disk, or copied to your hard drive. We recommend that the data is installed into a discrete directory on your hard drive that is separate from any program or application directories.

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 Data copied from the disk will remain read-only unless the file attributes are reset.

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To copy the files onto your system:

1. Insert the disk into your disk drive.
2. Run Windows Explorer.
3. Double click on the disk drive icon to display the disk contents.
4. Select **all** the files associated with the file set you want to copy.
5. Copy the files to the desired, discrete directory on your computer.



# Database Attributes

This chapter describes the spatial referencing and display characteristics of the demographic databases:

- ♦ **Spatial Referencing** .....8
- ♦ **Display Characteristics** .....8

### Spatial Referencing

The **2001 Census Output Area 200- Population Updates** database for the United Kingdom uses the following projection and co-ordinates:

<b>Projection</b>	British National Grid
<b>Co-ordinates</b>	British National Grid co-ordinates to ten centimetre resolution (one metre in Scotland)

### Display Characteristics

Objects in the **2001 Census Output Area 200- Population Updates** database display as points.

# Methodology and Notes

The products described in this Product Guide have been compiled by Pitney Bowes Business Insight using the latest available population and household estimates and projections from the Office of National Statistics and affiliated agencies.

## In this appendix:

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♦ Methodology .....	10
♦ Notes .....	11

## Sources

The following agencies provided input data that either informed or controlled the estimates and projections at higher geographic levels, that is, local government authority units and above:

- Office of National Statistics (ONS)
- General Register Office for Scotland (GROS)
- National Assembly for Wales (NAW)
- Northern Ireland Statistics and Research Agency (NISRA)
- Office of the Deputy Prime Minister (ODPM)



Whilst each of the above provided valuable inputs, no responsibility for the accuracy or comprehensiveness of the data is accepted by any of the listed agencies.

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# Methodology

The Pitney Bowes Business Insight estimation and projection methodology involves a combination of top-down methods (national to local government area) using traditional demographic techniques, and bottom-up methods (output area to local government area) using demographic techniques along with proprietary spatial modeling techniques. Significant efforts are applied to the task of integrating the latest official statistical data from government agencies into the Pitney Bowes Business Insight demographic update process. While the overall base year for this data series is the 2001 Census, the Pitney Bowes Business Insight 2009 Population Update is based on the 2009 round of population estimates and the latest round of household projections from the Office of National Statistics and affiliated agencies.

The top-down estimates and projections (control totals) are based on a series of LGA-level cohort-component demographic models developed by Pitney Bowes Business Insight that conform in their total populations by sex to the ONS estimates series. The five-year age distributions generated by the models conform in large part to the latest assumptions for fertility, mortality, and net migration. The overall population and projection totals conform to the latest projections developed by the Office of National Statistics and affiliated agencies.

The bottom-up phase of the process involves estimating local, small area change in households using Postal Address Files. Differential growth trends in postal statistics are captured and translated to Output Area geographies via correspondence tables. The resulting preliminary estimates are forced to control to higher level control totals via iterative proportional fitting techniques which ensures both horizontal and vertical consistency across all geographic layers.

## Postcode Sector Roll-Up Process

Changes to the Postcode Sector roll-up process may impact a data user's interpretation of comparisons between the 2009 Population Update and previous Population Updates from Pitney Bowes Business Insight.

Data users should exercise caution when making any year-over-year comparisons, due to:

- Updated input sources
- Enhancements to methodologies
- Geographic boundary changes
- Real demographic change

Whilst good-faith attempts are made to provide demographic estimates that reflect "real demographic change" only, the other factors may impact results to a degree where end-users question either the direction or magnitude of their year-over-year comparisons. The most stable trends for comparative purposes are those calculated on an average annual basis from the latest census figures to the current year. For this reason, the census year data is provided with each update for the given base geography.

The method used to aggregate Output Area (OA) level data to the Postcode Sector level has been modified from the 2006 Population Update dataset onwards. As a result, users are cautioned that data aggregations to the Postcode Sector level may differ from previous releases, even in areas not experiencing geographic, structural changes. Census year information has been re-aggregated using the same OA-Sector apportionment to enable a constant geography comparison.

The following is a brief overview of the methodology currently used. The OA to Postcode Sector apportionment was developed using the domestic delivery points from the Royal Mail Postal Address File (PAF) 100M 2010\_12 file in contrast to the Ordnance Survey Code-Point 1M precision file used in previous Population Updates. The PAF 100M 2010\_12 file is associated with the Pitney Bowes Business Insight PostMap 51 Postcode Sector boundary definition. The PAF 2010\_12 postcodes are assigned to their respective OAs via 'point-in-polygon' methods, with only a few postcodes (approximately 0.6 percent of the 1.7 million postcodes) falling outside the coastlines of the Postcode Sector boundaries. These postcodes were assigned OAs based on the frozen 2001 lookup table. The point-in-polygon method was chosen as the most efficient method due to the many observed postcode location changes in the PAF 100M file between 2001 and 2010.

The point-in-polygon method was used in both the assignment of Postcodes to OAs as well as the assignment of OAs to Postcode Sectors. This provides a consistent aggregation method from Postcode to OA and OA to Postcode Sector. However, the implication of this aggregation method is that Postcode Sectors with the smallest areas may be most affected by the lower-precision of the PAF 100M file versus Code-Point based on the PAF 1M file. (Approximately 4 percent of postcodes, by this method, received assignments to Postcode Sectors other than their administrative Postcode Sector.)

The proportional allocation of OA to Postcode Sector is derived based on a weight calculated as the share of the residential household count (such as domestic delivery points) from the PAF 100M file. Lastly, the Postcode Sectors receive a weighted X and Y coordinate generated based on Postcode coordinates weighted by the number of domestic delivery points.

## Notes

### Population and Household Definitions

The Population Update counts included in this database include both population and household counts. Definitions of these categories are given below.

#### Usually Resident Population

The 2001 Census was conducted on a resident basis. This means the statistics relate to where people usually live, as opposed to where they are on Census night. Students and schoolchildren studying away from the family home were counted as resident at their term-time address. As in 1981 and 1991, residents absent from home on Census night were required to be included on the Census form at their usual/resident address. Wholly absent households were legally required to complete a Census form on their return. No information was provided on people present, but not usually resident (Persons Present Population Base 1991). The 2009 Population Update counts are provided on the same basis.

#### Private Households

A household comprises one person living alone, or a group of people (not necessarily related) living at the same address with common housekeeping—that is, sharing either a living room or sitting room or at least one meal a day.

## 2001 Census Wards

The sections below contain information about the 2001 Census Wards.

### England and Wales

The wards in England and the electoral divisions in Wales are those that were legally in existence on 31 December 2002, with the following exceptions:


- Middlesbrough, Redcar and Cleveland, and Rutland, where new boundaries that were imminent were used.
- Wards/electoral divisions that were below the Census Area Statistics confidentiality threshold of 100 residents and 40 households, which were merged with a neighbour.

Each combination of merged wards has been named for the ward with the greatest population, with the names of the other wards that were included in the merged area in parentheses in alphabetical order. For example, "Tower (including Aldgate, Billingsgate, and Lime Street)".

The following wards were below the CAS threshold and have been merged with a neighbour:

Ward:		Merged with:	
00AAFB	Aldgate	00AAFZ	Tower
00AAFC	Bassishaw	00AAFE	Bishopsgate
00AAFD	Billingsgate	00AAFZ	Tower
00AAFE	Bishopsgate	00AAFE	Bishopsgate
00AAFF	Bread Street	00AAFY	Queenhithe
00AAFG	Bridge & Bridge Without	00AAGB	Walbrook
00AAFH	Broad Street	00AAFE	Bishopsgate
00AAFJ	Candlewick	00AAGB	Walbrook
00AAFK	Castle Baynard	00AAFS	Farringdon Within
00AAFL	Cheap	00AAFY	Queenhithe
00AAFM	Coleman Street	00AAFE	Bishopsgate
00AAFN	Cordwainer	00AAFY	Queenhithe
00AAFP	Cornhill	00AAGB	Walbrook
00AAFR	Dowgate	00AAGB	Walbrook
00AAFS	Farringdon Within	00AAFS	Farringdon Within
00AAFU	Langbourn	00AAGB	Walbrook

Ward:		Merged with:	
00AAFW	Lime Street	00AAFZ	Tower
00AAFY	Queenhithe	00AAFY	Queenhithe
00AAFZ	Tower	00AAFZ	Tower
00AAGA	Vintry	00AAFY	Queenhithe
00AAGB	Walbrook	00AAGB	Walbrook
15UHFA	Bryher	15UHFB	St. Agnes
15UHFB	St. Agnes	15UHFB	St. Agnes
30UHGN	Ellel	30UHGN	Ellel
30UHHH	University	30UHGN	Ellel

 Although the 2001 Census wards for England and Wales are those that were legally in existence on 31 December 2002, they include wards that were not planned to be operative until May 2004. A complete list of wards along with the dates they are expected to be operative may be obtained from the Office for National Statistics, or at [http://www.statistics.gov.uk/census2001/downloads/cn\\_output\\_areas.xls](http://www.statistics.gov.uk/census2001/downloads/cn_output_areas.xls)

### Scotland

Scottish Census geography is based on the set of postcodes and their boundaries, which were frozen in December 2000. Scottish postcode sectors for 2001 were created as groups of postcodes nesting as well as possible into the following areas in descending order of preference (where not all postcodes in the Postcode Sector belong to a single combination of these area types):

- Council Area
- 2001 locality
- 1991 Postcode Sector
- Postcode Sector
- 2001 electoral ward

Scottish CAS Wards were created by aggregating postcode sectors and are only best fit for electoral wards. No census information is available for true electoral wards. The threshold for CAS Wards in Scotland is 20 households and 50 persons.

### Northern Ireland

Northern Ireland Census geography is based on electoral wards. Northern Irish postcode sectors nest within electoral wards, but also respect unit postcodes. Northern Ireland Census Wards are equivalent to the electoral wards created following the 1992 Boundary Commission review. There were no changes to these wards between 1992 and 2001.

### **CAS Wards and Standard Table Wards**

For England, Wales and Scotland, two separate ward rosters were used for 2001 Census output. For the CAS table output, which includes a medium level of detail, a population and household threshold was set to ensure a minimum size for each ward and to prevent inadvertent disclosure of personal information. In England and Wales, the threshold for CAS Wards was 100 people and 40 households. In Scotland, the threshold was 50 people and 20 households. As noted above, wards that failed to meet the threshold for release of CAS results were merged with a neighbour before the results were issued.

In addition to the CAS tables, more detailed output was released by the Census Offices as Standard Tables. Because these contained more detail, the disclosure risk was higher, and so the Standard Tables threshold was correspondingly higher at 1,000 people and 400 households for both England and Wales and Scotland. Again, wards that failed to meet the Standard Tables threshold were merged with a neighbour. The Standard Tables ward roster contains fewer wards than the CAS Ward roster because a greater number of wards failed the confidentiality threshold and had to be merged with a neighbour.

Because Standard Tables are unavailable at Postcode Sector level, the 2001 Census data sets provided by MapInfo use CAS wards throughout. These correspond to the wards used in the CAS and Univariate Table source data.

Northern Ireland only has a single set of 2001 Census wards, and does not have separate CAS and Standard Table ward rosters. Even though nine wards in Northern Ireland failed to achieve the Standard Table threshold of 1,000 people and 400 households, it was decided to release ward-level statistics for these wards on the basis that the risk of disclosure would not be increased by doing so.