

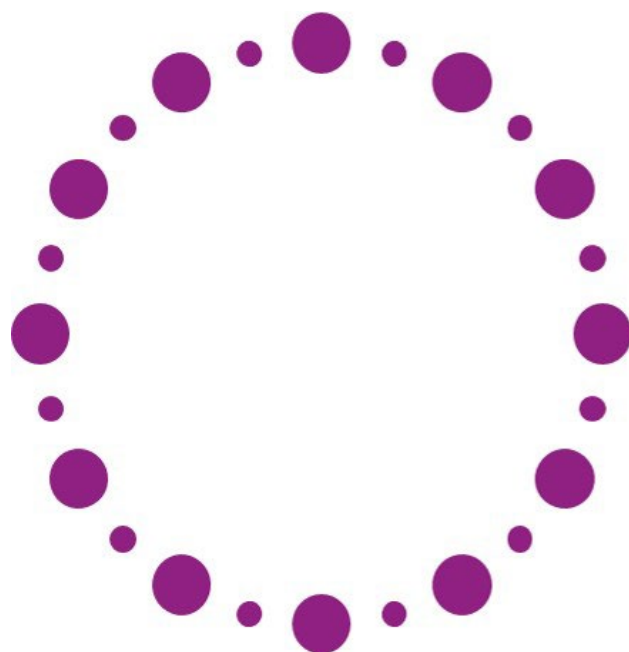
census
2021



Origin-destination Northern Ireland

User guide to Census 2021

9 July 2024



nisra.gov.uk/census2021

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1. Introduction

On 9 July 2024, the Northern Ireland Statistics and Research Agency (NISRA) released further results from Census 2021, which was held on 21 March 2021. The statistics released, the [origin-destination data](#), also known as flow data, show the movement of people from one location to another. These datasets show information about flows between locations and provide a breakdown of the flows by different characteristics such as age and ethnicity.

Three types of flow data were released:

- **workplace**, showing commuting patterns of employed individuals from address of usual residence on census day to their normal workplace.
- **migration**, showing the movement of individuals from their address of usual residence one year before census day, to their address of usual residence on census day.
- **student migration**, showing movement of individuals who were living at student addresses one year before census day, 21 March 2021 to address of usual residence on census day.

This information has been made available for movement within the United Kingdom (UK tables) and separately for movement between Northern Ireland and the Republic of Ireland (ROI tables).

The UK tables provide detailed flow data for areas within Northern Ireland and equivalent areas within England, Wales and Scotland. Flows from/to outside the UK are classified as “Outside the UK” and no further detail is available.

The ROI tables provide detailed flow data for areas within Northern Ireland and areas within the Republic of Ireland. These tables are a specific subset of the “Outside the UK” population included in the UK tables.

The remainder of this guide aims to help users understand, analyse, and interpret Census 2021 origin-destination data for Northern Ireland.

2. Origin-destination migration data

The Census 2021 questionnaire included a question asking people to indicate their address one year before census day, the information from this question has been used to create origin-destination migration statistics. These origin-destination migration statistics or migration flow statistics show the movement of people who lived at a different address one year before census day.

For UK tables, detailed flows are available for usual residents of Northern Ireland who had a different address in Northern Ireland, England, Wales or Scotland one year before census day. The migration flow data covers all migrants but does not include information on the country of origin for addresses outside the UK. These are represented by "Outside the UK" (coded as '999999999').

For ROI tables, detailed flows are available for usual residents of Northern Ireland who had a different address in the Republic of Ireland one year before census day and are a specific subset of the "Outside the UK" population included in the UK tables.

Usual residents of England, Wales, Scotland or the Republic of Ireland with an address one year ago in Northern Ireland are not included in the data.

2.1. People aged under one year

Migration flow data produced from the census are based on the usually resident population who were living at a different address one year before the census. The census does not capture migration data on this basis for people aged under one year, therefore, they are not included in the origin-destination data.

2.2. Impact of COVID-19 pandemic on origin-destination migration data

Census 2021 took place during the coronavirus (COVID-19) pandemic. It is important to note that migration statistics from Census 2021 will have been impacted by the travel restrictions in place as a result of the pandemic. It has not been possible to quantify the effects of such restrictions, but the statistics are still considered useful in the context of measuring migration patterns between March 2020 and March 2021.

3. Origin-destination student data

Our student flow datasets show the movement of people aged 16 years and over. These people had a different address one year before census day, which was a student term-time or boarding school address in the UK.

These people were not necessarily students at the time of the census. For example, someone living at a student address one year before the census, who graduated in the summer before the census and was no longer a student at the time of the census, will be included in the data.

Detailed flows are available for usual residents of Northern Ireland whose address one year before the census was a different student term-time or boarding school address in Northern Ireland, England, Wales or Scotland. However, they do not contain information on the area of origin for addresses outside the UK.

ROI tables are not available for student migration flows as no detailed address information is available.

Usual residents of England, Wales, Scotland or the Republic of Ireland with an address one year before the census which was a student term-time or boarding school address in Northern Ireland are not included in the data.

3.1. People not aged 16 and over and non-migrants

Usual residents under the age of 16 and in full time education are not included in the origin-destination student datasets. Those aged 16 years and over in Northern Ireland who were living at the same student term-time address one year before census day are not included in the data.

3.2. Impact of COVID-19 pandemic on origin-destination student migration data

The coronavirus (COVID-19) pandemic will have further affected student flow data. For instance, students may have lived at their parent or guardian's address for the whole academic year and not had a different term-time address and fewer international students may have been living in Northern Ireland. Furthermore, students who graduated at the end of 2020 would have been seeking employment either during lockdown or movement restrictions. This would likely have had a large

effect on the nature and extent of post-education migration. Consequently, student migration flows from Census 2021 are likely to be different to other years.

4. Origin-destination workplace data

Our workplace datasets provide commuting flows between usual residence and place of work for people aged 16 years and over in employment or temporarily away from work in the week before Census 2021.

On the Census 2021 questionnaire, people aged 16 and over (excluding full time students) and either in employment or temporarily away from work in the week before census day were asked where their main place of work was. They were asked to give the address of their workplace or report if they worked from home or did not have a fixed workplace.

For UK tables, the workplace data includes detailed flows for usual residents of Northern Ireland who had a workplace address in England, Wales or Scotland on census day. However, they do not contain detailed information on the area of destination for addresses outside the UK. These are represented by "Outside the UK" (coded as '999999999').

For ROI tables, the workplace data covers usual residents of Northern Ireland who had a workplace address in Republic of Ireland on census day and are a specific subset of the "Outside the UK" population included in the UK tables.

Usual residents of England, Wales, Scotland or the Republic of Ireland with a workplace address in Northern Ireland are not included in the data.

4.1. People not working and full-time students

Workplace flow data produced from the census are based on the usually resident population who were aged 16 and over and in employment (excluding full-time students) in the week before census day.

4.2. Impact of COVID-19 pandemic on origin-destination workplace data

Census 2021 was conducted during the coronavirus (COVID-19) pandemic when there were many travel restrictions were in place. The pandemic severely impacted

some people's ability to work, their working patterns, their workplace and method of travel to work.

Clearly the coronavirus (COVID-19) pandemic will have affected the local labour market. This will have impacted on responses to the labour market questions on the census. For example, it is possible that some people on furlough may have identified as economically inactive, instead of temporarily away from work.

5. Origin-destination geography overview

Census 2021 origin-destination flows have been produced at various geography levels in Northern Ireland including:

- Super Data Zone (SDZ)
- District Electoral Area (DEA)
- Local Government District (LGD)

For cross-country flows within the UK, we have used the same geography level for both origin and destination address counted on census day. For example, Local Government District in NI will be matched to Local Authority in England and Wales. However, where an equivalent geography for England, Wales or Scotland does not exist, the data shows the next higher level of geography for that country. For example, District Electoral Area in NI is matched to Lower tier local authority in England/Wales in England and Wales.

5.1. Origin-destination geographies and equivalents for the rest of the United Kingdom and the Republic of Ireland

The following lists provide the alternative geographies used in the origin-destination datasets and the equivalent, if any, for these geographies across the UK or ROI.

The lists are in geographical hierarchy order, from highest (largest area) to lowest (smallest area).

Northern Ireland - Local Government Districts (LGD)

Upper tier local authority in England/Wales

Council Areas in Scotland

Counties in Republic of Ireland

Northern Ireland - District Electoral Area (DEA)

Lower tier local authority in England/Wales

Council Areas in Scotland

Counties in Republic of Ireland

Northern Ireland - Super Data Zones in Northern Ireland (SDZ)

Middle layer Super Output Area in England and Wales

Intermediate Zones in Scotland

Northern Ireland - Data Zones in Northern Ireland (DZ)

Output Area in England/Wales

Output Area in Scotland

For more about the geographies used in the Census 2021 for Northern Ireland [read our Census 2021 output geography information papers on the NISRA website](#).

6. Protecting confidentiality within origin-destination data

Census Office has taken steps to ensure that the confidentiality of respondents is fully protected. All published results from the census have been subject to statistical processes to ensure that individuals cannot be identified. For more information, please refer to the [statistical disclosure control methodology \(PDF, 168 KB\)](#). These processes may result in very marginally different results between tables for the same statistic.

To make data available as widely as possible, and to maximise benefits from the census, Census 2021 origin-destination products are being released to three different settings. Census 2021 origin-destination data will be available as **public**, **safeguarded**, and **secure** datasets depending on the geographical level and detail of characteristics included. This approach allows the production of products which strike a balance between detail and security, ensuring origin-destination datasets are available for all users from inquiring citizens through to expert analysts.

We released our public datasets on 9 July 2024, on this date work also commenced towards making the safeguarded and secure datasets available in the respective settings.

6.1. Public datasets

Our public origin-destination data are available to download from the [NISRA origin-destination webpage](#) with minimal conditions applied to their use as stated within the [Open Government Licence \(OGL\)](#).

Our public datasets provide basic flows, which show the movement of people from one place to another with no population characteristics. The public datasets also provide some flows containing data about just one variable (univariate), such as by age. Others give flows containing data that combines multiple variables (multivariate), such as by age and sex. Datasets are at various geography levels, with local government district (LGD) being the most common. A small number of datasets are available for more detailed geographies.

6.2. Safeguarded and Secure datasets

Safeguarded datasets contain further detail than the public datasets. They include basic flows, univariate and multivariate flow datasets mostly at Super Data Zone (SDZ) level of geography. However, some datasets are at local government district (LGD) level where they contain more detailed characteristics of the population.

Our secure origin-destination data provide univariate and multivariate flow datasets mostly at Data Zone (DZ) level. Details of where and how safeguarded and secure datasets can be accessed will be made available as each become available, this guide will be updated with this information.

6.3. Dataset specifications

A full list of all the characteristics variables used in the datasets is available in the release specification document. [Read the origin-destination release specification on the NISRA website.](#)

7. Origin-destination outputs

[Census 2021 datasets for origin-destination](#) are available to download from the NISRA website, they include:

- ODWP01NI-UK-LGD Origin-destination workplace flow showing usual residence and place of work at LGD
- ODMG01NI-ROI-LGD Origin-destination migration flow covering Northern Ireland, related to flows between NI and ROI providing information at LGD

7.1. Dataset naming structure

Our origin-destination datasets have been assigned names to help identify their content. In the names, the structure is as follows:

OD<type><number>NI<UK/ROI>_<geolevel>

- **OD** shows the dataset type (i.e. origin-destination)
- **<type>** indicates the flow type, where "MG" is migration flow, "ST" is student migration flow and "WP" is workplace flow
- **<number>** shows the dataset number
- **NI** shows that these are Northern Ireland datasets
- **<UK/ROI>** delineates the detailed flows involved, where "UK" indicates detailed flows within the United Kingdom and "ROI" indicates detailed flows between the Republic of Ireland.
- **<GEOLEVEL>** shows the NI geographic level that the data is available for (UK/ROI equivalents are described in Section 5.1).

For example, ODMG01NI-ROI-LGD, shows that it is:

- an origin-destination dataset, as the first two letters are "OD"
- a migration flow, as <type> is "MG"
- a basic flow dataset, as <number> is "01"
- covering Northern Ireland, as the third two letters are "NI"
- relates to flows between ROI, as <UK/ROI> is ROI
- provides information at Local Government District Level (or equivalent), as <geolevel> is LGD.

7.2. Dataset file structure

The origin-destination file structure is consistent across all the datasets in the release. All datasets are provided in comma-separated values (CSV) format. The first two columns contain the “origin” geography while the third and fourth columns contain the “destination” geography. Other subsequent columns may contain data characteristics variables such as age, sex etc. The column furthest to the right in each dataset contains a count for each row.

This means that for the migrant and student datasets, the first two columns contain the geography of the individual’s address one year before the census. Columns three and four contain the geography where the individual was living on census day.

For the workplace datasets, the first two columns contain the geography where the individual was living on census day. Columns three and four contain the geography where the individual reported their main place of work.

8. Alternative address one year ago analysis

Statistics gathered on address one year ago have previously been used to report on migration patterns for people currently living in Northern Ireland and can be seen in the [Main statistics for Northern Ireland Statistical bulletin Migration](#).

9. Alternative place of work analysis

Statistics gathered on place of work have previously been reported for those aged 16 and over and in employment in the week before the census (excluding full-time students) and can be seen in the [Main statistics for Northern Ireland Statistical bulletin Place of work or study](#).

10. UK wide origin-destination outputs

Northern Ireland, England and Wales held their censuses in March 2021, while Scotland held their census in March 2022. The difference in date means it has not been possible to combine the individual datasets to produce a set of UK origin-destination data.

Office for National Statistics (ONS) have released [Census 2021 origin-destination data for England and Wales](#).

It is hoped that in the future origin-destination data for Northern Ireland can be to incorporate with England and Wales data, provided that doing so does not put the confidentiality of respondents at risk.

11. Further information

11.1. Official statistics accreditation

This is an accredited official statistics publication. [Accredited official statistics are called National Statistics in the Statistics and Registration Service Act 2007](#).

Accredited official statistics are produced to high professional standards set out in the [Code of Practice for Official Statistics](#). They are produced free from any political interference.

These accredited official statistics were independently reviewed by the [Office for Statistics Regulation \(OSR\)](#). They comply with the standards of trustworthiness,

quality and value in the [Code of Practice for Statistics](#) and should be labelled 'accredited official statistics'. further details can be found on our National Statistics accreditation page.

Our statistical practice is regulated by the [Office for Statistics Regulation \(OSR\)](#). OSR sets the standards of trustworthiness, quality and value in the Code of Practice for Statistics that all producers of official statistics should adhere to.

You are welcome to contact us directly with any comments about how we meet these standards by emailing census@nisra.gov.uk.

Alternatively, you can contact OSR by emailing regulation@statistics.gov.uk or via the OSR website.

The census plays a fundamental role in the provision of official statistics – census data are used to inform key policies, plan key services and allocate public funds.

11.2. Quality of the results

The census data collection operation was supported by an independent [coverage survey](#). The coverage survey along with administrative data and information from the field operation were combined to allow statistical estimates to be made of the small percentage of people who did not make a return. The statistical estimates discussed here, as with all Census 2021 outputs, reflect the full population of Northern Ireland.

Further information on accuracy, coverage and imputation is also provided on the NISRA website in the [Census 2021 quality assurance report \(PDF 275 KB\)](#).

11.3. Comparability with previous censuses

The census is designed to provide the most accurate possible picture of the population on the day the census is taken.

Census 2021 took place during the coronavirus (COVID-19) pandemic which will have affected the travel to work and travel to study statistics. The restrictions in place contributed significantly to changes in people working from home and the way people travelled to work or study.

It is important to note that migration and travel related statistics from Census 2021 will have been impacted by the travel restrictions put in place as a result of the coronavirus (COVID-19) pandemic. It has not been possible to quantify the effects of such restrictions, but the statistics are still considered useful in the context of measuring migration patterns between March 2020 and March 2021.

11.4. Supporting material

A number of [supporting documents](#) are available on the census pages of the NISRA website. These documents describe the census methodology in more detail, the quality assurance processes applied, the paper questionnaire used in the census, and a full list of definitions and output classifications.

11.5. More details

Further information on the statistics provided in this publication can be obtained from Census Customer Services at:

Telephone:	028 9025 5156
Email:	census@nisra.gov.uk
Responsible Statistician:	Richard Elliott

This report was made possible by the co-operation of the public in responding to the census, the commitment of the census field and headquarters staff, and the assistance of many other people and organisations throughout all aspects of the census. The Registrar General for Northern Ireland, who is responsible for the planning, conduct and reporting of the census, would like to thank all of those who contributed to the census.

11.6. Copyright

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