



POPGROUP

Data Sources Guide

edge analytics

0113 384 6087

popgroup@edgeanalytics.co.uk

Produced by:

edgeanalytics

Leeds Innovation Centre | 103 Clarendon Road | Leeds | LS2 9DF
0113 384 6087 | popgroup@edgeanalytics.co.uk | www.edgeanalytics.co.uk

Commissioned by:

Local Government Association

Local Government House | Smith Square | London SW1P 3HZ
Tel 020 7664 3000 | Fax 020 7664 3030 | info@local.gov.uk | www.local.gov.uk

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Introduction

POPGROUP provides a suite of models for demographic forecasting. Users of POPGROUP are typically responsible for populating the models with data and assumptions for their particular local area. The [Reference Manuals and User Guides](#) that are available online provide an introduction to the model methodology, the functionality of the software and the requirements for configuring the software with data and assumptions.

This document is designed to supplement the existing data guidelines with a summary of the location of key datasets and assumptions and/or to provide users with convenient links to follow-up their own lines of enquiry.

It is recommended that users work with the POPGROUP and Derived Forecast Reference Manuals or the 'How to...' User Guides, referring to this document when seeking data sources. A summary of how different data sources might be used in the configuration of POPGROUP models is also included.

The focus of this document is the UK but an additional section has been included to provide users with introductory links to datasets available for other countries, from national statistical organisations and other international organisations.

For an introduction to the different types of geographical areas which exist in the UK, users should refer to the Office for National Statistics (ONS) [UK geographies](#) guide.

- **Section 2** of this document summarises the 'national' assumptions on fertility, mortality and migration that are made available in the UK.
- **Section 3** details the 'district' level datasets and assumptions available for each of England, Wales, Scotland and Northern Ireland.
- **Section 4** provides guidance on the availability of 'small area' data for each country.
- **Section 5** concludes with guidance and links to European and other international datasets.

2 UK National Assumptions

POPGROUP allows users to apply national assumptions on mortality, fertility and migration to calibrate sub-national population projections. These assumptions are updated in line with national population projections and made available directly from Edge Analytics.

Data are available separately for England, Wales, Scotland and Northern Ireland.

Fertility		All countries
<i>Usage:</i>	<ul style="list-style-type: none"> Standard fertility schedule by single year of age, for use on '<i>Sched</i>' sheet of the <i>fert</i> file. Age-specific trend in future fertility rates for use as differentials on '<i>All Groups</i>' sheet of the <i>fert</i> file. 	
<i>Availability:</i>	A processed version of the data is provided by Edge Analytics soon after national projections are published by ONS, every two years. To request the data, email popgroup@edgeanalytics.co.uk .	
Mortality		All countries
<i>Usage:</i>	<ul style="list-style-type: none"> Standard mortality schedule by single year of age and sex, for use on '<i>Sched</i>' sheet of the <i>mort</i> file. Age-specific trend of future mortality rates, for use as differentials on '<i>All Groups</i>' sheet of the <i>mort</i> file. 	
<i>Availability:</i>	A processed version of the data is provided by Edge Analytics soon after national projections are published by ONS, every two years. To request the data, email popgroup@edgeanalytics.co.uk .	
Migration		All countries
<i>Usage:</i>	<p><u>Internal Migration:</u></p> <ul style="list-style-type: none"> Standard migration schedule by single year of age and sex, for use on '<i>Sched</i>' sheet of the <i>Mig_INUK</i> and <i>Mig_OUTUK</i> files. <p><u>International Migration:</u></p> <ul style="list-style-type: none"> Immigration: standard migration distribution by single year of age and 	

	<p>sex, for use on '<i>Sched</i>' sheet of the Mig_INOV file.</p> <ul style="list-style-type: none"> Emigration: standard migration schedule by single year of age and sex, for use on '<i>Sched</i>' sheet of the Mig_OUTOV file.
<i>Availability:</i>	A processed version of the data is provided by Edge Analytics soon after national projections are published by ONS, every two years. To request the data, email popgroup@edgeanalytics.co.uk .
Reference Population	
	All countries
<i>Usage:</i>	National (UK) population projection, providing population 'at-risk' of migrating into the area by single year of age and sex, for use on ' <i>UKPop</i> ' sheet of the Mig_INUK file.
<i>Availability:</i>	A processed version of the data is provided by Edge Analytics soon after national projections are published by ONS, every two years. To request the data, email popgroup@edgeanalytics.co.uk .

3 UK District Data

3.1. England

In England, local authority districts (LADs) consist of a combination of London Boroughs, Metropolitan Districts, Unitary Authorities and Non-metropolitan Districts.

For specific queries to ONS, the following links and contact details could be used:

Vital Statistics Unit

Office for National Statistics

Email: vsob@ons.gsi.gov.uk

Population Estimates Unit

Office For National Statistics

Email: pop.info@ons.gsi.gov.uk

Population Estimates ([website](#))

Migration Statistics Unit

Office for National Statistics

Email: migstatsunit@ons.gsi.gov.uk

Population Estimates		England (LAD)
<i>Usage:</i>	Mid-year estimate (MYE) of resident population by age and sex can be used in POPGROUP as follows: <ul style="list-style-type: none"> • To provide base population for projections (popbase) • To provide annual population constraints (cons) • For derivation of historical demographic rates. 	
<i>Availability:</i>	MYE data is available to download from the ‘Population Estimates’ page on the ONS website (1991 – current). It is also made available as part of the MYEandChange and ONS-POP Data Modules prepared by Edge Analytics (2001 - current).	

Population Projections		England (LAD)
<i>Usage:</i>	Sub-National Population Projections (SNPP) by age and sex can be used as a constraint for projections (cons) or used as a benchmark against which to compare alternative scenarios.	
<i>Availability:</i>	<p>Data is available from this page on the ONS website.</p> <p>This data is also available in a form of an ONS-POP Data Module for POPGROUP prepared by Edge Analytics. This includes:</p> <ul style="list-style-type: none"> • Mid-year populations for the base year and each year within a 25-year horizon, by age and sex (popbase; cons). • Births by sex, and deaths by age and sex, for each year (fert; mort). • Each migrant flow in-, out-, and net- by age and sex within a 25-year horizon (Mig_INUK; Mig_OUTUK; Mig_INOV; Mig_OUTOV). 	
Fertility		England (LAD)
<i>Usage:</i>	<p>Fertility differentials comparing national and district fertility rates (fert).</p> <p>A fertility differential measures the ratio (district/national) of either the Total Fertility Rate (TFR) or age-specific fertility rates.</p>	
<i>Availability:</i>	<p>Data are available on the ‘Births by mothers’ usual area of residence in the UK page of the ONS website (2008 – current):</p> <ul style="list-style-type: none"> • Table 1 provides TFRs for each area. • Table 2 provides age-specific fertility rates for each area. 	
Births		England (LAD)
<i>Usage:</i>	Mid-year to mid-year birth totals or births by sex (fert).	
<i>Availability:</i>	<p>Births by sex can be downloaded as part of the ‘detailed time series’ dataset from the ‘Population Estimates’ page on the ONS website (2001/02 – current).</p> <p>The data is also made available as part of the MYEandChange Data Module prepared by Edge Analytics (2001/02 - current).</p>	
Mortality		England (LAD)
<i>Usage:</i>	Mortality differentials comparing national and district mortality rates (mort).	

<i>Availability:</i>	<p>Data is available on the ‘Deaths registered by area of usual residence, UK’ page of the ONS website (2007 – current):</p> <ul style="list-style-type: none"> • Table 1a provides Age-Standardised Mortality Rates for administrative areas.
Deaths	
England (LAD)	
<i>Usage:</i>	Mid-year to mid-year death totals or deaths by age and sex (mort).
<i>Availability:</i>	<p>Deaths by age and sex can be downloaded as part of the ‘detailed time series’ dataset from the ‘Population Estimates’ page on the ONS website (2001/02 – current).</p> <p>The data is also made available as part of the MYEandChange Data Module prepared by Edge Analytics (2001/02 - current).</p>
Migration - Internal	
England (LAD)	
<i>Usage:</i>	<p>Historical mid-year to mid-year internal in- and out-migration by age and sex can be used in Mig_INUK and Mig_OUTUK input files to:</p> <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates)
<i>Availability:</i>	<p>Internal in- and out-migration by age and sex can be downloaded as part of the ‘detailed time series’ dataset from the ‘Population Estimates’ page on the ONS website (2001/02 – current).</p> <p>Internal migration data is also made available as part of the MYEandChange Data Module prepared by Edge Analytics (2001/02 - current).</p> <p>In addition, internal migration data providing origin, destination and age detail by local authority is available directly from the ‘Migration within the UK’ page on the ONS website, (2011/12 – current).</p>
Migration - International	
England (LAD)	
<i>Usage:</i>	<p>Historical mid-year to mid-year international in- and out-migration by age and sex can be used in Mig_INOV and Mig_OUTOV input files to:</p> <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates)
<i>Availability:</i>	<p>International in- and out-migration by age and sex can be downloaded as part of the ‘detailed time series’ dataset from the ‘Population Estimates’ page on the ONS website (2001/02 – current).</p> <p>International migration data is also made available as part of the</p>

	<p>MYEandChange Data Module prepared by Edge Analytics (2001/02 - current).</p> <p>In addition, ONS provides a range of data on international migration through its 'Local Area Migration Indicators' initiative.</p>
Headship Rates	
	England (LAD)
<i>Usage:</i>	Household headship rates by age and sex are used to estimate the number of households associated with a population that is disaggregated by age and sex (DFRates).
<i>Availability:</i>	<p>The latest 2014-based household projections for areas within England were published on 12th July 2016. Detailed data for all local authority districts is available from this page on the Department for Communities and Local Government (DCLG) website.</p> <p>Alternatively, this data, processed for use within the Derived Forecast (DF) model, is available in the CLG-HH Data Module prepared by Edge Analytics.</p> <p>Note that as of 23 January 2017, responsibility for household projections in England has been transferred to ONS.</p>
Communal Establishments	
	England (LAD)
<i>Usage:</i>	Population 'not-in-households', i.e. those people living in 'communal establishments' (e.g. prisons, school borders, armed forces), is excluded from the population estimate or forecast before the application of household headship rates (DFPopAdjust).
<i>Availability:</i>	<p>Population 'not-in-households' by age and sex can be derived directly from the 2011 Census table LC1104EW. The data is available to download from this page on the NOMIS website.</p> <p>Data used in the 2014-based household projections, is published as part of the detailed data made available from this page on the Department for Communities and Local Government (DCLG) website.</p> <p>Alternatively, this data, already processed for use within the DF model, is available in the CLG-HH Data Module prepared by Edge Analytics.</p>
Vacancy Rates	
	England (LAD)
<i>Usage:</i>	Vacancy rate is used to model relationship between households and dwellings (DFSupply).
<i>Availability:</i>	Vacancy rate can be derived directly from the 2011 Census table KS401UK (available to download from this page).

Economic Activity		England (LAD)
<i>Usage:</i>	Economic activity (rates) by age and sex are used to derive labour force estimates from a population estimate or forecast (DFRates).	
<i>Availability:</i>	<p>Economic activity rates can be derived directly from the 2011 Census table DC6107EW (available to download from this page) or can be derived for other years from the Labour Force Survey and the Annual Population Survey (2004 – current).</p> <p>The LFS and APS data is available for direct download from the NOMIS website via its 'Data Downloads' tool.</p> <p>ENG-LF Data Module prepared by Edge Analytics provides 2011 Census economic activity rates by age and sex processed for use in the DF model. The Data Module also includes a number of economic activity rates alternatives based on the European Commission (EC) and Office for Budget Responsibility (OBR) projections.</p>	
Commuting Ratio		England (LAD)
<i>Usage:</i>	A commuting ratio, together with an unemployment rate, controls the balance between the number of workers living in a district (i.e. the resident labour force) and the number of jobs in the district (DFSupply).	
<i>Availability:</i>	Commuting ratio can be derived directly from the 2011 Census table WU02UK (available to download from this page).	
Unemployment Rate		England (LAD)
<i>Usage:</i>	An unemployment rate, together with a commuting ratio, controls the balance between the size of the labour force and the number of jobs available within an area (DFSupply).	
<i>Availability:</i>	Unemployment rates can be taken directly from the APS or the ONS model-based estimates of unemployment .	

3.2. Wales

In Wales, ‘districts’ are the Unitary Authorities (UA). For specific queries to the Welsh Government (WG), the following links and contact details should be used:

Statistics & Research

Welsh Government

Email (Population and migration): stats.popcensus@wales.gsi.gov.uk

General link: [WG Statistics & Research](#) – subject specific enquiries

Population		Wales (UA)
<i>Usage:</i>	Mid-year estimate of resident population by age and sex can be used in POPGROUP as follows: <ul style="list-style-type: none"> • To provide base population for projections (popbase) • To provide annual population constraints (cons) • For derivation of historical demographic rates. 	
<i>Availability:</i>	Data is available to download from the ‘Population Estimates’ page on the StatsWales website (5-year age group; 1981 – current) or the ONS website (SYOA; 2001 – current). It is also made available as part of the MYEandChange Data Module prepared by Edge Analytics (2001 - current).	
Population Projections		Wales (UA)
<i>Usage:</i>	Local authority population projections by age and sex can be used as a constraint for projections (cons) or used as a benchmark against which to compare alternative scenarios.	
<i>Availability:</i>	Data is available from the ‘ Population Projections ’ page on the StatsWales website. It is also available as part of the WG-POP Data Module prepared by Edge Analytics. This includes the following information for the Principal and Variant projections: <ul style="list-style-type: none"> • Mid-year populations for the base year and each year within a 25-year horizon, by age and sex (popbase; cons). • Births by sex and deaths by age and sex, for each year (fert; mort). • Each migrant flow in-, out-, and net- by age and sex within a 25-year 	

	<p>horizon (Mig_INUK; Mig_OUTUK; Mig_INOV; Mig_OUTOV).</p> <ul style="list-style-type: none"> Special populations by age and sex for each year of the projection (where applicable) (specpop).
Fertility	
	Wales (UA)
<i>Usage:</i>	<p>Fertility differentials comparing national and district fertility rates (fert).</p> <p>A fertility differential measures the ratio (district/national) of either the Total Fertility Rate (TFR) or age-specific fertility rates.</p>
<i>Availability:</i>	<p>Data is available on the ‘Births by mothers’ usual area of residence in the UK’ page of the ONS website (2008 – current):</p> <ul style="list-style-type: none"> Table 1 provides TFRs for each area. Table 2 provides age-specific fertility rates for each area.
Births	
	Wales (UA)
<i>Usage:</i>	Mid-year to mid-year birth totals or births by sex (fert).
<i>Availability:</i>	<p>Births by sex can be downloaded as part of the ‘detailed time series’ dataset from the ‘Population Estimates’ page on the ONS website (2001/02 – current).</p> <p>The data is also made available as part of the MYEandChange Data Module prepared by Edge Analytics (2001/02 - current).</p> <p>In addition, live births by area and age of mother are available to download from StatsWales (1996 – current).</p>
Mortality	
	Wales (UA)
<i>Usage:</i>	Mortality differentials comparing national and district mortality rates (mort).
<i>Availability:</i>	<p>Data is available from the ‘Deaths’ page of the StatsWales website (1990 – current) and the ‘Deaths registered by area of usual residence, UK’ page of the ONS website (2007 – current; Table 1a provides Age-Standardised Mortality Rates for administrative areas).</p>
Deaths	
	Wales (UA)
<i>Usage:</i>	Mid-year to mid-year death totals or deaths by age and sex (mort).
<i>Availability:</i>	Deaths by age and sex can be downloaded as part of the ‘detailed time series’ dataset from the ‘Population Estimates’ page on the ONS website

	<p>(2001/02 - current).</p> <p>The data is also made available as part of the MYEandChange Data Module prepared by Edge Analytics (2001/02 - current).</p> <p>Deaths by sex can be downloaded from the StatsWales website (1990 – current).</p>
Migration - Internal	
Wales (UA)	
<i>Usage:</i>	<p>Historical mid-year to mid-year internal in- and out-migration by age and sex can be used in Mig_INUK and Mig_OUTUK input files to:</p> <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates)
<i>Availability:</i>	<p>Internal in- and out-migration by age and sex can be downloaded as part of the ‘detailed time series’ dataset from the ‘Population Estimates’ page on the ONS website (2001/02 – current).</p> <p>Internal migration data is also made available as part of the MYEandChange Data Module prepared by Edge Analytics (2001/02 - current).</p> <p>In addition, internal migration data providing origin, destination and age detail by local authority is available directly from the ‘Internal Migration’ page of the StatsWales website or the ‘Migration within the UK’ page on the ONS website, (2011/12 – current).</p>
Migration - International	
Wales (UA)	
<i>Usage:</i>	<p>Historical mid-year to mid-year international in- and out-migration by age and sex can be used in Mig_INOV and Mig_OUTOV input files to:</p> <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates)
<i>Availability:</i>	<p>International in- and out-migration by age and sex can be downloaded as part of the ‘detailed time series’ dataset from the ‘Population Estimates’ page on the ONS website (2001/02 – current).</p> <p>International migration data is also made available as part of the MYEandChange Data Module prepared by Edge Analytics (2001/02 - current).</p> <p>In addition, ONS provides a range of data on international migration through its ‘Local Area Migration Indicators’ initiative.</p>

Membership Rates		Wales (UA)
<i>Usage:</i>	Household membership rates by age and sex are used to estimate the number of households associated with a population that is disaggregated by age and sex (DFRates).	
<i>Availability:</i>	This data, processed for use within the Derived Forecast (DF) model, is available as part of the WG-HH Data Module prepared by Edge Analytics. Household estimates and projections are available from the ‘Household projections’ page of the StatWales website.	
Average Household Size		Wales (UA)
<i>Usage:</i>	Average household size is applied to household population to derive households (DFFactor).	
<i>Availability:</i>	This data, already processed for use within the DF model, is available in the WG-HH Data Module prepared by Edge Analytics.	
Communal Establishments		Wales (UA)
<i>Usage:</i>	Population ‘not-in-households’, i.e. those people living in ‘communal establishments’ (e.g. prisons, school borders, armed forces), is excluded from the population estimate or forecast before the application of household headship rates (DFPopAdjust).	
<i>Availability:</i>	Population ‘not-in-households’ by age and sex can be derived directly from the 2011 Census table LC1104EW . The data is available to download from this page on the NOMIS website. Alternatively, this data, already processed for use within the DF model, is available in the WG-HH Data Module prepared by Edge Analytics.	
Vacancy Rates		Wales (UA)
<i>Usage:</i>	Vacancy rate is used to model relationship between households and dwellings (DFSupply).	
<i>Availability:</i>	Vacancy rate can be derived directly from the 2011 Census table KS401UK (available to download from this page).	
Economic Activity		Wales (UA)
<i>Usage:</i>	Economic activity (rates) by age and sex are used to derive labour force estimates from a population estimate or forecast (DFRates).	

<p><i>Availability:</i></p>	<p>Economic activity rates can be derived directly from the 2011 Census table DC6107EW (available to download from this page) or can be derived for other years from the Labour Force Survey and the Annual Population Survey (2004 – current).</p> <p>The LFS and APS data is available for direct download from the NOMIS website via its ‘Data Downloads’ tool.</p> <p>WAL-LF Data Module prepared by Edge Analytics provides 2011 Census economic activity rates by age and sex processed for use in the DF model. The Data Module also includes a number of economic activity rates alternatives based on the European Commission (EC) and Office for Budget Responsibility (OBR) projections.</p>
<p>Commuting Ratio Wales (UA)</p>	
<p><i>Usage:</i></p>	<p>A commuting ratio, together with an unemployment rate, controls the balance between the number of workers living in a district (i.e. the resident labour force) and the number of jobs in the district (DFSsupply).</p>
<p><i>Availability:</i></p>	<p>Commuting ratio can be derived directly from the 2011 Census table WU02UK (available to download from this page).</p>
<p>Unemployment Rate Wales (UA)</p>	
<p><i>Usage:</i></p>	<p>An unemployment rate, together with a commuting ratio, controls the balance between the size of the labour force and the number of jobs available within an area (DFSsupply).</p>
<p><i>Availability:</i></p>	<p>Unemployment rates can be taken directly from the APS or the ONS model-based estimates of unemployment.</p>

3.3. Scotland

In Scotland a ‘district’ refers to a Council Area (CA). For specific queries to the National Records of Scotland (NRS), the following links and contact details should be used.

Statistics Customer Services

National Records of Scotland

Email: statisticscustomerservices@nrscotland.gov.uk

Tel: 0131 314 4299

Statistics Customer Services

National Records of Scotland

Ladywell House

Edinburgh

EH12 7TF

Population		Scotland (CA)
<i>Usage:</i>	Mid-year estimate of resident population by age and sex can be used in POPGROUP as follows: <ul style="list-style-type: none"> To provide base population for projections (popbase) To provide annual population constraints (cons) For derivation of historical demographic rates. 	
<i>Availability:</i>	Data is available to download from the NRS (1981 – current) or ONS website (2001 – current). It is also made available as part of the NRS-POP Data Module prepared by Edge Analytics (2001 - current).	
Population Projections		Scotland (CA)
<i>Usage:</i>	Sub-National Population Projections (SNPP) by age and sex can be used as a constraint for projections (cons) or used as a benchmark against which to compare alternative scenarios.	
<i>Availability:</i>	Data is available from the ‘Sub-National Population Projections’ page of the NRS website. It is also available as part of NRS-POP Data Module prepared by Edge Analytics. This includes the following information for the Principal projection: <ul style="list-style-type: none"> Mid-year populations for the base year and each year within a 25-year horizon, by age and sex (popbase; cons). 	

	<ul style="list-style-type: none"> • Births by sex and deaths by age and sex, for each year (fert; mort). • Each migrant flow in-, out-, and net- by age and sex within a 25-year horizon (Mig_INUK; Mig_OUTUK; Mig_INOV; Mig_OUTOV).
Fertility	
	Scotland (CA)
<i>Usage:</i>	<p>Fertility differentials comparing national and district fertility rates (fert).</p> <p>A fertility differential measures the ratio (district/national) of either the Total Fertility Rate or age-specific fertility rates.</p>
<i>Availability:</i>	Data are available on the ‘Vital Events – Births’ page of the NRS website.
Births	
	Scotland (CA)
<i>Usage:</i>	Mid-year to mid-year birth totals (fert).
<i>Availability:</i>	Data are available on the ‘Vital Events – Births’ page of the NRS website.
Mortality	
	Scotland (CA)
<i>Usage:</i>	Mortality differentials comparing national and district mortality rates (mort).
<i>Availability:</i>	Data are available on the ‘Vital Events – Deaths’ page of the NRS website.
Deaths	
	Scotland (CA)
<i>Usage:</i>	Mid-year to mid-year death totals or deaths by age and sex (mort).
<i>Availability:</i>	Data are available on the ‘Vital Events – Deaths’ page of the NRS website.
Migration - Internal	
	Scotland (CA)
<i>Usage:</i>	<p>Historical mid-year to mid-year internal in- and out-migration by age and sex can be used in Mig_INUK and Mig_OUTUK input files to:</p> <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates)
<i>Availability:</i>	<p>Data is available on the NRS website for:</p> <ul style="list-style-type: none"> • Migration within Scotland; • Migration between Scotland and the Rest of the UK.

Migration - International		Scotland (CA)
<i>Usage:</i>	<p>Historical mid-year to mid-year international in- and out-migration by age and sex can be used in Mig_INOV and Mig_OUTOV input files to:</p> <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates) 	
<i>Availability:</i>	<p>Data is available on the ‘Migration between Scotland and Overseas’ page of the NRS website.</p> <p>ONS also provides a range of data on international migration through its ‘Local Area Migration Indicators’ initiative.</p>	
Headship Rates		Scotland (CA)
<i>Usage:</i>	<p>Headship rates by household type and age are used to estimate the number of households associated with a population that is disaggregated by age and sex (DFRates).</p>	
<i>Availability:</i>	<p>Data are available on the ‘Household Projections’ page of the NRS website (search for the ‘Source Data’ of the relevant round of household projections).</p>	
Communal Establishments		Scotland (CA)
<i>Usage:</i>	<p>Population ‘not-in-households’, i.e. those people living in ‘communal establishments’ (e.g. prisons, school borders, armed forces), is excluded from the population estimate or forecast before the application of household headship rates (DFPopAdjust).</p>	
<i>Availability:</i>	<p>Population ‘not-in-households’ by age and sex can be derived directly from Census table DC1104SC. The data is available for direct download from the Scotland’s Census Data Explorer.</p> <p>Data used in the NRS household projections is available on the ‘Household Projections’ page of the NRS website (search for the ‘Source Data’ of the relevant round of household projections).</p> <p>Alternatively, this data processed for use within DF model is available in the NRS-HH Data Module prepared by Edge Analytics.</p>	
Vacancy Rates		Scotland (CA)
<i>Usage:</i>	<p>Vacancy rate is used to model relationship between households and dwellings (DFSupply).</p>	
<i>Availability:</i>	<p>Vacancy rate can be derived directly from the 2011 Census table KS401UK</p>	

	(available to download from this page).
Economic Activity	
Scotland (CA)	
<i>Usage:</i>	Economic activity (rates) by age and sex are used to derive labour force estimates from a population estimate or forecast (DFRates).
<i>Availability:</i>	Economic activity rates can be derived directly from the 2011 Census table CT0128 2011 . SCO-LF Data Module prepared by Edge Analytics provides 2011 Census economic activity rates by age and sex in a format ready for use in DF model. The Data Module also includes a number of economic activity rates alternatives based on the European Commission (EC) and Office for Budget Responsibility (OBR) projections.
Commuting Ratio	
Scotland (CA)	
<i>Usage:</i>	A commuting ratio, together with an unemployment rate, controls the balance between the number of workers living in a district (i.e. the resident labour force) and the number of jobs in the district (DFSupply).
<i>Availability:</i>	Commuting ratio can be derived directly from the 2011 Census table WU02UK (available to download from this page).
Unemployment Rate	
Scotland (CA)	
<i>Usage:</i>	An unemployment rate, together with a commuting ratio, controls the balance between the size of the labour force and the number of jobs available within an area (DFSupply).
<i>Availability:</i>	Unemployment rates can be taken directly from the APS or the ONS model-based estimates of unemployment .

3.4. Northern Ireland

In Northern Ireland a ‘district’ refers to Local Government District (LGD). In April 2015, there was a reform of local government in Northern Ireland, reducing the number of LGDs from 26 to 11.

For specific queries to the Northern Ireland Statistics and Research Agency (NISRA), the following links and contact details should be used.

Population Statistics

Northern Ireland Statistics and Research Agency

Email: census@nisra.gov.uk

Tel: +44(0)2890 255156

Colby House
Stranmillis Court
BELFAST
BT9 5RR

General link: [NISRA](#) – subject specific contacts

Population		N Ireland (LGD)
<i>Usage:</i>	Mid-year estimate of resident population by age and sex can be used in POPGROUP as follows: <ul style="list-style-type: none"> To provide base population for projections (popbase) To provide annual population constraints (cons) For derivation of historical demographic rates. 	
<i>Availability:</i>	Data is available to download from the NISRA website or the ONS website (2001 – current). Longer time series (1961-2014) can also be found on the archived NISRA website.	
Population Projections		N Ireland (LGD)
<i>Usage:</i>	Sub-National Population Projections (SNPP) by age and sex can be used as a constraint for projections (cons) or used as a benchmark against which to compare alternative scenarios.	
<i>Availability:</i>	Data are available on the ‘Sub-National Population Projections’ page of the NISRA website.	

Fertility		N Ireland (LGD)
<i>Usage:</i>	Fertility differentials comparing national and district fertility rates (fert). A fertility differential measures the ratio (district/national) of either the Total Fertility Rate or age-specific fertility rates.	
<i>Availability:</i>	Data is available on the ‘Births’ page of the NISRA website.	
Births		N Ireland (LGD)
<i>Usage:</i>	Mid-year to mid-year birth totals (fert).	
<i>Availability:</i>	Data is available on the ‘Births’ page of the NISRA website. Please note that for the new 11 LGDs data is only available from 2008.	
Mortality		N Ireland (LGD)
<i>Usage:</i>	Mortality differentials comparing national and district mortality rates (mort).	
<i>Availability:</i>	Data is available on the ‘Deaths’ page of the NISRA website.	
Deaths		N Ireland (LGD)
<i>Usage:</i>	Mid-year to mid-year death totals (mort).	
<i>Availability:</i>	Data is available on the ‘Deaths’ page of the NISRA website.	
Migration		N Ireland (LGD)
<i>Usage:</i>	Historical mid-year to mid-year internal in- and out-migration by age and sex can be used in Mig_INUK , Mig_OUTUK , Mig_INOV and Mig_OUTOV input files to: <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates) 	
<i>Availability:</i>	Historical internal and international migration totals form part of the components of change data that is published with the mid-year population estimates and is available from the ‘Mid Year Population’ page on the NISRA website. Data by age and sex would need to be requested directly from NISRA.	

Membership Rates		N Ireland (LGD)
<i>Usage:</i>	Household membership rates by age and sex are used to estimate the number of households associated with a population that is disaggregated by age and sex (DFRates).	
<i>Availability:</i>	General information on the methodology for estimating and projecting household numbers in Northern Ireland is available from the ‘Household Projections’ page on the NISRA website. Membership rate data for LGDs is not directly available to download.	
Average Household Size		N Ireland (LGD)
<i>Usage:</i>	Average household size is applied to household population to derive households (DFFactor).	
<i>Availability:</i>	This data, already processed for use within the DF model, is available in the WG-HH Data Module prepared by Edge Analytics.	
Communal Establishments		N Ireland (LGD)
<i>Usage:</i>	Population ‘not-in-households’, i.e. those people living in ‘communal establishments’ (e.g. prisons, school borders, armed forces), is excluded from the population estimate or forecast before the application of household headship rates (DFPopAdjust).	
<i>Availability:</i>	This data by age and sex (for previous 26 LGDs) is available from the 2011 Census table DC1101 .	
Vacancy Rates		N Ireland (LGD)
<i>Usage:</i>	Vacancy rate is used to model relationship between households and dwellings (DFSupply).	
<i>Availability:</i>	Vacancy rate can be derived directly from the 2011 Census table KS401UK (available to download from this page).	
Economic Activity		N Ireland (LGD)
<i>Usage:</i>	Economic activity (rates) by age and sex are used to derive labour force estimates from a population estimate or forecast, disaggregated by age and sex (DFRates).	
<i>Availability:</i>	Economic activity rates can be derived directly from the 2011 Census table DC6101NI . Note that this data is only available for the previous 26 LGDs.	

Commuting Ratio		N Ireland (LGD)
<i>Usage:</i>	A commuting ratio, together with an unemployment rate, controls the balance between the number of workers living in a district (i.e. the resident labour force) and the number of jobs in the district (DFSsupply).	
<i>Availability:</i>	Commuting ratio can be derived directly from the 2011 Census table WU02UK (available to download from this page).	
Unemployment Rate		N Ireland (LGD)
<i>Usage:</i>	An unemployment rate, together with a commuting ratio, controls the balance between the size of the labour force and the number of jobs available within an area (DFSsupply).	
<i>Availability:</i>	Unemployment rates can be derived from the 'Economic Activity and Qualifications' table available to download from the NINIS website for years 2009 onwards.	

4 UK Small Area Data

4.1. England & Wales

In England and Wales, ‘small areas’ refer to geographies smaller than ‘districts’. The Census Output Area (OA) is the smallest area for dissemination of the 2011 Census data and these fit approximately into the larger ward boundaries and health area geographies.

In addition, ONS has developed a hierarchy of ‘super’ output areas (Lower and Medium Super Output Areas) at which it produces a number of statistical outputs.

A variety of other small areas also exist, including postal geography, electoral geography, health geography. For further guidelines, see the ONS guide to [UK geographies](#).

The Census provides the most comprehensive set of data at the smallest geographical detail and remains the pre-eminent source of ‘small area’ statistics on components of demographic change. In the years between censuses, birth and death data are available for small areas but migration data is not.

Population		Eng & Wal (Small Area)
<i>Usage:</i>	Mid-year estimate of resident population by age and sex can be used in POPGROUP as follows: <ul style="list-style-type: none"> • To provide base population for projections (popbase) • To provide annual population constraints (cons) • For derivation of historical demographic rates. 	
<i>Availability:</i>	From the 2011 Census, population data by age and sex is available for all administrative areas, from OA and above, from the 2011 Census page on the NOMIS website. Population estimates can be downloaded from the ‘Small area population estimates’ page on the ONS website.	

Fertility and Births		Eng & Wal (Small Area)
<i>Usage:</i>	Mid-year to mid-year birth totals and births by sex (fert).	
<i>Availability:</i>	Specific requests for births data at small area level should be addressed directly to ONS Vital Statistics Unit: vsob@ons.gsi.gov.uk Please note that some data may already be available in the ' User requested data ' section of the ONS website.	
Mortality and Deaths		Eng & Wal (Small Area)
<i>Usage:</i>	Mid-year to mid-year death totals or deaths by age and sex (mort).	
<i>Availability:</i>	Specific requests for deaths data at small area level should be addressed directly to ONS Vital Statistics Unit: vsob@ons.gsi.gov.uk Please not that some data may already be available in the ' User requested data ' section of the ONS website.	
Migration		Eng & Wal (Small Area)
<i>Usage:</i>	Historical mid-year to mid-year internal in- and out-migration by age and sex can be used in Mig_INUK , Mig_OUTUK , Mig_INOV and Mig_OUTOV input files to: <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates) 	
<i>Availability:</i>	Availability of migration data at small area level is limited. The 2011 Census table UKMIG001 provides migration statistics by ward and MSOA. These data can be used to calibrate small area migration profiles for internal and international migration. It is available to download from the 2011 Census page on the NOMIS website.	

4.2. Scotland

Scotland also has a large number of alternative geographies but the Census Output Area (OA) and ward are the main administrative geographies for census statistics. Data Zones have been defined (equivalent to Lower Super Output Area (LSOA) in England and Wales) as an alternative geography for the dissemination of demographic statistics from the Census.

For further information on different types of geographies used in Scotland, go to [‘UK geographies’](#) section of the ONS website.

Guidance for Sub-Council Area Projections in Scotland using POPGROUP v4.0 software is available from [this page](#) on the NRS website.

Population		Scotland (Small Area)
<i>Usage:</i>	Mid-year estimate of resident population by age and sex can be used in POPGROUP as follows: <ul style="list-style-type: none"> • To provide base population for projections (popbase) • To provide annual population constraints (cons) • For derivation of historical demographic rates. 	
<i>Availability:</i>	From the 2011 Census, population data by age and sex is available for all administrative areas, from OA and above, from the Scotland’s Census Data Explorer website. Population estimates for the 2011 Data Zone boundaries are available from mid-2011 onward on the NRS website. Earlier data going back to 1996 is also available, but only for the 2001 Data Zone geography. This information can be found on this page of the NRS website.	
Fertility and Births		Scotland (Small Area)
<i>Usage:</i>	Mid-year to mid-year birth totals (fert).	
<i>Availability:</i>	Birth statistics at a variety of spatial scales (from Electoral Wards and 2001 Data Zones above) are available from this page . Please note that this does not provide data for the 2011 Data Zones.	

Mortality and Deaths		Scotland (Small Area)
<i>Usage:</i>	Mid-year to mid-year death totals or deaths by age and sex (mort).	
<i>Availability:</i>	Death statistics at a variety of spatial scales (from Electoral Wards and 2001 Data Zones above) are available from this page . Please note that this does not provide data for the 2011 Data Zones.	
Migration		Scotland (Small Area)
<i>Usage:</i>	Historical mid-year to mid-year internal in- and out-migration by age and sex can be used in Mig_INUK , Mig_OUTUK , Mig_INOV and Mig_OUTOV input files to: <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates) 	
<i>Availability:</i>	Availability of migration data at small area level is limited. The 2011 Census table UKMIG001 provides migration statistics by 2001 intermediate zones (which are built from Data Zones). These data can be used to calibrate small area migration profiles for internal and international migration. It is available to download from the 2011 Census page on the NOMIS website.	

4.3. Northern Ireland

Northern Ireland has a number of alternative geographies ([NISRA - Geography](#)). The Small Areas (SAs) provide the main administrative geography for the 2011 Census statistics. They have been generally created as an amalgamation of the 2001 Census Output Areas.

For further information on different types of geographies used in Northern Ireland, go to '[UK geographies](#)' section of the ONS website.

Population		N Ireland (Small Area)
<i>Usage:</i>	Mid-year estimate of resident population by age and sex can be used in POPGROUP as follows: <ul style="list-style-type: none"> • To provide base population for projections (popbase) • To provide annual population constraints (cons) • For derivation of historical demographic rates. 	
<i>Availability:</i>	Total population for the 2011 Census Small Areas from 2001 to the latest year is available from the ' Population Estimates for Small Areas ' page on the NISRA website. 2011 Census usually resident population by single year of age and sex is also available for Small Areas from the ' Census 2011 ' page on the NINIS website.	
Fertility and Births		N Ireland (Small Area)
<i>Usage:</i>	Mid-year to mid-year birth totals (fert).	
<i>Availability:</i>	Births by sex for Super Output Areas (SOAs) from 2001 to the latest year are available from the NINIS website . For further enquiries on births, you can contact the Births, Deaths and Marriages team from NISRA's Vital Statistics/Demographic Statistics department at dmb.nisra@finance-ni.gov.uk	
Mortality and Deaths		N Ireland (Small Area)
<i>Usage:</i>	Mid-year to mid-year death totals or deaths by age and sex (mort).	
<i>Availability:</i>	Deaths by sex for Super Output Areas (SOAs) from 2003 to the latest year are available from the NINIS website . For further enquiries on deaths, you can contact the Births, Deaths and Marriages team from NISRA's Vital Statistics/Demographic Statistics	

	department at dmb.nisra@finance-ni.gov.uk	
Migration	N Ireland (Small Area)	
<i>Usage:</i>	<p>Historical mid-year to mid-year internal in- and out-migration by age and sex can be used in Mig_INUK, Mig_OUTUK, Mig_INOV and Mig_OUTOV input files to:</p> <ul style="list-style-type: none"> • Provide historical context • Calibrate future migration assumptions (counts or rates) 	
<i>Availability:</i>	<p>Availability of migration data at small area level is limited. The 2011 Census table UKMIG001 provides migration statistics by 2001 SOA. These data can be used to calibrate small area migration profiles for internal and international migration. It is available to download from the 2011 Census page on the NOMIS website.</p>	

4.4. Other Data

For the development of household and labour force models at a small area level, it is necessary to derive appropriate assumptions on headship/membership rates, population ‘not-in-households’ and economic activity rates.

Headship/membership rates

Data on headship/membership rates by small area is not generally available. It is possible to derive these rates using the 2011 Census data, combining with the district estimates, although this exercise requires a considerable level of Census knowledge and data processing expertise. For more information, contact popgroup@edgeanalytics.co.uk

Communal establishments

Population ‘not-in-households’ by age and sex can be derived directly from the 2011 Census tables:

- **England & Wales - LC1105EW** (OA and above) ([NOMIS website](#))
- **Scotland - KS405SC** (OA and above) ([Scotland’s Census website](#))
- **Northern Ireland - DC1101NI** (SOA and above) ([NINIS website](#))

Vacancy rate

For all countries, vacancy rates at small area level can be derived directly from the 2011 Census table **KS401UK** (available to download from [this page](#)).

Economic activity

Economic activity rates by age and sex for small areas can again be derived from the 2011 Census tables:

- **England & Wales - LC6107EW** (OA and above) ([NOMIS website](#))
- **Scotland - LC6129SCdz** (Data Zone and above) ([Scotland’s Census website](#))
- **Northern Ireland - LC6107NI** (by age), **LC6108NI** (by sex) (SOA and above) ([NINIS website](#))

Survey data, such as the Annual Population Survey (APS) are typically insufficiently representative at small area level to provide updated economic activity statistics in line with those available at ‘district’ level.

Commuting Ratio

2011 Census data that can be used to derive commuting ratio at small area level is limited. For England and Wales, the data is available from the [WU02EW](#) Census table (MSOA level and above). Data for small areas in Scotland and Northern Ireland is not available in the public domain.

Unemployment Rates

Data to derive unemployment rates at small area level is limited. The following 2011 Census tables are available that allow derivation of the unemployment rates at sub-district level:

- **England & Wales** - **LC6107EW** (OA and above) ([NOMIS website](#))
- **Scotland** - **LC6129SCdz** (Data Zone and above) ([Scotland’s Census website](#))
- **Northern Ireland** - **LC6107NI** (SOA and above) ([NINIS website](#))

5 Data Outside the UK

5.1. Introduction

POPGROUP models can be applied at any spatial scale: national, regional and local. They are driven by the availability of data and assumptions on the key components of demographic change: fertility, mortality and migration.

International organisations typically provide a variety of ‘national’ and ‘regional’ statistics derived from national censuses, civil registration, population registers and other administrative systems. These include, e.g.:

- [Eurostat](#)
- [United Nations Statistics Division](#)
- [World Health Organisation](#)

Eurostat has compiled an ‘online database’ of demographic statistics. The data generally relate to the period since 1991, with more complete data since 2001. Eurostat uses the [NUTS](#) geography as the basis for its data collection, with data available at NUTS1 (region), NUTS2 (counties and groups of counties) and NUTS3 (counties and groups of local authorities).

The Eurostat’s [Database](#) provides a browse and a ‘bulk download’ facility that contains key statistics on:

- Population estimates
- Population projections
- Components of change - births/deaths/net migration

However, with gaps in the database and with geographical detail extending only to the NUTS3 geographical scale, more detailed and more comprehensive statistics are required through direct contact with National Statistical Offices (NSOs). Links to a number of these NSOs, both in Europe and the rest of the world, are provided in the following sections.

5.2. National Statistical Offices: Europe

Albania	Instituti i Statistikave (INSTAT)
Andorra	Departament d'Estadística
Armenia	National Statistical Service
Austria	Statistics Austria
Azerbaijan	State Statistical Committee of Azerbaijan Republic
Belarus	National Statistical Committee
Belgium	Statistics Belgium
Bosnia & Herzegovina	Agency for Statistics of Bosnia and Herzegovina
Bulgaria	National Statistical Institute
Croatia	Croatian Bureau of Statistics
Cyprus	Statistical Service
Czech Republic	Czech Statistical Office
Denmark	Statistics Denmark
Estonia	Statistics Estonia
Finland	Statistics Finland
France	National Institute of Statistics and Economic Studies (INSEE)
Georgia	National Statistics Office of Georgia
Germany	Federal Statistical Office
Greece	Hellenic Statistical Authority
Hungary	Hungarian Central Statistical Office
Iceland	Statistics Iceland
Ireland	Central Statistics Office
Italy	National Institute of Statistics of Italy (ISTAT)
Kosovo	Kosovo Agency of Statistics
Latvia	Central Statistical Bureau of Latvia
Liechtenstein	Landesverwaltung Fürstentum Liechtenstein
Lithuania	Statistics Lithuania
Luxembourg	National Institute of Statistics and Economic Studies (STATEC)

Macedonia	State Statistical Office
Malta	National Statistics Office
Moldavia	National Bureau of Statistics
Monaco	Monaco Statistics
Montenegro	Statistical Office of Montenegro
Netherlands	Statistics Netherlands (CBS)
Norway	Statistics Norway
Poland	Central Statistical Office of Poland
Portugal	Statistics Portugal
Romania	National Institute of Statistics
Russia	Federal State Statistics Service
Serbia	Statistical Office of the Republic of Serbia
Slovakia	Statistical Office of the Slovak Republic
Slovenia	Statistical Office of the Republic of Slovenia
Spain	National Statistical Institute (INE)
Sweden	Statistics Sweden
Switzerland	Federal Statistical Office
Turkey	Turkish Statistical Institute
Ukraine	State Statistics Service of Ukraine
UK (England)	Office for National Statistics
UK (Northern Ireland)	NI Statistics and Research Agency
UK (Scotland)	National Records of Scotland
UK (Wales)	StatsWales

5.3. National Statistical Offices: International

Below are presented links to selected NSOs outside Europe. For a complete list of all NSOs, users should visit the United Nations Statistics Division website:

https://unstats.un.org/home/nso_sites/

Australia	Australian Bureau of Statistics (ABS)
Brazil	The Brazilian Institute of Geography and Statistics (IBGE)
Canada	Statistics Canada
China	National Bureau of Statistics of China
India	IndiaStat
Japan	Statistics Bureau, Ministry of Internal Affairs and Communication
Mexico	National Institute of Statistics, Geography and Informatics (INEGI)
New Zealand	Statistics New Zealand
Russia	Federal State Statistics Service (ROSSTAT)
USA	US Census Bureau